2025, Mar. 2025 Release LOC:Long-Term Acute Care
Medically Complex

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Overview

Level of Care Note
Introduction
Patients with a medically complex condition and active comorbidities will require a collaborative multidisciplinary treatment plan to promote both medical and functional improvement. Four of the top 20 diagnostic related groupings (DRGs) treated in Long-Term Acute Care settings (LTACs) include (Top 20 DRGs for Long-term Acute Care Hospitals, 03-31-2021 ed. 2021):

- Pulmonary edema and respiratory failure (national average length of stay is 20.7 days)
- Septicemia or severe sepsis without mechanical ventilation (national average length of stay is 21.7 days)
- Osteomyelitis with major complications or comorbidities (national average of length of stay is 29.4 days)
- Complications of treatment with major complications or comorbidities (national average length of stay is 27.9 days)

Evaluation and Treatment
Complex medical management requires treatment by a medical practitioner-led multidisciplinary team. In addition to nursing and rehabilitation therapy, this team may include a nutritionist, pharmacist, social services, respiratory therapy, or a wound care specialist. The patient should have a reasonable potential to benefit from an intensive medical program. Treatment and medical management include:

- A comprehensive evaluation of the patient's clinical condition and functional status.
- Development of a plan of care within two days of admission which includes identified measures and goals for evaluation of progress toward medical and rehab goals, when appropriate.
- Interdisciplinary team meetings weekly with medical practitioner oversight.
- Assessment of discharge planning needs and establishment of a transition plan.

The CMS Inpatient Prospective Payment System (IPPS) standard LTAC payment rate will be based on patient-level clinical criteria:

- The (patient) stay in the LTAC was immediately preceded by a discharge from an acute care hospital that included at least 3 days in an intensive care unit (ICU)
- The stay in the LTAC was immediately preceded by a discharge from an acute care hospital and the patients LTAC stay is assigned to an MS-LTC-DRG based on the receipt of ventilator services for at least 96h

The above are related to reimbursement, not determination of medical necessity. Patients that do not meet these criteria may be eligible for waivers in some circumstances, and regardless of payment status may be clinically appropriate for LTAC level services. The InterQual® criteria are used for medical necessity determination.

Long-Term Acute Care (LTAC) is a recognized level of care designation by the Centers for Medicare and Medicaid Services (CMS) for acute care hospitals. Federal statutes define it as a level of care provided by a hospital with a provider agreement with Medicare that maintains facility average inpatient length of stay of 25 days or more (Administration, Social Security Act, TITLE XVIII-HEALTH INSURANCE FOR THE AGED AND DISABLED, Sec. §1886). An expected length of stay of 25 days or more is not a patient-specific requirement as supported by CMS LTAC-DRG GMLOS benchmarking data. Rather, it is a guidepost for the expectation of a prolonged length of stay. Patients who require a short stay for treatment may be more appropriate at the subacute or skilled nursing facility (SNF) level of care.

Program Requirements:
Treatment required at this level of care due to clinical complexity includes the following:

- Acute and comorbid conditions requiring prolonged hospitalization
- Medical practitioner assessment or intervention daily
- Skilled nursing services ≥ 6.5h/24h

InterQual® criteria are derived from the systematic, continuous review and critical appraisal of the most current evidence-based literature and include input from our independent panel of clinical experts. The content is based on a variety of references which are cited at specific criteria points throughout the subset.

Severity of Illness

(In lieu of Acute care, continued hospitalization or failed ALOC)

- **Severity of Illness, All:**
  - Admission
  - **Continued treatment of a primary condition, ≥ One:**
    - Cardiac dysfunction, ≥ **One:**
      - Dyspnea at rest or minimal exertion [1]
      - Oxygenation, ≥ **One:**
        - ≤ 91%(0.91) and < baseline [2]
        - Arterial Po_2 < 60 mmHg(8.0 kPa) and < baseline [2]
    - Gastrointestinal, ≥ **One:** [3]
      - Bowel rest or non-functioning bowel with prolonged NPO [4]
      - Metabolic disturbance [5]
      - Uncontrolled pain [6]
      - Malnutrition [7, 8]
    - Hematologic, malignant, or end-stage disease, ≥ **One:** [9, 10]
      - Awaiting solid organ, bone marrow, or stem cell transplant
      - BUN > 45 mg/dL(16.1 mmol/L) or creatinine > 3.0 mg/dL(265 µmol/L)
      - Cachexia, PO fluid intolerance, or dehydration
      - Coagulopathy
      - Intractable ascites or edema
      - Mental status change [11]
      - Intractable pain [12]
      - Jaundice, ≥ **One:**
        - PT ≥ 1.5x ULN and > baseline [2]
        - INR ≥ 2.0 and > baseline [2]
      - Oxygenation, ≥ **One:**
        - ≤ 91%(0.91) and < baseline [2]
        - Arterial Po_2 < 60 mmHg(8.0 kPa) and < baseline [2]
      - Symptomatic bone marrow disorder, ≥ **One:** [13]
        - Aplastic anemia [14]
        - Relapsed disease [15]
        - Transfusion dependent [16]
    - Infection, ≥ **One:**
      - Abscess [17]
      - Bacteremia
      - Cellulitis
      - CNS infection, onset ≤ 30d [18]
      - Empyema
      - Endocarditis
      - Joint infection
      - Osteomyelitis
      - Opportunistic infection [19]
      - Peritonitis
      - Pneumonia requiring aggressive mobilization of secretions at least 6x/24h, ≥ **One:** [20, 21]
        - Unresponsive to ALOC treatment ≥ 2d [22]
        - Oxygenation, ≥ **One:**
          - ≤ 91%(0.91) and < baseline [2]
          - Arterial Po_2 < 60 mmHg(8.0 kPa) and < baseline [2]
        - Ventilator dependent [23]
      - Pyelonephritis, ≥ **Two:**
        - Systolic BP decreased < 20 mmHg from baseline (sustained ≥ 5 min) [2]
        - Nausea or vomiting

- Unable to tolerate or absorb oral anti-infectives
- ⛔ Resident of a nursing home and systemic or organ infection, ≥ **One:** (24)
  - Cachexia, PO fluid intolerance, or dehydration
  - Mental status change (excludes coma, stupor, obtundation) (11)
  - O_2 sat ≤ 91%(0.91) or arterial Po_2 < 60 mmHg(8.0 kPa) and < baseline (2)
- Sepsis, septic emboli, or shock
- ⛔ Surgical or wound infection, ≥ **One:**
  - Abscess
  - Deep draining fistula
  - Post dehiscence
  - ≥ 2 Stage II pressure injuries and infection on ≥ 2 turning surfaces (25)
  - Over a prosthetic or implanted device
- Temperature ≥ 100.4°F(38.0°C) and ANC < 500/cu.mm(500x10^6/L) (26, 27)

- Necrotizing pancreatitis (28)
- ⛔ Post surgical complication, ≥ **One:**
  - Dyspnea at rest or minimal exertion (1)
  - ⛔ Oxygenation, ≥ **One:**
    - ≤ 91%(0.91) and < baseline (2)
    - Arterial Po_2 < 60 mmHg(8.0 kPa) and < baseline (2)
- Recent CNS injury ≤ 30d (29)
- ⛔ Acute kidney injury ≤ 30d, ≥ **One:** (30)
  - BUN > 45 mg/dL(16.1 mmol/L)
  - ⛔ Creatinine ≥ **One:**
    - Creatinine > 3.0 mg/dL(265 µmol/L)
    - Creatinine > 2.0x ULN
    - GFR decrease > 50%(0.50) from baseline (2)

⛔ **Active management or treatment of comorbid condition, ≥ Two:** (31)

- Acute kidney injury (30)
- End-stage renal disease (ESRD) on dialysis (32, 33)
- ⛔ Altered mental status with behavioral symptom (new onset or worsening) ≤ 30d, ≥ **One:** (11, 34)
  - Change in cognition (35)
  - Impulsive, agitated, or aggressive (36, 37, 38)
  - Perceptual disturbance (39)
  - Withdrawn or uncommunicative (40)
- Chest tube (41)
- ⛔ COPD, ≥ **One:** (42)
  - O_2 sat ≤ 91%(0.91) and < baseline (2)
  - Po_2 ≤ 60 mmHg(8.0 kPa)
  - Arterial or venous Pco_2 > baseline (2, 43)
- ⛔ Diabetes and uncontrolled blood sugar, ≥ **One:** (44, 45)
  - Fluctuation between hyperglycemia and hypoglycemia within last 24h
  - Fluctuation between hyperglycemia and normal blood sugar with no consistent pattern
  - Symptomatic hyperglycemia or hypoglycemia
- DVT or pulmonary embolus
- ⛔ Functional impairment (new) with limitation ≤ 30d, **Both:** (46, 47)
  - Rehab potential based on prior level of function (48)
  - Requiring at least minimal assistance (46, 49)
- Heart failure and dyspnea at rest or minimal exertion (1, 50)
- Hepatic encephalopathy stage II or III (51)
- Immunocompromised (52)
- Infection with systemic manifestation ≤ 30d (24, 53)
- Malignant or end-stage disease (9)
- Malnutrition requiring nutrition consult and management (7, 8)

- Oxygen ≥ 40%(0.40) (54)
- Ventilator dependent, NIPPV, or respiratory insufficiency (55, 56)
- Wound requiring complex care (57, 58)

⊖ Clinical status, **All:**
- Neurologically stable last 24h (59)
- No evidence of active hemorrhage or bleeding controlled
- Heart rate ≤ 120/min or arrhythmia managed (60)
- Respiratory rate ≤ 30/min and stable airway
- Systolic BP ≥ 90 mmHg or within acceptable limits last 24h (61, 62)

Intensity of Service

(At least daily and excludes PO medication unless noted)

⊖ **Intensity of Service, One:**

Admission Review

⊖ **Admission, All:**

⊖ **Multidisciplinary care coordination and psychosocial management, Both:** (63, 64)
- Medical practitioner assessment or evaluation daily (65, 66)
- Discharge plan initiated or in process (63)

⊖ **Continued medical management of primary condition or illness, ≥ One:**

⊖ Blood product transfusion and, ≥ **One:**
- Hct < 30%(0.30) or Hb < 10.0 g/dL(100 *g/L*)
- Platelets < 20,000/cu.mm($20x10^9$/L)

⊖ Chemotherapy related complication, **Both:**

⊖ Finding, ≥ **One:**
- Vomiting and failed outpatient antiemetic (67)
- Severe mucositis and inability to take PO

⊖ Intervention, ≥ **One:**

⊖ Antiemetic, ≥ **One:**
- ≥ 3x/24h
- Dexamethasone (68)
- Serotonin antagonist daily

- IV fluid ≥ 2 L/24h and intake and output monitoring at least every 8h (69)
- Parenteral nutrition

⊖ HF, **Both:** (70)

⊖ Diuresis, ≥ **One:**

⊖ Diuretic, **One:** (71)
- ≥ 2x/24h (includes PO)

⊖ At least 1x/24h and requires medication adjustment (includes PO), ≥ **One:** (72)
- BUN increased from baseline (2)
- Creatinine increased from baseline (2)

- Dialysis
- Continuous cardiac monitoring (excludes Holter)

⊖ Infection, ≥ **One:**
- ≥ 2 anti-infectives

⊖ Anti-infective, ≥ **One:**
- Bladder irrigation, continuous or cyclic

⊖ Complex wound care, ≥ **One:**
- ≥ 1h/24h
- ≥ 3x/24h

⊖ Hyperbaric oxygen, ≥ **One:** (73)
- Gangrene
- Osteomyelitis

⊖ Isolation, ≥ **One:**

- Active infection with MRSA or VRE
- CNS infection ≤ 3d [18]
- Immunocompromised [52]
- Multiple drug resistant organism (MDRO)
- Negative airflow and < 3 negative AFB sputum smears [74]
- Neutropenic precautions and ANC < 500/cu.mm(500x10^6/L) [26]

⛔ IV medication titration every 3-4h, ≥ **One:** [75]
- Analgesic
- Antiarrhythmic
- Anticonvulsant
- Antihypertensive
- Diuretic
- Insulin
- IV fluid based on losses [76]
- Sedative

– Oxygen ≥ 40%(0.40) [54]

⛔ Pain management, ≥ **One:** [77]
- Analgesic or muscle relaxant ≥ 3x/24h or continuous
- PCA

⛔ Acute kidney injury, **One:**
- Requiring hemodialysis or peritoneal dialysis, initial (excludes ESRD) [78]
- Dialysis discontinued and renal function monitoring ≤ 2d

⛔ Parenteral or enteral nutrition (initial) ≤ 2 wks, ≥ **One:** [79]
- Inadequate protein or caloric intake
- Metabolic disturbance [5]
- Weight loss from baseline ≥ 2%(0.02) within 1 wk or ≥ 5%(0.05) within 30 days [7]

⛔ **Treatment of comorbid condition, ≥ Two:** [31]

⛔ Altered mental status (change from baseline), ≥ **One:** [11]
- Neurological assessment at least 3x/24h [80]
- Medication adjustment (includes PO) ≤ 3d [72]
- Diagnostic evaluation (includes lab or imaging studies) ≤ 3d

– Blood product transfusion at least every 72h [81]

⛔ Continuous cardiac monitoring (excludes Holter) ≤ 1 wk, ≥ **One:**
- Arrhythmia
- Hypo or hyperkalemia
- Post pacemaker insertion (permanent or temporary)
- Acute kidney injury
- Syncope [82]

– Chest tube [41]

– Closed suction wound drainage

– Complex wound care ≥ 2x/24h [57, 83]

⛔ Dialysis or ultrafiltration, **One:** [32]
- Acute kidney injury

⛔ End stage renal disease, ≥ **One:**
- Monitoring ≤ 7d
- Permanent access not clinically appropriate and temporary catheter functioning ≤ 5d
- Unable to tolerate at least 3h due to posterior wound location
- Unstable dialysis regimen requiring modification at least weekly

– *C. difficile* infection and anti-infective (includes PO) [84, 85]

⛔ Hepatic encephalopathy Stage II or III, ≥ **One:** [51, 86]
- Branched-chain amino acids (BCAA) (includes PO) [87]
- Lactulose (includes PO or PR) [88]
- L-ornithine L-aspartate (LOLA) [89]

- Neomycin (includes PO) (90)
- Rifaximin (includes PO) (91)

⛔ IV fluid, **One:**
- ≥ 50 mL/h

⛔ Replacement based on losses at least 3x/24h, ≥ **One:** (76)
- Diarrhea
- Oliguria (92)
- HF

- Laboratory monitoring and medication adjustment at least 2x/24h (72)

⛔ Medication administration, ≥ **One:**
- Analgesic ≥ 3x/24h or continuous
- Antiarrhythmic
- Anticoagulant, therapeutic (93)
- Anticonvulsant
- Antihypertensive
- Anti-infective
- Beta blocker
- Calcium and hypocalcemia
- Calcium channel blocker
- Corticosteroid (includes PO)
- Diuretic ≥ 2x/24h (71)
- Glucose 50%(0.50) with insulin (94)
- H_2 blocker or PPI
- Immunosuppressant (includes PO) (95)
- Insulin adjustment ≥ 3x/24h (includes SC) (96)
- Magnesium and hypomagnesemia
- Phosphate and hypophosphatemia
- Polystyrene (Kayexalate) (PO or PR)
- Prokinetic agent
- Sedative ≥ 3x/24h
- Vasoactive agent (97)

- NPWT and dressing changes at least 3x/wk (98)

⛔ Pulmonary condition, ≥ **One:**
- Corticosteroid (includes PO) (99)
- Chest physiotherapy at least 3x/24h (100)

⛔ Oxygen and oximetry or ABG, **Both:**
- Adjustments at least 2x/24h
- ≥ 28%(*0.28*) (54)

- Nebulizer treatment with bronchodilator or mucolytic at least 4x/24h (101)
- Suctioning at least 4x/24h
- Tracheostomy (new) ≤ 30d since placement and monitoring required
- Ventilator dependent or NIPPV (55, 102)

⛔ Rehab therapy (PT, OT, or SLP), ≥ **One:**
- 1-3h/d ≥ 5d/wk

⛔ Fatigue ≤ 1d, ≥ **One:**
- Chemotherapy or radiation related complication
- Hemodialysis (103)
- Medication induced
- Other invasive procedure (104)

- Shunt or abscess drain management
- Parenteral or enteral feeding
- Volume expander (105)
- Wound debridement or I&D ≤ 1wk (106)

Continued Stay

- **Continued Stay, One:**
  - **Responder**, medical and rehab potential maximized and discharge expected, **All:** [107]
    - Hemodynamic and neurologically stable last 2d, **All:** [108, 109]
      - Afebrile and, **One:** [110]
        - Anti-infective regimen established, **One:**
          - Transition to PO anti-infective
          - Outpatient IV anti-infective and vascular access established
        - Anti-infective not indicated
      - Heart rate 50-100/min or within acceptable limits [62]
      - Systolic BP 90-140 mmHg or within acceptable limits [61, 62]
    - Lab values within acceptable limits [62]
    - Medication regimen established and tolerated
    - Nutritional status stable or improving
    - O_2 sat ≥ 92%(0.*92*) or within acceptable limits [62]
    - Pain absent or controlled and manageable [111]
    - Renal function stable or baseline [2, 112]
    - Functional status, **One:**
      - Home discharge planned, ≥ **One:**
        - Modified or fully independent with transfers, ambulation, or mobility [46]
        - Modified or fully independent or minimum assist with ADLs [46, 113]
        - Caregiver demonstrates independence with transfers or ambulation and ADLs or IADLs [46, 113]
        - Prior level of function achieved [114]
      - Rehab therapy services arranged for ALOC
      - Rehab therapy services not required
  - **Partial responder**, potential for clinical and/or functional improvement, **All:**
    - **Multidisciplinary care coordination and psychosocial management, Both:** [63, 64]
      - Medical practitioner assessment or evaluation daily, **One:**
        - Progress made in meeting treatment goals
        - Lack of improvement in medical and/or functional status and change in plan of care documented
      - Discharge plan initiated or in process [63]
    - **Continued medical management of primary condition or illness, ≥ One:**
      - Blood product transfusion and, ≥ **One:**
        - Hct < 30%(0.30) or Hb < 10.0 g/dL(100 *g/L*)
        - Platelets < 20,000/cu.mm(20x10^9/L)
      - Chemotherapy related complication, **Both:**
        - Finding, ≥ **One:**
          - Vomiting
          - Severe mucositis and inability to take PO
        - Intervention, ≥ **One:**
          - Antiemetic, ≥ **One:**
            - ≥ 3x/24h
            - Dexamethasone [68]
            - Serotonin antagonist daily
          - IV fluid ≥ 2 L/24h and intake and output monitoring at least every 8h [69]
          - Parenteral nutrition
      - HF, **Both:** [70]
        - Dyspnea and > baseline, ≥ **One:** [2]
          - O_2 sat ≤ 91%(0.91) and < baseline [2]
          - Worsening ascites or edema
        - Intervention, **Both:**
          - Diuresis, **One:**
            - Diuretic, **One:** [71]

- ≥ 2x/24h (includes PO)
- ⛔ At least 1x/24h and requires medication adjustment (includes PO), ≥ **One:** [72]
  - BUN increased from baseline [2]
  - Creatinine increased from baseline [2]
- Dialysis
- Continuous cardiac monitoring (excludes Holter)

⛔ Infection, ≥ **One:**
- ≥ 2 anti-infectives

⛔ Anti-infective, ≥ **One:**
- Bladder irrigation, continuous or cyclic

⛔ Complex wound care, ≥ **One:**
- ≥ 1h/24h
- ≥ 3x/24h

⛔ Hyperbaric oxygen, ≥ **One:** [73]
- Gangrene
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⛔ Isolation, ≥ **One:**
- Active infection with MRSA or VRE
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- Medication adjustment (includes PO) ≤ 3d [72]
- Diagnostic evaluation (includes lab or imaging studies) ≤ 3d

- Blood product transfusion at least every 72h [81]

⛔ Continuous cardiac monitoring (excludes Holter) ≤ 1 wk, ≥ **One:**
- Arrhythmia
- Hypo or hyperkalemia
- Post pacemaker insertion (permanent or temporary)

- Acute kidney injury
- Syncope [82]

– Chest tube [41]
– Closed suction wound drainage
– Complex wound care ≥ 2x/24h [57, 83]
⛔ Dialysis or ultrafiltration, **One:** [32]
- Acute kidney injury
- ⛔ End stage renal disease, ≥ **One:**
  - Permanent access not clinically appropriate and temporary catheter functioning ≤ 5d
  - Unable to tolerate at least 3h due to posterior wound location
  - Unstable dialysis regimen requiring modification at least weekly

– *C. difficile* infection and anti-infective (includes PO) [84, 85]
⛔ Hepatic encephalopathy Stage II or III, ≥ **One:** [51, 86]
- Branched-chain amino acids (BCAA) (includes PO) [87]
- Lactulose (includes PO or PR) [88]
- L-ornithine L-aspartate (LOLA) [89]
- Neomycin (includes PO) [90]
- Rifaximin (includes PO) [91]

⛔ IV fluid, **One:**
- ≥ 50 mL/h
- ⛔ Replacement based on losses at least 3x/24h, ≥ **One:** [76]
  - Diarrhea
  - Oliguria [92]
  - HF

– Laboratory monitoring and medication adjustment at least 2x/24h [72]
⛔ Medication administration, ≥ **One:**
- Analgesic ≥ 3x/24h or continuous
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- Anticoagulant, therapeutic [93]
- Anticonvulsant
- Antihypertensive
- Anti-infective
- Beta blocker
- Calcium and hypocalcemia
- Calcium channel blocker
- Corticosteroid (includes PO)
- Diuretic ≥ 2x/24h [71]
- Glucose 50%(0.50) with insulin [94]
- H_2 blocker or PPI
- Immunosuppressant (includes PO) [95]
- Insulin adjustment ≥ 3x/24h (includes SC) [96]
- Magnesium and hypomagnesemia
- Phosphate and hypophosphatemia
- Polystyrene (Kayexalate) (PO or PR)
- Prokinetic agent
- Sedative ≥ 3x/24h
- Vasoactive agent [97]

– NPWT and dressing changes at least 3x/wk [98]
⛔ Pulmonary condition, ≥ **One:**
- Corticosteroid (includes PO) [99]
- Chest physiotherapy at least 3x/24h [100]
- ⛔ Oxygen and oximetry or ABG, **Both:**
  - Adjustments at least 2x/24h

- ≥ 28%(*0.28*) [54]
- Nebulizer treatment with bronchodilator or mucolytic at least 4x/24h [101]
- Suctioning at least 4x/24h
- Tracheostomy, (new) ≤ 30d since placement and monitoring required
- Ventilator dependent or NIPPV [55, 102]

⊖ Rehab therapy (PT, OT, or SLP), ≥ **One:**
- 1-3h/d ≥ 5d/wk

⊖ Fatigue ≤ 1d, ≥ **One:**
- Chemotherapy or radiation related complication
- Hemodialysis [103]
- Medication induced
- Other invasive procedure [104]

- Shunt or abscess drain management
- Parenteral or enteral feeding
- Volume expander [105]
- Wound debridement or I&D ≤ 1wk [106]

Discharge Screens

⊖ **Discharge, One:** [115]

Clinical,

⊖ **Home**, **All:**
- Home environment safe and accessible [116]

⊖ Patient or caregiver, **Both:**
- Demonstrates ability to manage transfers or functional mobility (e.g., ambulation, wheelchair), ADLs or IADLs
- Demonstrates ability to manage care

⊖ Complete prior to discharge, **All:**
- Follow-up care planned [117]
- Comprehensive written discharge and teaching instructions reviewed [118]
- Medication reconciliation [119]
- Patient or caregiver understands when and where to seek help
- Identify and address transportation needs

⊖ **Home care**, **All:**
- Home environment safe and accessible [116]
- Patient and/or caregiver able to learn care [120]
- Treatment regimen established

⊖ Skilled services, ≥ **One:**
- Access device management [121, 122]
- Clinical assessment [123]
- Hospice or palliative care [124]
- Education for self-management of TPN or PPN
- IV medication infusion administration or teaching
- Pain management or analgesics [77]
- Patient or caregiver education [125]
- Rehab therapy (PT, OT, or SLP)

⊖ Complete prior to discharge, **All:**
- Follow-up care planned and home care services arranged [117]
- Comprehensive written discharge and teaching instructions reviewed [118]
- Medication reconciliation [119]
- Patient or caregiver understands when and where to seek help
- Identify and address transportation needs

⊖ **Skilled Medical or Therapy, All:**
- Medical practitioner, NP, or PA assessment or oversight ≥ 1x/wk

- Treatment precluded at a lower level [126]
- Skilled services, ≥ **One:**
  - Able to tolerate 1-2h/d of skilled therapy ≥ 5d/wk, **All:**
    - Functional impairment requiring at least supervision [46]
    - Goal directed therapy and at least 1 therapy discipline required
    - Rehab potential with expectation for clinical and functional improvement [48]
  - Skilled services required daily, ≥ **One:** [127]
    - Nursing intervention or assessment 1-2x/24h
    - Respiratory intervention ≥ 2x/24h, 7d/wk
    - Pain management or analgesic [77]
- Complete prior to facility transfer, **All:**
  - Comprehensive written discharge and teaching instructions reviewed [118]
  - Medication reconciliation [119]
  - Obtain and complete forms for facility
  - Obtain discharge summary and transmit to facility and medical practitioner
  - Arrange transportation

- **Subacute Medical or Therapy**, **All:**
  - Medical practitioner, NP, or PA assessment or oversight ≥ 2x/wk
  - Treatment precluded at a lower level [126]
  - Skilled services, ≥ **One:**
    - Able to tolerate 2-3h/d of skilled therapy ≥ 5d/wk, **All:**
      - ≥ 2 functional impairments requiring at least minimum assistance [46]
      - Goal directed therapy and ≥ 2 therapy disciplines required
      - Rehab potential with expectation for clinical and functional improvement [48]
    - Skilled nursing services ≥ 4h/24h, ≥ **One:** [128]
      - IV analgesic
      - IV fluids ≥ 50 mL/h or TPN
      - Respiratory intervention ≥ 3x/24h, 7d/wk
  - Complete prior to facility transfer, **All:**
    - Comprehensive written discharge and teaching instructions reviewed [118]
    - Medication reconciliation [119]
    - Obtain and complete forms for facility
    - Obtain discharge summary and transmit to facility and medical practitioner
    - Arrange transportation
- **Other ALOC** [129]

Notes:

1:

Transition Plan: InterQual's® Transition Plan identifies patients at high risk for readmission who may benefit from a comprehensive discharge plan. Heart failure (HF) ranks in the top 20 diagnoses with the highest 7-day and 30-day readmission rates. The 30-day all-cause readmission rate is as high as 23%(0.23) (Fingar et al., In: Healthcare Cost and Utilization Project (HCUP) Statistical Briefs. 2017). HF is a common condition in skilled nursing facilities (SNFs), with cardiovascular diagnoses as the largest diagnostic category for this setting. HF patients account for up to 27% (0.27) to 43%(0.43) of SNF 30-day rehospitalization rates (Jurgens et al., J Card Fail 2015, 21: 263-99). HF patients, in general, identified to be at highest risk for readmission include those with:

- Moderate to severe HF and age 65 or older (Iyngkaran et al., Clinical Medicine Insights: Cardiology 2018, 12: 1179546818809358)
- Age less than 65 at the time of initial HF admission (Iyngkaran et al., Clinical Medicine Insights: Cardiology 2018, 12: 1179546818809358)
- Age 65 or older and post major noncardiac surgery (Turrentine et al., J Am Coll Surg 2016, 222: 1220-9)
- Patients with preexisting atrial fibrillation (Tripathi et al., J Am Heart Assoc 2019, 8: e013026)
- Existence of a comorbid condition including diabetes, renal failure, chronic pulmonary disease, anemia, depression, and fluid and electrolyte disorder (Chamberlain et al., Int J Gen Med 2018, 11: 127-41; Arora et al., Am J Cardiol 2017, 120: 616-24)
- High pre-discharge B-type natriuretic peptide (BNP) level and less than 50%(0.50) decrease from admission level
- Poor comprehension of discharge instruction related to limited educational background or primary language other than English (Iyngkaran et al., Clinical Medicine Insights: Cardiology 2018, 12: 1179546818809358)
- Poor medication adherence (Ruppar et al., J Am Heart Assoc 2016, 5:)
- Medicaid coverage (Iyngkaran et al., Clinical Medicine Insights: Cardiology 2018, 12: 1179546818809358)
- Longer initial hospital stays (Arora et al., Am J Cardiol 2017, 120: 616-24; Albert et al., Circ Heart Fail 2015, 8: 384-409)
- Multiple emergency department visits within 6 months of hospitalization (Albert et al., Circ Heart Fail 2015, 8: 384-409)

A BNP level of greater than 350 pg/mL or less than a 50%(0.50) reduction in N-terminal prohormone BNP (NT-proBNP) during the hospital stay is also associated with an increased risk for rehospitalization or death, as is the development of hypotension during hospitalization (Patel et al., Circ Heart Fail 2014, 7: 918-25). Patients with a discharge BNP ≥ 1000 pg/mL had an unadjusted 30-day HF-specific readmission rate over 3 times as high as patients whose discharge BNP was ≤ 200 pg/mL (Flint et al., J Am Heart Assoc 2014, 3: e000806).

2:

Baseline refers to either the patient's normal baseline or a newly established baseline. In the absence of documentation, a patient's baseline status may be presumed to be normal.

3:

A gastrointestinal condition may include complications from inflammatory bowel disease or hepatic failure, short bowel syndrome, non-functioning GI tract, fistula, surgical resection, pancreatitis and severe malnutrition.

4:

Bowel rest with prolonged NPO may be required for patients who are being prepared for surgery, or those patients with inflammatory bowel disease, Hirschsprung's disease, radiation enteritis, short bowel syndrome, or for patients who are post-op.

5:

Metabolic abnormality can include:

- Hypokalemia, hyperkalemia
- Hypocalcemia, hypercalcemia
- Hyponatremia, hypernatremia
- Hypochloremic alkalosis

- Hypomagnesemia
- Hypophosphatemia
- Elevated BUN and creatinine

6:

Uncontrolled pain refers to a condition of sufficient severity to interfere with ADLs or IADLs, which varies from patient to patient. Determination should be based upon the patient's individual pain threshold, pain tolerance, level of strength and/or endurance, and presence of any comorbid conditions.

7:

An adult malnutrition diagnosis cannot be achieved with a single characteristic. Patients that are undernourished, or are not absorbing nutrients, need nutritional intervention. The American Society for Parenteral and Enteral Nutrition defines malnutrition by at least 2 of the following (Quartarolo et al., Nutr Clin Pract 2021, 36: 1068-71; White et al., JPEN J Parenter Enteral Nutr 2012, 36: 275-83):

- Unable to take in enough calories
- Documented weight loss (greater than 2%(0.02) weight loss from baseline within the last week or greater than 5%(0.05) weight loss from baseline within the last 30 days)
- Decreased muscle mass or wasting (subcutaneous fat loss)
- Decreased hand grip strength (documented loss of functional status)
- Localized or generalized fluid accumulation that masks weight loss

8:

The American Society for Parenteral and Enteral Nutrition defines malnutrition by at least 2 of the following:

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- Decreased hand grip strength (documented loss of functional status)
- Localized or generalized fluid accumulation that masks weight loss

9:

End-stage disease is an irreversible, chronic state from which the patient is incapable of recovery.

10:

Patients with malignant disease may be admitted to the LTAC level for management of conditions related to their disease, or adverse effects related to toxicity of chemotherapy agents (e.g., renal failure, hemorrhagic cystitis), or exacerbation of underlying comorbidity (e.g., CHF).

11:

Mental status change may include confusion, disorientation, delirium, or increasing lethargy (Lacey et al., Ann Med 2019, 51: 232-51).
Instruction: Patients with acute coma, stupor, or obtundation should be reviewed at a higher level of care due to the need for more frequent neurological monitoring. These criteria exclude chronic coma, stupor, or obtundation (Shenvi et al., Ann Emerg Med 2020, 75: 136-45).

12:

Intractable pain is persistent pain that does not respond to at least three doses of parenteral analgesics given over the previous 12 to 24 hours. Parenteral analgesics include transdermal application.

13:

Symptomatic bone marrow disorders manifest as active bleeding, bone marrow suppression (decreased cell counts), and/or infection.

14:

Aplastic anemia is caused by deficient red cell production due to bone marrow disorders which may result from chemical, antineoplastic or radiation treatments, or congenital origin, or malignancy itself.

15:
Clinical relapse refers to failure of the bone marrow transplant (BMT) or stem cell transplant (SCT) in conjunction with recurrent malignancy.

16:
Pre-bone marrow transplant (BMT) or stem cell transplant (SCT) patients often require multiple transfusions of red blood cells (RBCs) to correct anemia or platelet transfusions to address thrombocytopenia. Granulocyte transfusions are rarely required with the advent of growth colony-stimulating factors.

17:
This line of criteria pertains to renal, liver, brain, and intra-abdominal abscesses.

18:
Central nervous system (CNS) infections can be bacterial, viral, protozoal, or fungal. Infections of the CNS can result in formation of abscesses or empyemas. Treatment typically consists of anti-infectives or a combination of anti-infectives and surgical intervention. CNS damage as a result of infections can lead to motor and speech impairment, seizures, coma, and death.

19:
Opportunistic infection is one in which organisms that normally do not cause clinically significant conditions in immune-competent patients do cause infection in immunocompromised patients. The most common opportunistic infections include Pneumocystis carinii, mycobacteria, AIDS-defining conditions, and protozoal infections by organisms such as toxoplasmosis.

20:
This criteria point includes bacterial pneumonia and aspiration pneumonitis.

21:
Mobilization of secretions can be performed using several techniques including: chest physiotherapy and postural drainage, aerosolized therapy, external percussion and vibration devices and positive respiratory pressure devices.

22:
Patients who are treated at a lower level of care and do not respond to two days of treatment may benefit from treatment at the LTAC level of care.

23:
Ventilation includes invasive ventilation and noninvasive positive pressure ventilation (NIPPV), including continuous positive airway pressure (CPAP) and bilevel positive airway pressure (BiPAP).

24:
This criterion refers to any patient with an infection that requires active treatment with intravenous medication. The requirement is for parenteral anti-infective with the exception of *Clostridioides difficile*, which can be treated with oral medication.

25:
The National Pressure Ulcer Advisory Panel (NPUAP) provides a method for classifying wounds according to the type of tissue layers involved and uses the term pressure injury to include soft tissue injuries without ulceration. These injuries usually occur over bony prominences or under medical or nonmedical devices. The NPUAP staging system does not imply linear progression of pressure injuries from Stage 1 through Stage 4, nor does it imply

healing from Stage 4 through Stage 1. This system is supported by the Wound Ostomy Continence Nurses Society (WOCN) and the Academy of Nutrition and Dietetics (DiPlacido and Cox-Vance, Am Fam Physician 2017, 95: 757). The classifications are (National Pressure Ulcer Advisory Panel, NPUAP Pressure Injury Stages. 2016 [cited December 2, 2021]):

- **Stage 1 Pressure Injury - Non-blanchable erythema of intact skin:** Intact skin with a localized area of non-blanchable erythema, which may appear differently in darkly pigmented skin. Presence of erythema or changes in sensation, temperature, or firmness may precede visual changes. Purple or maroon discoloration is not indicative of Stage 1 and may indicate deep tissue pressure injury.
- **Stage 2 Pressure Injury - Partial-thickness skin loss with exposed dermis:** Partial-thickness skin loss with exposed dermis. Viable wound bed that is pink or red and moist; may also present as an intact or ruptured serum-filled blister. Granulation tissue, slough, eschar, adipose tissue, and deeper tissues are not present.
- **Stage 3 Pressure Injury - Full-thickness skin loss:** Full-thickness skin loss with visible adipose in the ulcer; granulation tissue and rolled wound edges may be present. Undermining and tunneling may occur. Fascia, muscle, tendon, ligament, cartilage, and/or bone are not exposed. If the extent of tissue loss is obscured by slough or eschar, this is considered an unstageable pressure injury.
- **Stage 4 Pressure Injury - Full-thickness skin loss and tissue loss**: Full-thickness skin and tissue loss. Exposed or palpable fascia, muscle, tendon, ligament, cartilage, or bone in the ulcer. Slough and/or eschar may be visible and rolled tissues, undermining and/or tunneling often occur. If the extent of tissue loss is obscured by slough or eschar, this is considered an unstageable pressure injury.
- **Unstageable Pressure Injury - Obscured full-thickness skin and tissue loss:** Unstageable pressure injury refers to obscured full-thickness skin and tissue loss where the extent of tissue cannot be determined because it is obscured due to slough or eschar. When slough or eschar is removed, a Stage 3 or Stage 4 pressure injury will be visible.
- **Deep Tissue Injury Pressure Injury - Persistent non-blanchable deep red, maroon, or purple discoloration:** Intact or non-intact skin with persistent non-blanchable deep red, maroon or purple discoloration or epidermal separation that reveals a dark wound bed or blood-filled blister. Pain and temperature change may occur prior to skin color changes. This stage should not be used to describe vascular, traumatic, neuropathic, or dermatologic conditions.

26:

The absolute neutrophil count (ANC) is the percentage of available polymorphonuclear cells (also referred to as polys, PMNs, or segs) and bands multiplied by the white blood cells (WBC). The resulting count predicts the body's ability to respond to an infection. Neutropenia is the condition of a low ANC. Patients with an ANC less than 500/cu. mm($500x10^6$/L) are severely neutropenic and have a very limited immunologic response to infection.
To determine the ANC, a differential WBC count must be performed. Segs and bands may be reported as a percentage of the WBC or can be reported in total number.
The formula for calculating an ANC is neutrophils (segs + bands) x WBC.
Examples:
ANC calculation using a percentage of total WBC count:
WBC count: 1,500/cu.mm($1.5x10^9$/L)
Segs: 20%(0.20) of the WBCs
Bands: 2%(0.02) of the WBCs
(20% + 2%(0.20 + 0.02)) x 1,500/cu.mm($1.5x10^9$/L)
= 330/cu.mm($330x10^6$/L)
Normal range: 1,500-8,000/cu.mm($1.5\text{-}8.0x10^9$/L)
An ANC of less than 500/cu.mm($500x10^6$/L) is considered severely neutropenic.
ANC Calculation using the above numbers as whole numbers:
WBC count: 1.5
Segs: 0.2
Bands: 0.02
(0.2 + 0.02) x 1.5 = 0.33
Normal range: 1.5 to 8.0
An ANC of less than 0.5 is considered severely neutropenic.

27:

The Centers for Disease Control and Prevention (CDC) define a fever as greater than or equal to 100.4 degrees Fahrenheit (i.e., greater than or equal to 38 degrees Celsius) and do not specify the route of measurement (Centers

for Disease Control and Prevention, Definitions of symptoms for reportable illness. 2017). The route utilized may be directed by institutional protocols, equipment availability, patient preference, or other patient-specific factors.

28:

Instruction: Patients with necrotizing pancreatitis would routinely be treated in an Acute care setting due to the high mortality rate associated with this condition, especially in those patients where infection is diagnosed. Patients may be treated at the LTAC level if the infection, symptoms and complications are stable.

29:

Recent central nervous system (CNS) injury includes stroke, brain injury, or spinal cord injury, etc.

30:

Acute kidney injury (AKI) is a term used to describe the broad spectrum of kidney function impairment, including insufficiency, oliguria, and failure. The spectrum ranges from minor changes in renal function markers (e.g., increase in serum creatinine, decreased urine output) to failure requiring renal replacement therapy.
AKI is defined as a sudden decrease in renal function resulting from multiple etiologies, including intrinsic kidney disease, ischemia, nephrotoxicity, and extrarenal pathology.
AKI encompasses patients with chronic kidney disease who experience an acute deterioration. AKI is associated with significant morbidity and mortality in hospitalized patients (Ostermann et al., Kidney Int 2020, 98: 294-309; Guideline Updates, In: Acute kidney injury: prevention, detection and management. 2019; Kidney Disease: Improving Global Outcomes (KDIGO), Kidney International Supplements 2012, 2: ii.-138; Wang et al., Am J Nephrol 2012, 35: 349-55).

31:

Instruction: These criteria require the reviewer to select the comorbid conditions that impact the patient's primary reason for admission and continued stay. Selection of a comorbid condition is appropriate when:

- It is not the primary reason for admission. For example, persistent dyspnea and continued hypoxia is the primary reason for admission, selection of respiratory insufficiency as a comorbid condition is not allowed.
- The condition affects the patient's current medical status and skilled assessment, active medical treatment (including psychiatric consultation, if appropriate), and intervention is required during this episode of care. Treatment of a comorbid condition with maintenance therapy would not meet criteria.

32:

Instruction: This criteria refers to an established dialysis regimen. This may consist of hemodialysis, generally performed three times a week, or peritoneal dialysis performed at least daily.

33:

Patients with end-stage renal disease on chronic dialysis are at increased risk for altered mental status, muscle weakness, and infection, which can lead to interrupted physical therapy and prolonged clinical and physical improvement (Vijayan et al., Clin J Am Soc Nephrol 2021, 16: 1601-9).

34:

Behavioral symptoms may be attributed to underlying toxic, metabolic, pharmacological, cardiopulmonary, or neurological causes. In a patient with behavioral symptoms, issues that require consideration include:

- New medical event and/or recent hospitalization (e.g., myocardial infarction, pulmonary edema, heart failure, trauma, stroke, surgical procedure with anesthesia)
- Medications or non-adherence with regimen (e.g., anticholinergics, cardiovascular agents, opiates, benzodiazepines, lithium, antidepressants, antipsychotics, anti-inflammatory agents [steroids], antibiotics, oral hypoglycemics)
- Medical complications (e.g., infections, electrolyte imbalance, metabolic disorders, metastatic disease)
- Alcohol or drug withdrawal
- Sensory impairment, sleep deprivation or environmental changes

35:

Change in cognition may include the following:

- Memory impairment, most commonly in recent memory
- Disorientation, usually manifests as delirium, and is related to time (e.g., thinking that it is morning when it is the middle of the night) or place (e.g., thinking that the hospital is home)
- Language disturbance evidenced as dysnomia, the impaired ability to name an object, or dysgraphia, the impaired ability to write

36:

Impulsive refers to the lack of control or inability of the patient to refrain from acting on wishes, fantasies, thoughts, and feelings, often resulting in negative consequences.

37:

Agitation refers to excessive motor or verbal activity that requires psychiatric intervention to control.

38:

Aggression is manifested by behaviors that range from mild to severe and include the following:

- Mild - verbal profanities
- Moderate - physical action using inanimate objects (e.g., throwing a chair, hitting or kicking a wall, smashing a dish) or verbal threats
- Severe - physical altercation with a person (e.g., twisting an arm, hitting, punching)

39:

This criteria refers to those patients who may experience perceptual disturbances in the form of misinterpretation (e.g., a door slamming is interpreted as a gunshot), an illusion (e.g., the folds of bed sheet become animated), or a hallucination (e.g., "seeing" a group of people hovering over the bed when no one is there) (American Psychiatric Association, Diagnostic and Statistical Manual of Mental Disorders, fifth edition. 2013).

40:

Social withdrawal is evident when the patient stops interacting with others and may be due to delusions, paranoia, hallucinations, or severe anxiety. A socially withdrawn patient may not respond to questions or maintain eye contact, or may act in a bizarre manner.

41:

Indications for chest tubes include pneumothorax, pleural effusion, chylothorax, empyema, hemothorax, and hydrothorax. The goal is to evacuate air, fluid, or blood from the pleural space. The removal of fluid or air is accomplished by connection of the chest tube to a drainage device (e.g., water seal drainage system, one-way valve, etc.). There is considerable debate on whether or not water seal or low-pressure suction is the best method to achieve full lung expansion. In the management of chest trauma, there is some evidence suggesting that low-pressure suction may be a better option than water seal by decreasing the duration of chest tube treatment, length of hospital stay, and persistent air leakage (Feenstra et al., Eur J Trauma Emerg Surg 2018, 44: 819-27). Post-insertion monitoring includes vital sign and lung assessment, insertion site inspection, water seal and suction device checks with measurement of drainage, and assessment for complications (bleeding, infection, subcutaneous emphysema, lung trauma, or bronchopleural fistula). Serial chest x-rays may also be performed to ensure that there is no re-accumulation of air or fluid. The decision to remove a chest tube is based on the reason for placement and patient response. Generally, the chest tube is removed when there is no evidence of air leak, minimal drainage (less than or equal to 200 mL/day or less than 2 mL/kg/day whichever is less) and the lung is fully expanded. In some postoperative situations, chest tubes can be safely withdrawn with daily outputs up to 450 mL/day. Following the removal of a chest tube, a routine chest x-ray may be performed within 1 to 4 hours for mechanically ventilated patients to detect a recurrent pneumothorax. In non-mechanically ventilated patients, the decision is dependent upon the patient's signs and symptoms and medical practitioner preference (Porcel, Tuberc Respir Dis (Seoul) 2018, 81: 106-15).

42:

Transition Plan: InterQual® Transition Plan identifies patients at high risk for readmission who may benefit from a comprehensive discharge plan. Chronic obstructive pulmonary disease (COPD) patients at high risk for readmission include those with a prior history of exacerbation of COPD requiring hospital admission. Prior emergency room visits and hospitalized exacerbations in the past 12 months are strong predictors for future admissions. Evidence also demonstrates a marked increase in the risk of readmission with each new exacerbation requiring hospitalization (Global Initiative for Chronic Obstructive Lung Disease (GOLD). Global Strategy for the Diagnosis, Management and Prevention of COPD. 2025 Press et al., Chest 2021, 159: 996-1006 Njoku et al., Respir Med 2020, 173: 105988). Readmission rates have been found to be high among patients of African American race, males, 65 years of age or less, lower-income households, and those with multiple comorbidities. The following conditions are also associated with increased risk of early readmission: congestive heart failure (CHF), chronic renal insufficiency, diabetes, psychiatric conditions (anxiety, depression, psychosis, alcohol and illicit drug use), frailty, poor health-related quality of life, low body mass index (BMI), lack of routine physical activity, oral corticosteroid use, long-term oxygen therapy, elevated serum arterial blood carbon dioxide level, and forced expiratory volume in 1 second (FEV_1) values below 50%(0.50) of predicted value (Chow et al., Int J Chron Obstruct Pulmon Dis 2023, 18: 2581-617 Kong and Wilkinson, ERJ Open Res 2020, 6: epub Njoku et al., Respir Med 2020, 173: 105988 Tsui et al., Int J Tuberc Lung Dis 2016, 20: 396-401). Interventions that may reduce early readmissions after COPD exacerbation include inhaler device training, early physician outpatient follow-up within 30 days after hospitalization, and self-management interventions that include a COPD exacerbation action plan (Miravitlles et al., Adv Ther 2023, 40: 4236-63 Kong and Wilkinson, ERJ Open Res 2020, 6: epub Lenferink et al., Cochrane Database Syst Rev 2017, 8: CD011682 Ospina et al., Thorax 2017, 72: 31-9). Additional recommendations to reduce early readmissions include influenza and pneumococcal vaccination, pulmonary rehabilitation program that is at least 6-8 weeks in duration for COPD exacerbation, and access to education and case management that includes direct access to a healthcare specialist at least monthly (Global Initiative for Chronic Obstructive Lung Disease (GOLD). Global Strategy for the Diagnosis, Management and Prevention of COPD. 2025 Halpin et al., Int J Chron Obstruct Pulmon Dis 2017, 12: 2891-908 Whittaker Brown and Braman, Med Clin North Am 2020, 104: 615-30).

43:

Venous blood gases (VBG) may be used to assess a patient's ventilation or metabolic status. Venous pH or HCO_3 values closely approximate corresponding values derived from arterial blood gases (ABG) in conditions such as chronic obstructive pulmonary disease (COPD), respiratory distress syndrome, neonatal sepsis, renal failure, pneumonia, diabetic ketoacidosis, and status epilepticus. VBG should not be used to determine oxygenation. Patients with chronic CO_2 retention hospitalized for acute respiratory illness will exhibit increased PCO_2 levels. PCO_2 values should be compared with baseline values when available and other signs and symptoms of respiratory distress should be considered when determining the appropriate level of care (e.g., worsening dyspnea, high respiratory rate, decreased oxygen saturation, confusion, drowsiness) (Global Initiative for Chronic Obstructive Lung Disease (GOLD). Global Strategy for the Diagnosis, Management and Prevention of COPD. 2025; McKeever et al., Thorax 2016, 71: 210-5).

44:

Diabetes mellitus (DM) is a chronic glucose metabolism disorder resulting from deficient insulin production, insulin resistance, or both. According to the American Diabetes Association, DM can be classified into the following general categories: (American Diabetes Association Professional Practice Committee, Diabetes Care 2025, 48: S1-S352):

- Type 1 DM: Occurs when the body produces little or no insulin. This is primarily due to pancreatic islet beta-cell destruction. Patients are insulin-dependent and are at risk for ketoacidosis.
- Type 2 DM: the most common form of diabetes that results from a progressive insulin secretory defect combined with insulin resistance (the body fails to respond appropriately to insulin)
- Gestational DM: first detected during pregnancy and is not clearly overt DM
- Other causes of DM: genetic defects of beta-cell function or insulin action, disease of the exocrine pancreas (e.g., cystic fibrosis and pancreatitis), and drug- or chemical-induced diabetes (e.g., glucocorticoid use)

Complications of diabetes can include organ damage, dysfunction, and failure, primarily of the eyes, kidneys, nerves, heart, brain, and blood vessels. Effective management includes self-monitoring of blood glucose and an appropriate combination of diet, exercise, and medication (American Diabetes Association Professional Practice Committee, Diabetes Care 2025, 48: S1-S352; Agiostratidou et al., Diabetes Care 2017, 40: 1622-30).

45:

Uncontrolled blood sugars frequently occur in diabetics who have recently experienced trauma, stress, surgery, infection, prolonged episodes of vomiting or diarrhea, changing insulin requirements, or have drug-induced blood sugar instability.

46:

Functional assistance levels are based upon the patient's function during tasks and activities necessary to return to household mobility or ambulation. The functional assistance level required for each individual task or activity (e.g., mobility, activities of daily living (ADLs)) may vary.
The following terms are commonly used in the post-acute setting:

- Independent - Patient can safely and within a reasonable amount of time perform a task (or developmentally appropriate task) without physical or cognitive assistance or supervision
- Modified Independent - Patient performs an activity with a supportive device, adaptive equipment, and/or prosthetic or orthotic device. Additional time may be required to complete the activity and/or there are safety (risk) considerations
- Supervision - Patient performs an activity with standby or distant supervision or setup. Verbal cueing or coaxing, without physical contact or setup of items and application of orthoses may be required when patient's safety awareness is impaired
- Minimum or limited Assistance - Patient performs at least 75%(0.75) of an activity and requires some physical contact to steady, guide, or move
- Moderate or extensive Assistance - Patient performs at least 50%(0.50) of an activity and requires physical assistance for functional mobility or ADLs
- Maximum Assistance - Patient performs 25%(0.25) to 50%(0.50) of an activity and requires physical assistance for functional mobility or ADLs
- Total Assistance or dependence - Patient performs less than 25%(0.25) of an activity and may require total assistance for functional mobility or ADLs

47:

A new impairment refers to a decline in physical function as compared to prior level of function. Patients that present with a new impairment or functional limitation may require ongoing rehabilitation for functional training in self-care, home management, and community reintegration. Examples include those patients who have experienced a post cerebral event (brain injury, cerebrovascular accident), post major surgical repair, exacerbation of a progressive or degenerative neuromuscular disorder (Parkinson's, multiple sclerosis, amyotrophic lateral sclerosis, Huntington's chorea, transverse myelitis), Guillain-Barre, trauma, or paraplegia.

48:

Rehabilitation potential refers to the probability that therapy and medical goals are realistic and attainable based on patient's prior level of function, severity of illness or injury, and the extent of impairments.

49:

The criteria "at least minimum assistance" refers to patients who require minimum, moderate, maximum, or total assistance.

50:

New York Heart Association (NYHA) classification for heart failure is defined as follows (Yap et al., Clinical cardiology 2015, 38: 621-8; New York Heart Association, Diseases of the Heart and Blood Vessels. Nomenclature and Criteria for diagnosis. 1964):

- Class I - No limitation of physical activity. Ordinary physical activity does not cause undue fatigue, palpitation, dyspnea, or anginal pain.
- Class II - Slight limitation of physical activity. Comfortable at rest. Ordinary physical activity results in fatigue, palpitation, dyspnea, or anginal pain.
- Class III - Marked limitation of physical activity. Comfortable at rest. Less than ordinary physical activity causes fatigue, palpitation, dyspnea, or anginal pain.
- Class IV - Inability to carry on any physical activity without discomfort. Symptoms of cardiac insufficiency or of anginal syndrome may be present even at rest. If any physical activity is undertaken, discomfort is increased.

51:

Hepatic encephalopathy (HE) is a complication of acute or chronic liver disease that is primarily characterized by changes in personality, consciousness, cognition, and motor function. West Haven criteria for grading HE includes (Montrief et al., Am J Emerg Med 2019, 37: 329-37; Weissenborn, Drugs 2019, 79: 5-9; Ferenci, Gastroenterol Rep (Oxf) 2017, 5: 138-47):

- Grade I - Lack of awareness, anxiety, short attention span, euphoria, inability to add/subtract
- Grade II - Disorientation for time, inappropriate behavior, lethargy/apathy, obvious personality change, dyspraxia, or asterixis
- Grade III - Confusion, bizarre behavior, gross disorientation, responsive to verbal stimuli, somnolence to semi-stupor
- Grade IV - Coma

52:

Immunocompromised individuals, those with a diminished ability to fend off invading organisms due to an impaired immune system, are particularly vulnerable. This can be a result of various comorbidities or certain immunosuppressive medications or therapies. The most significant complication of immunodeficiency or immunosuppression is the heightened susceptibility to infections, which are often severe in nature, frequent, and prolonged. This is in stark contrast to immunocompetent individuals who may be exposed to the same pathogen. Moreover, immunocompromised or suppressed individuals are also at an increased risk of opportunistic infections. Overall, this can lead to more severe in-hospital complications, longer lengths of stay, and/or mortality.
It is essential to distinguish between primary and secondary immunodeficiency. Primary immunodeficiency is congenital, caused by inherited disorders of the immune system. On the other hand, secondary immunodeficiency is acquired, caused by a disease process or by treatment of other chronic diseases. This distinction is essential for healthcare professionals as it helps to identify the patient who is at higher risk.
Primary causes of immunodeficiency account for more than 450 genetic disorders that impact immune system function at various immune pathways from antibody deficiency to phagocytic dysfunction to adversely affecting cellular and humoral immunity (Quinn et al., Allergy Asthma Clin Immunol 2022, 18: 19Tangye et al., J Clin Immunol 2022, 42: 1473-507). Some examples of primary immunodeficiency include (but are not limited to):

- Common Variable Immunodeficiency (CVID)
- IgA deficiency
- Chronic granulomatous disease
- DiGeorge syndrome
- X-linked agammaglobulinemia (XLA)
- Ataxia - Telangiectasia
- Severe combined immunodeficiency (SCID)
- Isolated IgG subclass deficiency
- Wiskott syndrome
- Transient hypogammaglobinemia of infancy

Secondary immune deficiencies are caused by extrinsic or environmental factors that adversely affect the immune response and consequently increase the risk of infections. These factors could be transient or persistent. Similarly, components of the immune response that are affected could be impaired skin and mucosal barriers, phagocytic activity, antibody production, or T-cell activity.
Examples of secondary immune deficiency include (Czapka et al., Transpl Infect Dis 2023, 25 Suppl 1: e14148Mustafa, Ann Allergy Asthma Immunol 2023, 130: 713-7Centers for Disease Control and Prevention, National Diabetes Statistics Report. 2022Swanson et al., Annals of Blood 2022, 8: Malpica and Moll, Hematology Am Soc Hematol Educ Program 2020, 2020: 319-27Youssef et al., Rheum Dis Clin North Am 2016, 42: 157-76, ix-xBonilla et al., J Allergy Clin Immunol 2015, 136: 1186-205 e78Lipska et al., Diabetes Care 2013, 36: 3535-42):

- Poorly controlled diabetes mellitus defined as HbA1c greater than or equal to 9%(0.09) (drawn on admission or within the past three months)
- End-stage liver disease (ESLD)
- Active hematopoietic malignancies
- Allogeneic hematopoietic stem cell transplantation (HSCT) with Graft-versus-Host Disease (GVHD)
- Autologous HSCT within the last 6 months or patient who develop GVHD
- Patients undergoing Car T-cell therapy
- Immunosuppressive therapy (active or within the last 3 months): Chemotherapy, Radiation, Anti-rejection medications, TNF-alpha inhibitors, JAK inhibitors, IL-1 or IL-6 inhibitors, Immunotherapy, and/or prolonged high-dose steroid use (Prednisone or equivalent greater than or equal to 20mg daily for

4 weeks or more)
- Patients with severe neutropenia with absolute neutrophil count (ANC) less than 500/cu.mm($500x10^6$/L)
- Human immunodeficiency virus (HIV) or Acquired Immune Deficiency Syndrome (AIDS) with CD_4 count less than 200/cu.mm($200x10^6$/L)
- History of splenectomy
- Splenic dysfunction due to sickle cell disease

53:

Systemic manifestations of infection may include fever, rigors, nausea, or vomiting.

54:

Oxygen therapy is the administration of oxygen at concentrations greater than ambient air (room air: 21%(0.21)) with the intent of treating and/or preventing the symptoms and manifestations of hypoxia. The oxygen concentration or percentage (FiO_2) delivered varies with the manufacturer's design, oxygen flow rate, the patient's respiratory rate, and tidal volume. Actual inspired FiO_2 with nasal cannula varies significantly with the patient's minute ventilation and pattern of breathing. For patients at risk for CO_2 retention, where a precise inspired FiO_2 is required, the Venturi mask is the preferred method. In general, patients who are very ill or have respiratory disease may require considerably higher flow rates to achieve the desired FiO_2. The following are estimates of O_2 delivered at the associated flow rates:

LOW-FLOW SYSTEMS

Nasal cannula

Room air 21%(*0.21*)
1L 24%(*0.24*) **4L** 36%(*0.36*)
2L 28%(*0.28*) **5L** 40%(*0.40*)
3L 32%(*0.32*) **6L** 44%(*0.44*)

Simple oxygen masks
- 35-50%(*0.35-0.50*) FiO_2 (5-10 L/min)
- Flow rates are usually maintained at 5 L/min or more to avoid accumulation of CO_2 in the mask

Venturi masks
- 24-50%(*0.24-0.50*) FiO_2 (4-12 L/min)

Partial rebreathing masks
- 40-70%(*0.40-0.70*) FiO_2 (6-10 L/min)

Non-rebreathing masks
- 60-80%(*0.60-0.80*) FiO_2 (minimum flow of 10 L/min)

HIGH-FLOW SYSTEMS

Air-entrainment masks/nebulizers
- 24-40%(0.24-0.40) FiO_2

Heated, humidified high-flow concentrating nasal cannula (HFNC)
- 24-100%(0.24-1.0) FiO_2

55:

Noninvasive positive pressure ventilation (NIPPV), also known as NIV, provides respiratory support by application of a tightly fitting facial mask, nasal mask, or helmet rather than an endotracheal tube or tracheostomy. In some cases, the use of NIPPV can avoid the need for endotracheal intubation and decreases the risk of barotrauma, lung injury, and/or infection. NIPPV is commonly delivered by a bilevel positive airway pressure ventilator (BiPAP), a continuous positive airway pressure device (CPAP), or a mechanical ventilator. Supplemental oxygen can be delivered at concentrations approximating 100%(1.0).

The decision to provide respiratory support via NIPPV, and the modality to provide NIPPV, is based upon the patient's specific clinical findings (e.g., medical condition leading to respiratory failure, underlying comorbidities, clinical progression, improvement). Examples of NIPPV devices are volumetric (i.e., deliver a defined volume), barometric (i.e., deliver a defined pressure), and combined (i.e., deliver defined volumes and pressure). The terminology for NIPPV delivery systems may differ between equipment manufacturers and provider organizations.

InterQual® criteria do not differentiate between the different NIPPV modalities.
Whether or not high-flow nasal cannula (HFNC) should be classified as a component of NIPPV is unclear, and there is conflicting evidence in the medical literature. Where HFNC is an appropriate modality, InterQual® defines this in a specific criteria point. As such, NIPPV does not include HFNC (Hackett, A., PulmCCM 2018; Nardi et al., F1000Res 2017, 6: 290; Osadnik et al., Cochrane Database Syst Rev 2017, 7: CD004104; Allison and Winters, Emerg Med Clin North Am 2016, 34: 51-62; Gregoretti et al., Crit Care Clin 2015, 31: 435-57).

56:

Ventilator dependent refers to those patients who require continued management of ventilator needs and are not actively weaning.

57:

Although the vast majority of wound care is readily handled in the post-acute setting, there are situations when a patient requires care at the acute level, such as high-frequency wound care required, prolonged length of time required performing the procedure, and the type or amount of medication required to keep the patient comfortable during the procedure. For children less than 12 years of age (or less than 30 kg), the wound care regimen may need to be adjusted to a lesser frequency and/or duration (e.g., twice per day, 10 minutes), though still requiring the current level of care, due to the patient's size, pain tolerance, fluid shifts, and vital sign lability.
To determine the appropriate discharge destination, an assessment is required of the patient and/or caregiver's ability to learn the necessary wound care regimen, complexity of the treatment regimen, and a plan for managing contributory factors. For discharge to the home setting, the patient and/or caregiver must be able and willing to participate in the care plan, or there is sufficient agency assistance available to adequately meet the patient's needs. Patient and/or caregiver instruction should include all the following (Bryant and Nix, Acute & chronic wounds: current management concepts, 5th ed. 2015, xiv, 655 p.):

- Wound care regimen that includes a plan to monitor patient-specific contributory factors
- Adjunctive therapies (medications, nutritional plan, and supplements)
- Re-ordering medications and wound management supplies
- When to seek medical care (e.g., signs, symptoms, and complications to report to the health care provider)
- Continued follow-up and support with health care providers

58:

Acute changes in chronic wounds may warrant complex nursing care at a skilled nursing facility (SNF) or subacute care (SAC) facility. Wound or skin care involves daily observation and assessment of a patient's altered skin integrity, including burns and grafts. Interventions that may be necessary include:

- Wound debridement
- Soaks and irrigations
- Whirlpool
- Specialized occlusive dressings (excluding dry sterile dressing changes)
- Packings
- Specialized treatments
- Pressure redistribution beds
- Patient and/or caregiver education

59:

Neurological stability is a clinical state characterized by:

- Lack of deterioration or return to baseline in mental status or level of consciousness
- Seizures absent or controlled
- Absence of neurological deficit
- Stabilization of neurological deficit that develops during current hospitalization

60:

Arrhythmias may require treatment with PO or IV antiarrhythmics, and when necessary, cardiac monitoring.

61:

Hypertension is defined as a systolic blood pressure (SBP) of greater than 130 mmHg or a diastolic blood pressure (DBP) of 80 mmHg or greater. Recommendations for initial management may include a conservative approach with diet and lifestyle modification with or without medications. The goal of antihypertensive therapy is to reduce morbidity and mortality. In non-urgent situations, blood pressure (BP) control is achieved in the outpatient setting. Goals for target BP level should be individualized, but a SBP less than 130 mmHg and a DBP less than 80 mmHg are desirable. Populations at high risk include patients with the following conditions (Whelton et al., Hypertension 2018, 71: 1269-324):

- Clinical cardiovascular disease or 10-year atherosclerotic cardiovascular disease (ASCVD) risk 10%(0.1)
- Heart failure
- Stable ischemic heart disease
- Chronic kidney disease
- Chronic kidney disease after renal transplantation

62:

When a criteria point states "within acceptable limits," it refers to either the patient's normal baseline, a newly established baseline, or parameters that the medical practitioner determines are acceptable.

63:

Discharge planning is a component of care coordination and should be initiated on admission and re-evaluated throughout the patient's stay. The discharge plan may include an estimated length of stay, projected discharge destination, and a plan for post-discharge care. It may also include the following:

- Durable medical equipment needs
- Home environment assessment
- Identification of community resources
- Patient and/or caregiver education and instruction
- Patient's support system assessed, and level of care options identified

64:

Psychosocial issues, which include coping skills or adjustment to functional loss, can impede medical and functional progress. Ongoing assessment, active treatment, and management must be addressed during the course of hospitalization.

65:

Instruction: The medical practitioner's daily assessment manages the conditions and comorbid illnesses that impact the patient's primary reason for admission and continued stay.
Selection of a comorbid condition is appropriate when:

- It is not the primary reason for admission. For example, persistent dyspnea and continued hypoxia is the primary reason for admission, selection of respiratory insufficiency as a comorbid condition is not allowed.
- The condition affects the patient's current medical status and skilled assessment, active medical treatment (including psychiatric consultation, if appropriate), and intervention is required during this episode of care. Treatment of a comorbid condition with maintenance therapy would not meet criteria.

66:

Medically complex patients in long-term acute care (LTAC) require daily medical and physical assessment and management provided by a licensed medical practitioner. Although practitioners specialized in rehabilitation medicine, also known as physiatrists, may be common practitioners in the LTAC setting, legislative and geographical variances, as well as organizational policy, govern the specific practitioner requirements.

67:

These criteria refer to the lack of response to treatment received through the medical practitioner's office, outpatient clinic (e.g., urgent care), teleconsultation, trial of home care services, emergency department (prior to decision to admit), or hospital Observation setting (if appropriate for this condition). These criteria can be applied when the patient fails to respond to more intensive treatment beyond the routine treatments or medications delivered for a chronic condition.

68:
Dexamethasone is effective in relieving chemotherapy-induced nausea and vomiting. Patients receiving chemotherapy with a high or moderate emetic risk may be given a combination of dexamethasone, serotonin antagonists, and/or aprepitant (Olver et al., Support Care Cancer 2017, 25: 297-301).

69:
Some medications are toxic to the kidneys (e.g., cisplatin) and require close monitoring to avoid renal failure.

70:
Management of patients admitted with a heart failure (HF) exacerbation may include supplemental oxygen, diuretic, guideline-directed medical therapy (GDMT), which includes angiotensin-converting enzyme inhibitor (ACEi) or angiotensin receptor blocker (ARB) or angiotensin receptor neprilysin inhibitor (ARNi), beta-blocker, mineralocorticoid receptor antagonists (MRA), and sodium-glucose cotransporter 2 inhibitors (SGLT2i), cardiac monitoring, and deep vein thrombosis (DVT) prophylaxis (Maddox et al., J Am Coll Cardiol 2021, 77: 772-810).

71:
Intravenous (IV) loop diuretics (e.g., furosemide, torsemide, bumetanide, ethacrynic acid) are administered to relieve the symptoms of dyspnea and congestion without excessively reducing intravascular volume. Due to their relatively short half-life, diuretic effectiveness can be enhanced by continuous administration or multiple boluses daily. Careful monitoring of daily weights, orthostatic vital signs, intake and output, electrolytes, and renal function are key components of diuretic therapy. If a patient does not initially respond to IV diuretics, other options may be considered, including increasing the dose to ensure adequate drug levels reach the kidneys and adding a second diuretic, typically a thiazide, to the loop diuretic in order to improve diuretic responsiveness (Heidenreich et al., Circulation 2022, 145: e895-e1032; Maddox et al., J Am Coll Cardiol 2021, 77: 772-810; Rosendorff et al., Circulation 2015).

72:
Instruction: For these criteria, medication adjustment refers to a change in dose, frequency of administration, or change in medication.

73:
Hyperbaric oxygen therapy (HBO) is used as an adjunct treatment for chronic wound care by increasing cellular oxygen. There is evidence in support of HBO therapy in the treatment of diabetic foot lesions and in the presence of chronic limb-threatening ischemia (CLTI) in diabetic patients (Conte et al., Eur J Vasc Endovasc Surg 2019, 58: S1-S109.e33). Specifically, hyperbaric treatment may be beneficial in preventing amputation and promoting complete healing in patients with Wagner Grade 3 or greater diabetic foot ulcers who have undergone surgical debridement or have shown no significant improvement after 30 or more days of conservative care. For Wagner ulcers Grade 2 or lower, there is insufficient evidence to support HBO treatment. There is also insufficient evidence to support this treatment for arterial wounds and pressure ulcers (Mathieu et al., Diving Hyperb Med 2017, 47: 24-32; Kranke et al., Cochrane Database Syst Rev 2015: CD004123). There is some evidence that HBO therapy improves outcomes in late radiation tissue injury of soft tissue and bones of the head, neck, anus, and rectum (Bennett et al., Cochrane Database Syst Rev 2016, 4: CD005005). The Undersea and Hyperbaric Medical Society (UHMS) recommends treatment with HBO for the following wounds: delayed radiation injury (osteoradionecrosis), necrotizing soft tissue infections, thermal burns, compromised skin grafts and flaps, crush injury, clostridial myositis, myonecrosis (gas gangrene), and refractory osteomyelitis (Undersea Hyperb Med 2018, 45: 379-80). Hyperbaric oxygen may help reduce infection and the need for drainage in crush injuries (Yamada et al., Undersea Hyperb Med 2014, 41: 283-9). Overall, the evidence supporting hyperbaric oxygen for traumatic injuries (including burns) and surgical injuries is limited, and more study is needed (Eskes et al., Cochrane Database Syst Rev 2013, 12: CD008059).

74:
Care is recommended in a negative pressure room for patients with suspected drug-resistant tuberculosis (TB), until nonresistance is confirmed. In confirmed multidrug-resistant TB, a negative pressure room should be utilized until there are 3 negative acid-fast bacillus smears at weekly intervals and ideally a negative culture. For patients with confirmed multidrug-resistant TB, earlier discharge may be considered when there are adequate facilities for home isolation and the patient will adhere to treatment. Arrangements need to be made for supervising and

administering all anti TB therapy (NICE, 2016 (revised 2019 Sept), Clinical guideline; no. [NG33]).

75:

Instruction: Medication administration includes continuous infusion and titrated medications. For medications that are titrated, the rate and dose are adjusted based on clinical monitoring and laboratory results.

76:

Fluid is replaced based on measured and insensible losses. Examples of measurable fluid loss include:

- Urine
- Nasogastric
- Wound
- Ostomy drainage
- Diarrhea
- Vomiting
- Fluid sequestration

Examples of insensible loss include:

- Perspiration
- Breathing.

The intent of the criteria is to address patients who have excessive fluid loss due to diarrhea and/or inability to take adequate oral fluids to replace fluid loss. If the losses are due to diarrhea, there is no expectation that the order for intravenous fluids will specify measurement of the diarrhea, replacement on a cubic centimeter (cc) for cc basis, or any titration of the fluid rate based on the number of cc's lost. Continuous intravenous fluid should be ordered in a clinically significant amount that indicates a need for replacement along with documentation of excessive diarrhea (to support that there are "losses").

77:

Pain management includes assessment and interventions to relieve pain or decrease its intensity and its effects on lifestyle (e.g., strategies to reduce perception of pain, use of pharmacologic and/or non-pharmacologic pain control modalities, psychosocial counseling, and recommendations for modifications in work, school, or leisure activity). Non-pharmacologic pain interventions may include progressive muscle relaxation, massage, guided imagery, positive visualization, or music therapy (American Academy of Pain Medicine, Chronic pain medical treatment guidelines. 2009 [Cited Oct 9, 2019]).

78:

Initial course refers to the initiation of a chronic hemodialysis/peritoneal dialysis program or initiation for acute renal pathology. A repeat initiation for a recurrence or exacerbation of an acute renal problem, provided that there was a gap of more than 14 days between treatments, would also qualify as an initial course.

79:

Initial refers to the first time a medication or treatment is utilized. During the period of initiation, if the medication or treatment is temporarily discontinued up to 24 hours (therapeutic pause) it is still considered initial. If a tolerated medication or treatment is discontinued for more than 24 hours and then restarted, it is not considered initial. Medications that were initiated on an outpatient basis and are discontinued prior to hospitalization may be considered initial based on the need for monitoring or duration of discontinuation. Medications that were temporarily held due to concurrent illness and are resumed are not considered initial.

80:

A neurological assessment establishes a baseline so that subtle changes can be monitored. A comprehensive neurological assessment often includes an evaluation of:

- Mental status (e.g., level of consciousness, orientation, insight, calculation ability)
- Cranial nerves (e.g., olfactory, optic, vestibulocochlear)
- Motor system (e.g., muscle tone, strength, reflexes)
- Sensory system (e.g., light touch, pain, temperature)

- Coordination (e.g., orchestration and fluidity of movement)
- Gait (e.g., heel-to-toe straight-line walking)

81:
Blood products include packed cells, platelets, albumin, and fresh frozen plasma.

82:
Syncope is the transient loss of consciousness caused by diminished cerebral blood flow, identified as brief, with spontaneous onset and recovery (Brignole et al., Eur Heart J 2018, 39: 1883-948; Shen et al., Journal of the American College of Cardiology 2017, 70: e39-e110).

83:
In the post-acute setting, management of complex wounds is a multi-step process provided by skilled professionals who are trained in the assessment and treatment strategies for complex wound management. The basic principles of wound care aim to identify the etiologic causes and address underlying systemic and metabolic conditions that contribute to non-healing wounds. Debridement, offloading, management of ischemia, management of infection, wound bed preparation and optimization of medical and nutritional status are pillars of wound healing. Advanced novel therapeutic approaches (e.g., Negative Pressure Wound Therapy (VAC), growth factors, electrical stimulation, ultrasound, hyperbaric oxygen therapy, human skin equivalents) are recommended when standard therapies fail to result in wound healing. Pain management, nutritional support, and the use of support surfaces (e.g., overlay, replacement mattress, specialty beds) may also be part of the treatment plan. Ongoing patient and wound reassessment are required to optimize wound progression and healing. Wounds that are appropriately managed should show measurable progress within two to four weeks. Nonhealing wounds may reflect a wound that is not realistically expected to heal or indicative of an underlying comorbid condition, or in rare cases, may be the result of a poor management plan. If there has been less than a 50% change in wound size in 4 weeks, or the wound has not changed, the wound care plan may need to be altered. An alternate level of care for continued wound treatment should be considered when there is evidence of continued wound healing, stabilization of contributory wound factors, and effective pain control.
Discharge planning to the home setting includes an assessment of the patient and/or caregiver's ability to learn and perform the necessary wound care regimen, complexity of the treatment regimen, and a plan for managing contributory factors. The patient and/or caregiver must be able and willing to participate in self-care, or there is sufficient caregiver or agency assistance planned to adequately meet the patient's needs (Gupta et al., Wounds 2017, 29: S19-S36; Frykberg and Banks, Adv Wound Care (New Rochelle) 2015, 4: 560-82).

84:
Clostridioides difficile is the most common cause of nosocomial infectious diarrhea, particularly in patients receiving antibiotics. Guidelines describe multiple acceptable regimens but do indicate a preference for oral fidamoxicin for patients with mild to moderate disease. Alternative regimens are driven by disease severity and the number of episodes the patient has experienced. Treatment guidelines recommend discontinuation of the inciting antibiotic as soon as possible to prevent recurrence. Other interventions include IV fluids, electrolytes, or oral fluids to maintain hydration. Use of opiates and antidiarrheal medications should be avoided because decreased intestinal motility will exacerbate the infection (Johnson et al., Clin Infect Dis 2021, 73: e1029-e44).

85:
Patients with symptomatic *Clostridioides difficile* require a private room with a dedicated toilet and contact precautions to prevent transmission. Contact precautions should be maintained for the duration of diarrhea and may be discontinued when the patient is asymptomatic or for at least 48 hours after diarrhea has resolved. Extending precautions for the duration of hospitalization is recommended for those hospitals with elevated rates of incidence (Marra et al., Am J Infect Control 2018, 46: 333-40). Follow-up testing of stool for the *Clostridioides difficile* toxin from asymptomatic patients is not useful as a test of cure and therefore, it is not recommended (McDonald et al., Clin Infect Dis 2018, 66: 987-94).

86:
While an elevated ammonia level is the classic laboratory finding used to diagnose hepatic encephalopathy, serial ammonia measurements are inferior to clinical assessment in gauging improvement or deterioration in a patient

receiving treatment (Ferenci, Gastroenterol Rep (Oxf) 2017, 5: 138-47).

87:
Oral branched-chain amino acid (BCAA) enriched formulations may improve the manifestations of occult or minimal episodic hepatic encephalopathy (HE). Intravenous administration is ineffective (Ferenci, Gastroenterol Rep (Oxf) 2017, 5: 138-47; J Hepatol 2014, 61: 642-59). Although BCAA has a beneficial effect on HE, there is no evidence regarding an effect on mortality, quality of life, or nutritional parameters (Gluud et al., Cochrane Database Syst Rev 2017, 5: CD001939).

88:
Lactulose is recommended by the American Association for the Study of Liver Diseases/European Association for the Study of the Liver guidelines as the first-line treatment for episodes of hepatic encephalopathy. It is a nonabsorbable substance used to treat an elevation in blood ammonia (NH_3) and reduces plasma ammonia concentration by converting soluble ammonia into insoluble ammonia in the colon. The laxative effect of lactulose results in the expulsion of trapped ammonium in the form of diarrhea. Lactulose can be administered orally, via a nasogastric tube, or as a retention enema (Swaminathan et al., Hepat Med 2018, 10: 1-11; J Hepatol 2014, 61: 642-59).

89:
Evidence has shown that L-ornithine L-aspartate (LOLA) is effective in lowering ammonia and improving mental status in patients with cirrhosis and hepatic encephalopathy (HE), with the oral form of LOLA being especially beneficial (Butterworth et al., J Clin Exp Hepatol 2018, 8: 301-13). In a 2017 randomized, controlled trial, patients with persistent HE showed improvement from intravenous LOLA administration, whereas oral supplementation was determined to be ineffective (Ferenci, Gastroenterol Rep (Oxf) 2017, 5: 138-47). A recent systematic review reassessed both oral and intravenous (IV) LOLA for the treatment of low-grade or minimal hepatic encephalopathy (MHE) and high grade or overt hepatic encephalopathy (OHE). The relative efficacy of LOLA depended on the type of HE as well as the route of administration. Patients with MHE, defined as patients with cirrhosis and alterations in mental status diagnosed by psychometric testing, appear to benefit more from the oral administration of LOLA than patients with high grade overt HE (Weissenborn, Drugs 2019, 79: 5-9; Butterworth et al., J Clin Exp Hepatol 2018, 8: 301-13).

90:
The renal and ototoxicity of neomycin have rendered this medication nearly obsolete in the treatment of hepatic encephalopathy (Tabbers et al., J Pediatr Gastroenterol Nutr 2014, 58: 258-74).

91:
Rifaximin is an anti-infective recommended by evidence-based clinical guidelines as an effective add-on therapy to lactulose for the treatment of overt hepatic encephalopathy (OHE). It has been shown to reduce healthcare resource utilization over the long term by lessening OHE recurrences and rehospitalization (Hudson and Schuchmann, European journal of gastroenterology & hepatology 2019, 31: 434). In a systematic review comparing the effectiveness and safety of interventions in patients with OHE, Rifaximin showed the greatest reduction in blood ammonia concentration (Zhu et al., Aliment Pharmacol Ther 2015, 41: 624-35).

92:
Oliguria is defined as urine output less than 0.5 *mL/kg*/h.

93:
Therapeutic anticoagulation (e.g., heparin drip protocol, fondaparinux, full dose weight-adjusted low molecular weight heparin [LMWH]) is used to treat an underlying thromboembolic event or may be required for certain vascular and cardiovascular problems. Prophylactic anticoagulation (e.g., subcutaneous heparin every eight hours or fixed low dose LMWH daily) is used to prevent thrombosis and is not sufficient to meet this criterion.

94:
Dextrose 50%(0.50) with insulin is used for the treatment of hyperkalemia. This treatment shifts potassium intracellularly, and repeated doses can be given if the hyperkalemia persists. Other treatments that may be used

simultaneously include potassium binding agents, diuretics, nebulized albuterol, calcium, sodium bicarbonate, and dialysis (Depret et al., Ann Intensive Care 2019, 9: 32).

95:

Immunosuppressant medications are used to treat conditions such as graft-versus-host disease (GVHD), hemolytic anemia, organ transplant, graft failure, rejection, inflammatory bowel disease, acute glomerulonephritis, and inflammatory cellulitis. Medications used for immunosuppression include prednisone, prednisolone, cyclosporine, azathioprine, mycophenolate mofetil, tacrolimus, sirolimus, everolimus, belatacept, antithymocyte globulin (ATG), and basiliximab.

96:

This criterion applies to insulin adjustments based on blood glucose values obtained by lab draw or glucose monitor. To meet this criterion, intermittent insulin must be administered at least three times in 24 hours. If the patient is on a continuous insulin infusion, the rate must be adjusted at least three times in 24 hours.

97:

Instruction: Vasoactive agents, which can safely be administered in the long-term acute care (LTAC) setting include low-dose dobutamine, intravenous nitroglycerin, and dopamine (≤ 5µg/kg/min). This criteria excludes the administration of vasopressors. Higher dosage levels of vasoactive agents should only be administered by LTAC facilities with appropriate monitoring capabilities and nursing care.

98:

Continuous or intermittent topical negative pressure wound therapy (NPWT) is used to remove fluids or infectious material from the wound, thereby stimulating growth of healthy granulation tissue. The major forms of NPWT include a vacuum-assisted closure device and a portable non-electric device that has specialized springs to deliver the negative pressure. NPWT is employed when standard wound care has failed to promote healing of acute and traumatic wounds, chronic wounds, diabetic foot wounds, dehisced surgical wounds, partial-thickness burns, and pre- or post-operative flaps and grafts. Comparative effectiveness reviews of mechanical- and electric-powered NPWT have shown there is some evidence of improvement in granulated tissue formation, reduced time to heal, and decreased cost of treatment when compared with standard dressings. NPWT may be beneficial in preventing surgical site infection for surgical wound healing by primary closure, but the evidence is low (Webster et al., Cochrane Database Syst Rev 2019, 3: CD009261). In general, systematic reviews of NPWT highlight the lack of high-level studies showing NPWT efficacy, particularly in terms of its different indications and modalities. Treatment contraindications include when necrotic tissue or malignancy is present in the wound, untreated osteomyelitis, non-enteric and unexplored fistulas in an organ or body cavity, and in the presence of exposed vasculature, nerves, anastomotic sites, or organs. Cautious use is recommended in those patients with actively bleeding wounds, patients at high risk for bleeding and hemorrhage, patients receiving chronic anticoagulation or antiplatelet therapy, wounds with difficult hemostasis, and when placing a NPWT dressing in close proximity to organs or blood vessels. Discontinuation of NPWT should be considered when there is no change in wound size within 2-4 weeks, or the wound has healed as evidenced by a thin area of new epidermis, or adequate healing has occurred (Webster et al., Cochrane Database Syst Rev 2019, 3: CD009261; Iheozor-Ejiofor et al., Cochrane Database Syst Rev 2018, 7: CD012522; Johal and Kreder, Clin Orthop Relat Res 2018, 476: 463-5; Liu et al., Cochrane Database Syst Rev 2018, 10: CD010318).

99:

Systemic corticosteroids can improve lung function, oxygenation and shorten recovery time and hospitalization duration in individuals with chronic obstructive pulmonary disease (COPD) (Global Initiative for Chronic Obstructive Lung Disease (GOLD). Global Strategy for the Diagnosis, Management and Prevention of COPD. 2025). The administration of low-dose oral steroids demonstrates equivalent outcomes when compared to high-dose intravenous therapy for the treatment of COPD (Lindenauer et al., JAMA 2010; 303(23): 2359-2367). Duration of therapy should not be more than 5-7 days in acute COPD exacerbation (Walters et al., Cochrane Database Syst Rev 2018, 3: CD006897; Leuppi et al., JAMA 2013, 309: 2223-31).

100:

Chest physiotherapy can improve bronchial hygiene and includes chest percussion and vibration, postural

drainage, suctioning, turning, and directed cough. These techniques can be performed with or without the administration of bronchodilators or mucolytics. The goal of physiotherapy is to promote clearance of secretions and improve ventilation.

101:

Instruction: This criterion includes administration of aerosolized medication via nebulizer or inhaler. Appropriate selection of a delivery device for aerosol therapy depends on multiple factors including cognitive state or developmental stage, manual dexterity, breathing pattern, respiratory drive, and drug formulation. Efficacy is optimized when the device is used correctly and complements the patient's age, physical characteristics, and cognitive ability (Tashkin, Int J Chron Obstruct Pulmon Dis 2016, 11: 2585-96; Brittan et al., J Pediatr 2015, 166: 998-1005 e1).

102:

Notable causes for prolonged mechanical ventilation include:

- Ventilator-acquired pneumonia
- Renal failure
- Heart failure
- Exacerbation of chronic obstructive pulmonary disease (COPD)
- Chest wall disorder
- Neuromuscular diseases
- Traumatic brain injury
- Sepsis
- Complications following cardiac surgical procedures

Major contributing factors for failure to wean include (Ambrosino and Vitacca, Multidiscip Respir Med 2018, 13: 6; Davies et al., Br J Anaesth 2017, 118: 563-9):

- Increased work of breathing
- Impaired respiratory drive
- Inspiratory muscle weakness

103:

Established hemodialysis is generally performed 3 times per week and some fatigue prior to or post-dialysis treatment is expected. Therapy schedules should be adjusted around planned or established invasive procedures or treatments. Unexpected fatigue may occur if the patient is new to the dialysis regimen or if other invasive procedures are scheduled (e.g., endoscopic retrograde cholangiopancreatography (ERCP), computerized tomography (CT) with contrast or central line change). In these instances, therapies may need to be delayed or reduced accordingly.

104:

Minimally invasive procedures may include arthroscopy, endoscopy, interventional radiology, or interventional cardiology.

105:

Volume expanders are fluids administered intravenously to increase circulatory volume. Studies have demonstrated that a balanced crystalloid solution (e.g., Lactated Ringer's) is preferable to colloids in restoration of intravascular volume in sepsis and septic shock (Evans et al., Crit Care Med 2021, 49: e1063-e143; Rhodes et al., Crit Care Med 2017, 45: 486-552; Winters et al., J Emerg Med 2017, 53: 928-39). However, crystalloids have been found to be less effective than colloids at stabilizing hemodynamic endpoints in critically ill patients (Martin and Bassett, J Crit Care 2019, 50: 144-54). The type of fluid selected for administration should be based on the indication for its use and other patient-specific factors.
Instruction: In order to apply criteria for volume expanders, there should be documentation of a volume deficit supported by clinical findings. The volume of infusion is patient-specific and varies based on the cause of volume depletion, comorbid condition, and patient response. Criteria for volume expander should not be applied for maintenance intravenous fluids or electrolyte replacement.

106:
Wound debridement is the gold standard for removing necrotic (devitalized) wound tissue and is indicated for both acute and chronic wounds when necrotic, damaged, or infected tissue matter is present. It is a crucial step in promoting wound healing and reducing the bacterial load. Debridement may be accomplished by sharp surgical removal, enzymatic (chemical) agents, autolysis, biologic agents (maggot or larval therapy), or by mechanical removal with the aid of wet-to-dry dressings, or whirlpool treatment. Recent advances in wound debridement include hydrosurgery, ultrasound therapy, and plasma-mediated radiofrequency ablation therapy. Ultrasound therapy showed a significant reduction in healing time and shorter operating time when compared to the gold standard debridement technique of using a scalpel or curette. Selection of more than one debridement method may be appropriate and will depend on the status of the wound (e.g., type and amount of necrotic wound tissue, vascularity of the wound, absence or presence of infection) and the patient's medical condition and treatment goals. Autolysis and conservative sharp debridement are usually the methods of choice for wounds with slough. Surgical sharp debridement involves the use of instruments or laser therapy and is the treatment of choice for wounds when there is an urgent need for debridement such as advancing cellulitis, extensive necrosis, crepitus, fluctuance, and/or sepsis secondary to ulcer infection. Sharp surgical debridement is contraindicated in patients with an intact eschar and no clinical evidence of an underlying infection. Risk of bleeding is a concern, especially in those on anticoagulant therapy (Bekara et al., Arch Plast Surg 2018, 45: 102-10; McCallon et al., J Am Coll Clin Wound Spec 2014, 6: 14-23).

107:
Selection of this criteria point indicates that the patient is responding to treatment and is clinically stable for transfer or discharge. To determine the most appropriate post-acute level of care, see discharge criteria.

108:
Hemodynamic stability is determined by blood pressure and heart rate, and occurs in the absence of active cardiac symptoms or clinically significant blood pressure changes.

109:
A finding of neurologic stability includes:
- Improvement, or no deterioration in the mental status exam or level of consciousness
- Seizures controlled
- No new neurologic deficits (e.g., aphasia, ataxia, dysarthria, paresis, visual field loss)

110:
InterQual® criteria define fever as a temperature greater than 99.4°F(37.4°C) oral, which is the equivalent of 100.4°F (38.0°C) rectal and aligns with the medically accepted definition of fever. Older patients may fail to demonstrate a fever in response to an overwhelming infection (Liang, Emerg Med Clin North Am 2016, 34: 501-22).
Pulmonary artery and bladder catheters are the most accurate methods for measuring core temperature, but these methods are invasive, expensive, and usually not provided outside a critical care setting. Other methods of temperature measurement include:
- Rectal - has been determined to be an accurate method of estimating core body temperature and is approximately 1°F(0.6°C) higher than an oral temperature
- Oral - generally 1°F(*0.6°C*) lower than rectal. Influenced by ingestion of hot or cold liquids, smoking, or hyperventilation
- Axillary - generally 1.0-1.5°F(*0.6-0.84°C*) lower than rectal. May provide a reasonable approximation of body temperature in neonates and young children, but is unreliable in older children and adults
- Tympanic - approximately 1.5°F(0.*84°C*) lower than a rectal temperature. Can be influenced by inflammation of the auditory canal or tympanic membrane. Several studies have shown frequent inconsistencies between tympanic measurements and those of pulmonary artery catheters
- Temporal artery - used for non-invasive core temperature measurements and can be influenced by environmental factors and sweating; therefore, this method may be unreliable and is not recommended

111:
Pain is considered to be adequately controlled when a stable medication regimen and/or adjunct therapy provides sufficient, symptomatic relief without causing significant adverse side effects. Studies have shown epidural analgesia to be very effective in the initial post-operative period (McNicol et al., Cochrane Database Syst Rev 2015:

CD003348; Popping et al., Ann Surg 2014, 259: 1056-67). For acute pain, the Center for Disease Control (CDC) recommends prescribing the lowest effective dose of immediate-release opioids, with careful attention paid to the quantity and duration of the prescription. Three days or less will often work; more than 7 days is rare. For chronic pain unrelated to active cancer, palliative or end-of-life care, the CDC recommends the following guidelines for clinicians (Dowell et al., Jama 2016, 315: 1624-45; Dowell et al., MMWR Recomm Rep 2016, 65: 1-49):

- Consider nonpharmacologic therapy and nonopioid pharmacologic therapy first
- Know the patient's history of controlled substance prescriptions, using the state prescription drug monitoring program (DMP) data when initiating opioid therapy and then every 3 months thereafter on every prescription
- Weigh the risks and benefits of opioid therapy before starting or continuing opioids
- Establish realistic treatment goals, discuss risks and benefits of opioid therapy, and go over the plan for discontinuing opioids if the harm outweighs the benefits
- Discuss patient and clinician responsibilities for managing this therapy. If a patient has an opioid use disorder, offer evidence-based, medication-assisted treatment in combination with behavioral therapies

When prescribing opioids for chronic pain:

- Combine them with nonpharmacologic therapy/nonopioid therapy
- Prescribe immediate-release opioids versus extended-release or long-acting opioids
- Start at the lowest dose
- Evaluate the benefits and the harm with patients within 1 to 4 weeks of starting opioid therapy, and then at least every 3 months thereafter
- Consider annual urine testing to assess for prescribed medications as well as other controlled prescription and/or illicit drugs
- Avoid prescribing opioid pain medication and benzodiazepines concurrently

For patients in the early post-surgical phase, a large retrospective cohort study found that the duration of the opioid prescription, rather than its dosage, was more strongly associated with opioid misuse (Brat et al., BMJ 2018, 360: j5790).

112:

Renal function is considered stable if the blood urea nitrogen (BUN) and creatinine are within acceptable range and urine output is ≥ 0.5 mL/kg per hour.

113:

Activities of daily living (ADLs) are defined as basic self-care activities. Examples of ADLs include eating, dressing, bathing, grooming, toileting, and walking or transferring. Instrumental activities of daily living (IADLs) are defined as advanced skills or activities requiring more complex interactions with others and the environment, such as household management, financial management, childcare, etc (Centers for Medicare & Medicaid Services. Title 42 441.505. 2024). For younger patients, IADLs may include performing chores and attending school. The ability or inability to perform ADLs can be used as a measure of ability or disability in assessing rehabilitation outcomes.

114:

Prior level of function refers to the patient's level of function prior to the onset of this episode of illness or injury. This must be taken into consideration when discharge goals are identified.

115:

The discharge screen is a resource tool and not criteria. Referring to the discharge screen at the initiation of discharge planning is recommended.

116:

The home environment and safety assessment will normally include an evaluation of the patient's pre- and post-hospitalization functional level, physical layout of the home (e.g., entrances and exits, stairs, access to the community), identification of unsafe conditions (e.g., scatter rugs, missing handrails, oxygen use and smoking, lack of fire safety devices, inadequate lighting, heating, and cooling), factors that may trigger symptoms (e.g., secondhand smoke, poor food choices, dysfunctional family dynamics), sanitation hazards (e.g., lack of electricity, running water, refrigeration, inadequate toilet facilities, presence of insects or rodents), and the need for adaptive

equipment (e.g., walker, handrails for the tub or shower, elevated toilet seat).

117:

Follow-up care can be provided by the medical practitioner at the office, by other healthcare providers, and through outpatient visits, including laboratory testing.

118:

Ensuring the patient and/or caregiver understands all aspects of the condition and can assume responsibility for self-care is crucial in preventing readmission. Assessing a patient and/or caregiver's level of understanding after education has been provided can be difficult. The teach-back method is an effective way of providing education at the appropriate level and can also be used to assess the learner's comprehension. To use the teach-back method, discuss key points in common terms and avoid using medical jargon or unfamiliar terms. After the education has been delivered, ask the learner to repeat what was learned. Gaps or misinterpretations in the learner's explanation will pinpoint areas where communication may have failed and provide opportunity for clarification.

119:

Medication reconciliation is a formal process or technique used by health care providers and pharmacists to identify the most complete and accurate list of all medications a patient is taking at times of transitions in care (e.g., upon hospital admission, transfer from one unit to another during hospitalization, or discharge from the hospital to home or another facility). The goals of this process are to ensure medication and dosages are appropriate for the patient, resolve discrepancies in drug regimens, and ultimately prevent medication errors and reduce adverse drug events. Medication reconciliation is a Joint Commission National Patient Safety goal. Coordinating information when a patient is transferred to another setting, service, practitioner, or level of care ensures accurate medications are listed. The process is comprised of the following (Hospital: National Patient Safety Goals. 2020):

- Obtain an external list of medications (e.g., medications taken prior to admission)
- Develop a list of current medications and add them to the medical record
- Compare the medications from the external list to the current list
- Clarify inconsistencies/discrepancies (e.g., omissions, duplications, contraindications, unclear information, and changes)
- Develop a list of medications to be prescribed at discharge or transfer
- Communicate the new list to the patient and/or appropriate caregiver(s)
- Ensure that patient and/or caregiver(s) understand the medication information upon discharge

Specific medication issues identified as being problematic include missing medication information from transfer orders, lack of information on medications provided in the acute setting, incomplete medication records, discrepancies between hospital regimen and discharge summary, and missing information pertaining to the patient's tolerance of a medication regimen. Although medication reconciliation is an important aspect in patient safety, there is a lack of consensus and evidence about the best effective methods of implementing this process. Physician-led and electronic medication reconciliation in hospitals are effective strategies to reduce medication discrepancies, however, the impact of these interventions is uncertain due to the low quality of evidence (Choi and Kim, J Clin Pharm Ther 2019, 44: 932-45; Redmond et al., Cochrane Database Syst Rev 2018, 8: CD010791). Trained pharmacy technicians, under the direction of a licensed pharmacist, may be an option for developing and expanding medication reconciliation processes (Irwin et al., Hosp Pharm 2017, 52: 44-53).

120:

Completion of family training, with the goal of the patient and/or family being able to safely manage care, may include demonstrating knowledge and aptitude in areas such as transfer skills, medication management, application of splints/pressure garments, skin care, and knowledge of community resources.

121:

Infusion access devices include:

- Intravenous catheters: central catheters (tunneled, short-term non-tunneled, implanted ports, peripherally inserted central catheter (PICCs)), midlines, and peripheral lines
- Intra-arterial ports
- Intraspinal catheters
- Peritoneal catheters

- Reservoirs
- Subcutaneous catheters

122:

Access site management includes inspection for presence of infiltration, extravasation, phlebitis, infection, and catheter patency.

123:

The initial clinical assessment is performed by a licensed professional and includes a comprehensive review of the patient's presenting diagnosis and a review of body systems. Identification of current and potential medical needs and health problems can be identified by the clinical assessment. The clinical assessment includes:

- History and physical exam (e.g., vital signs, height, weight)
- Pain assessment includes cause, intensity, quality, onset, duration, and effects on quality of life (e.g., activities of daily living (ADLs), instrumental activities of daily living (IADLs), and interpersonal relationships). Pain relievers should also be included
- Nutritional and hydration status
- Functional ability
- Safety and infection control measures
- Prescribed and over-the-counter (OTC) medications, herbal supplements, and home remedies
- Patient's and/or caregiver's understanding of medication use, dosing, side effects, and adherence to the medication or treatment regimen
- Patient's and/or caregiver's understanding of the illness or disease process and potential long-term complications
- Patient's and/or caregiver's coping strategies to deal with the illness or injury and ability to follow the plan of care

124:

Palliative and Hospice care seek to enhance quality of life for both the patient and their families. Palliative and hospice care services are defined as (Ferrell et al., J Palliat Med 2018:):

- Palliative care is interdisciplinary care directed at supporting patients with complex advanced illness regardless of age, diagnosis, or life expectancy. Physical, emotional, and spiritual care are aimed at relieving suffering and improving quality of life for patients and their families. Pharmacologic and non-pharmacologic techniques are utilized.
- Hospice care provides patients and their families practical help, psychosocial support, comprehensive case management and expert symptom control. The focus is on comfort and support to the patient and their family when the prognosis is poor and treatment is not of a curative nature.

125:

Patient and caregiver education may be provided by one-on-one instruction, audiovisual aids, simulations and role-playing, and self-instruction modules. An assessment of the patient's and/or caregiver's understanding of the material provided may be evaluated by a demonstration of the specific skills or by a verbal response indicating comprehension of the material. Topics for teaching may include disease process, medication administration, indications and effects, diet, prescribed exercises, or treatments (e.g., dressing changes, oxygen administration, blood glucose monitoring, enteral feedings), safety precautions, importance of follow-up with health care provider, emergency management, and community services.

126:

Treatment precluded in a lower level (e.g., home care services, outpatient clinic) is dependent upon several factors including:

- The patient's caregiver or family support system
- The availability of qualified alternate levels of care
- The patient's benefit plan

The patient's medical needs should be met at the least intensive level of care that can safely provide the necessary services.

127:

Skilled nursing services refers to services that must be provided by a licensed nurse who is qualified to assess and monitor patient condition(s) and provide medical treatment and/or teaching to patients who have skilled nursing needs. Examples of Skilled Nursing Facility level of care interventions include:

- Parenteral medications ≥ 2x/day
- Assessment of clinical status at least daily
- Management and evaluation of a care plan
- New enteral feeding management and teaching
- Patient and/or caregiver education

128:

Skilled nursing services refers to services that must be provided by a licensed nurse who is qualified to assess and monitor patient condition(s) and provide medical treatment and/or teaching to patients who have skilled nursing needs. Examples of Subacute level of care interventions include:

- Multiple intravenous (IV) medications
- Single IV medication given ≥ 3x/day
- Chronic ventilator management
- Monitoring and assessment of conditions where clinical assessment is required ≥ 3x/24h in combination with multiple parenteral medications and/or therapies
- Daily or every other day blood or albumin transfusions
- Multiple and frequent (3-4x/24h) interventions such as respiratory, wound management, and/or total parenteral nutrition (TPN) or peripheral parenteral nutrition (PPN)

129:

Based on the patient's current medical condition and expected discharge needs, other services, or alternate levels of care (ALOC) may be appropriate to adequately address any medical, psychiatric, or substance-related disorder needs.

2025, Mar. 2025 Release LOC:Long-Term Acute Care Respiratory Complex

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Overview

Level of Care Note
Introduction
Patients with a complex respiratory condition and active comorbidities will require a collaborative multidisciplinary treatment plan to promote both medical and functional improvement.
Three of the top 20 diagnostic related groupings (DRGs) treated in Long-term Acute care settings (LTACs) include (Top 20 DRGs for Long-term Acute Care Hospitals, 03-31-2021 ed. 2021):

- Pulmonary edema and respiratory failure (national average length of stay is 20.7 days)
- Respiratory infection and inflammations with major complications or comorbid conditions (national average length of stay is 19.7 days)
- Heart failure and shock with major complications or comorbid conditions (national average length of stay is 20.1 days)

Evaluation and Treatment
Complex respiratory management requires treatment by a medical practitioner-led multidisciplinary team. In addition to nursing and rehabilitation therapy, this team may include a nutritionist, pharmacist, social services, respiratory therapy, and a wound care specialist. The patient should have a reasonable potential to benefit from an intensive medical program. Treatment and medical management includes:

- A comprehensive evaluation of the patient's clinical condition and functional status.
- Development of a plan of care within two days of admission which includes identified measures and goals for evaluation of progress.
- Interdisciplinary team meetings weekly with medical practitioner oversight.
- Assessment of discharge planning needs and establishment of a transition plan.

The Centers for Medicare and Medicaid Services (CMS) Inpatient Prospective Payment System (IPPS) standard LTAC payment rate will be based on patient-level clinical criteria:

- The (patient) stay in the LTAC was immediately preceded by a discharge from an acute care hospital that included at least 3 days in an intensive care unit (ICU)
- The stay in the LTAC was immediately preceded by a discharge from an acute care hospital and the patients LTAC stay is assigned to an MS-LTC-DRG based on the receipt of ventilator services for at least 96h

The above are related to reimbursement, not determination of medical necessity. Patients that do not meet these criteria may be eligible for waivers in some circumstances and regardless of payment status, may be clinically appropriate for LTAC level services. The InterQual® criteria are used for medical necessity determination.

InterQual® criteria are derived from the systematic, continuous review and critical appraisal of the most current evidence-based literature and include input from our independent panel of clinical experts. The content is based on a variety of references which are cited at specific criteria points throughout the subset.

Program Requirements:
Treatment required at this level of care due to clinical complexity includes the following:

- Acute and comorbid conditions requiring prolonged hospitalization
- Medical practitioner assessment or intervention daily
- Respiratory therapy ≥ 3x/24h
- Skilled nursing services ≥ 6.5h/24h

Severity of Illness

(In lieu of Acute or continued hospitalization or failed ALOC)

- **Severity of Illness, All:**
  - Admission
  - **Continued medical management of primary condition or illness, ≥ One:**
    - Chest tube management [1]
    - Hypoxia on room air within the last 3d prior to admission, **One:**
      - O_2 sat 89-91%(0.89-0.91) without chronic respiratory disease
      - O_2 sat 85-89%(0.85-0.89) and chronic respiratory disease
    - Failed management at lower level of care, ≥ **One:**
      - COPD and ≥ 2 inpatient admissions within last 6 mos [2]
      - NIPPV, **Both:** [3]
        - Failed home management [4]
        - Adjustment required
      - Nocturnal ventilation prior to admission requiring increased reliance on mechanical ventilation or NIPPV [5]
      - Requiring trial and initiation of NIPPV [5]
    - Post cardiac or thoracic event, ≥ **One:**
      - COPD and respiratory interventions at least every 4h [6, 7]
      - Heart Failure and dyspnea at rest or minimal exertion
    - Pre-op optimization and mechanical ventilation or NIPPV [3, 5, 8]
    - Oxygen ≥ 40%(0.40) [9]
    - Ventilator management and stabilization
  - **Active management or treatment of comorbid condition, ≥ Two:** [10]
    - Acute kidney injury [11]
    - End-stage renal disease (ESRD) on dialysis [12, 13]
    - Altered mental status with behavioral symptom (new onset or worsening) ≤ 30d, ≥ **One:** [14]
      - Change in cognition [15]
      - Impulsive, agitated, or aggressive [16, 17, 18]
      - Perceptual disturbance [19]
      - Withdrawn or uncommunicative [20]
    - COPD, ≥ **One:** [6]
      - O_2 sat ≤ 91%(0.91) and < baseline [21]
      - Po_2 ≤ 60 mmHg(8.0 kPa)
      - Arterial or venous Pco_2 > baseline [21, 22]
    - Diabetes and uncontrolled blood sugar, ≥ **One:** [23, 24]
      - Fluctuation between hyperglycemia and hypoglycemia within last 24h
      - Fluctuation between hyperglycemia and normal blood sugar with no consistent pattern
      - Symptomatic hyperglycemia or hypoglycemia
    - DVT or pulmonary embolus
    - Functional impairment (new) with limitation ≤ 30d, **Both:** [25, 26]
      - Rehab potential based on prior level of function [27]
      - Requiring at least minimal assistance [25, 28]
    - Heart failure and dyspnea at rest or minimal exertion [29, 30]
    - Hepatic encephalopathy Stage II or III [31]
    - Immunocompromised [32]
    - Infection with systemic manifestation ≤ 30d [33, 34]
    - Malignant or end-stage disease [35]
    - Malnutrition requiring nutrition consult and management [36, 37]
    - Oxygen ≥ 40%(0.40) [9]
    - Ventilator dependent, NIPPV, or respiratory insufficiency [5, 38]
    - Wound requiring complex care [39, 40]
  - Clinical status, **All:** [41]

- CXR stable or improving [42, 43]
- Neurologically stable last 24h [44]
- No evidence of active hemorrhage or bleeding controlled
- Heart rate ≤ 120/min or arrhythmia managed [45]
- Respiratory rate ≤ 30/min and stable airway
- Systolic BP ≥ 90 mmHg or within acceptable limits last 24h [46]

Intensity of Service

(At least daily and excludes PO medication unless noted)

- **Intensity of Service, One:**
  - Admission Review
  - **Admission, All:**
    - **Multidisciplinary care coordination and psychosocial management, Both:** [47, 48]
      - Medical practitioner assessment or evaluation daily [49, 50]
      - Discharge plan initiated
    - **Continued medical management of complex respiratory condition, ≥ One:**
      - Blood product transfusion and, ≥ **One:** [51]
        - Hct < 30%(0.30) or Hb < 10.0 g/dL(100 *g/L*)
        - Platelets < 20,000/cu.mm($20x10^9$/L)
      - Continuous cardiac monitoring (excludes Holter) ≤ 1wk, ≥ **One:**
        - Arrhythmia
        - Hypo or hyperkalemia
        - Post pacemaker insertion (permanent or temporary)
        - Acute kidney injury
        - Syncope [52]
      - Chest tube, ≥ **One:** [53]
        - Suction, continuous
        - Drainage ≥ 100 mL/24h
        - Requiring repositioning within last 24h
        - Water seal within last 24h
      - Mechanical ventilation or NIPPV and respiratory interventions ≥ 3x/24h [5, 7]
      - Oxygen ≥ 40%(0.40) [9]
      - Respiratory interventions, ≥ **Two:**
        - Chest physiotherapy at least 3x/24h [54]
        - Inhaled anti-infective
        - Nebulizer or MDI treatment ≥ 4x/24h [55, 56]
        - Oxygen therapy, **Both:**
          - Adjustments at least 3x/24h
          - Oximetry or ABG
        - Suctioning at least 4x/24h
        - Tracheostomy, (new) ≤ 30d since placement and monitoring required
    - **Treatment of comorbid condition, ≥ Two:** [10]
      - Altered mental status (change from baseline), ≥ **One:** [14]
        - Neurological assessment at least 3x/24h [57]
        - Medication adjustment (includes PO) ≤ 3d [58]
        - Diagnostic evaluation (includes lab or imaging studies) ≤ 3d
      - Blood product transfusion at least every 72h [51]
      - Continuous cardiac monitoring (excludes Holter) ≤ 1 wk, ≥ **One:**
        - Arrhythmia
        - Hypo or hyperkalemia
        - Post pacemaker insertion (permanent or temporary)
        - Acute kidney injury
        - Syncope [52]

- Chest tube [1]
- Closed suction wound drainage
- Complex wound care ≥ 2x/24h [39, 59]
- Dialysis or ultrafiltration, **One:** [12]
  - Acute kidney injury
  - End stage renal disease, ≥ **One:**
    - Monitoring ≤ 7d
    - Permanent access not clinically appropriate and temporary catheter functioning ≤ 5d
    - Unable to tolerate at least 3h due to posterior wound location
    - Unstable dialysis regimen requiring modification at least weekly
- *C. difficile* infection and anti-infective (includes PO) [60, 61]
- Hepatic encephalopathy Stage II or III, ≥ **One:** [31, 62]
  - Branched-chain amino acids (BCAA) (includes PO) [63]
  - Lactulose (includes PO or PR) [64]
  - L-ornithine L-aspartate (LOLA) [65]
  - Neomycin (includes PO) [66]
  - Rifaximin (includes PO) [67]
- IV fluid, **One:**
  - ≥ 50 mL/h
  - Replacement based on losses at least 3x/24h, ≥ **One:** [68]
    - Diarrhea
    - Oliguria [69]
    - HF
- Laboratory monitoring and medication adjustment at least 2x/24h [58]
- Medication administration, ≥ **One:**
  - Analgesic ≥ 3x/24h or continuous
  - Antiarrhythmic
  - Anticoagulant, therapeutic [70]
  - Anticonvulsant
  - Antihypertensive
  - Anti-infective
  - Beta blocker
  - Calcium and hypocalcemia
  - Calcium channel blocker
  - Corticosteroid (includes PO)
  - Diuretic ≥ 2x/24h [71]
  - Glucose 50%(0.50) with insulin [72]
  - H_2 blocker or PPI
  - Immunosuppressant (includes PO) [73]
  - Insulin adjustment ≥ 3x/24h (includes SC) [74]
  - Magnesium and hypomagnesemia
  - Phosphate and hypophosphatemia
  - Polystyrene (Kayexalate) (PO or PR)
  - Prokinetic agent
  - Sedative ≥ 3x/24h
  - Vasoactive agent [75]
- NPWT and dressing changes at least 3x/wk [76]
- Rehab therapy (PT, OT, or SLP), ≥ **One:**
  - 1-3h/d ≥ 5d/wk
  - Fatigue ≤ 1d, ≥ **One:**
    - Chemotherapy or radiation related complication
    - Hemodialysis [77]
    - Medication induced

- Other invasive procedure [78]
- Shunt or abscess drain management
- Parenteral or enteral feeding
- Volume expander [79]
- Wound debridement or I&D ≤ 1wk [80]

Continued Stay

- **Continued Stay, One:**
  - **Responder**, medical and rehab potential maximized and discharge expected, **All:** [81]
    - Hemodynamic and neurologically stable ≥ 2d, **All:** [82, 83]
      - Heart rate 50-100/min or within acceptable limits [46]
      - Systolic BP 90-140 mmHg or within acceptable limits [46, 84]
      - Afebrile
    - Oxygenation, ≥ **One:**
      - O_2 sat ≥ 92%(0.92) or baseline
      - Oxygen requirement established, **One:**
        - Home oxygen therapy arranged
        - Post acute facility arrangements established
      - Ventilator or NIPPV with settings established > 2d [5, 85]
    - Lab values within acceptable limits [46]
    - Medication regimen established and tolerated
    - Nutritional status stable or improving
    - Functional status, **One:**
      - Home discharge planned, ≥ **One:**
        - Modified or fully independent with transfers, ambulation, or mobility [25]
        - Modified or fully independent or minimum assist with ADLs [25, 86]
        - Caregiver demonstrates independence with transfers or ambulation and ADLs or IADLs [25, 86]
        - Prior level of function achieved [87]
      - Rehab therapy services arranged for ALOC
      - Rehab therapy services not required
  - **Partial responder**, potential for clinical and or functional improvement, **All:**
    - **Multidisciplinary care coordination and psychosocial management, Both:** [47, 48]
      - Medical practitioner assessment or evaluation daily, **One:**
        - Progress made in meeting treatment goals
        - Lack of improvement in medical and/or functional status and change in plan of care documented
      - Discharge plan initiated or in process
    - **Complex respiratory management, ≥ One:**
      - Blood product transfusion and, ≥ **One:** [51]
        - Hct < 30%(0.30) or Hb < 10.0 g/dL(100 *g*/*L*)
        - Platelets < 20,000/cu.mm($20x10^9$/L)
      - Continuous cardiac monitoring (excludes Holter) ≤ 1wk, ≥ **One:**
        - Arrhythmia
        - Hypo or hyperkalemia
        - Post pacemaker insertion (permanent or temporary)
        - Acute kidney injury [11]
        - Syncope [52]
      - Chest tube, ≥ **One:** [1]
        - Suction, continuous
        - Drainage ≥ 100 mL/24h
        - Requiring repositioning within last 24h
        - Water seal within last 24h
        - Discharge planning ≤ 24h, **One:**
          - Chest tube to one-way valve
          - Chest tube removed

- Mechanical ventilation or NIPPV and respiratory interventions ≥ 3x/24h [5, 7]
- Oxygen ≥ 40%(0.40) [9]
- Respiratory interventions, ≥ **Two:**
  - Chest physiotherapy at least 3x/24h [54]
  - Inhaled anti-infective
  - Nebulizer or MDI treatment ≥ 4x/24h [55, 56]
  - Oxygen therapy, **Both:**
    - Adjustments at least 3x/24h
    - Oximetry or ABG
  - Suctioning at least 4x/24h
  - Tracheostomy, (new) ≤ 30d since placement and monitoring required

Treatment of comorbid condition, ≥ Two: [10]

- Altered mental status (change from baseline), ≥ **One:** [14]
  - Neurological assessment at least 3x/24h [57]
  - Medication adjustment (includes PO) ≤ 3d [58]
  - Diagnostic evaluation (includes lab or imaging studies) ≤ 3d
- Blood product transfusion at least every 72h [51]
- Continuous cardiac monitoring (excludes Holter) ≤ 1 wk, ≥ **One:**
  - Arrhythmia
  - Hypo or hyperkalemia
  - Post pacemaker insertion (permanent or temporary)
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- Complex wound care ≥ 2x/24h [39, 59]
- Dialysis or ultrafiltration, **One:** [12]
  - Acute kidney injury
  - End stage renal disease, ≥ **One:**
    - Permanent access not clinically appropriate and temporary catheter functioning ≤ 5d
    - Unable to tolerate at least 3h due to posterior wound location
    - Unstable dialysis regimen requiring modification at least weekly
- *C. difficile* infection and anti-infective (includes PO) [60, 61]
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  - L-ornithine L-aspartate (LOLA) [65]
  - Neomycin (includes PO) [66]
  - Rifaximin (includes PO) [67]
- IV fluid, **One:**
  - ≥ 50 mL/h
  - Replacement based on losses at least 3x/24h, ≥ **One:** [68]
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  - Anticonvulsant
  - Antihypertensive
  - Anti-infective

- Beta blocker
- Calcium and hypocalcemia
- Calcium channel blocker
- Corticosteroid (includes PO)
- Diuretic ≥ 2x/24h (71)
- Glucose 50%(0.50) with insulin (72)
- H_2 blocker or PPI
- Immunosuppressant (includes PO) (73)
- Insulin adjustment ≥ 3x/24h (includes SC) (74)
- Magnesium and hypomagnesemia
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- Prokinetic agent
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- NPWT and dressing changes at least 3x/wk (76)
- ⊖ Rehab therapy (PT, OT, or SLP), ≥ **One:**
  - 1-3h/d ≥ 5d/wk
  - ⊖ Fatigue ≤ 1d, ≥ **One:**
    - Chemotherapy or radiation related complication
    - Hemodialysis (77)
    - Medication induced
    - Other invasive procedure (78)
- Shunt or abscess drain management
- Parenteral or enteral feeding
- Volume expander (79)
- Wound debridement or I&D ≤ 1wk (80)

Discharge Screens

- ⊖ **Discharge, One:** (88)
  Clinical,
  - ⊖ **Home, All:**
    - Home environment safe and accessible (89)
    - ⊖ Patient or caregiver, **Both:**
      - Demonstrates ability to manage transfers or functional mobility (e.g., ambulation, wheelchair), ADLs or IADLs
      - Demonstrates ability to manage care
    - ⊖ Complete prior to discharge, **All:**
      - Follow-up care planned (90)
      - Comprehensive written discharge and teaching instructions reviewed (91)
      - Medication reconciliation (92)
      - Patient or caregiver understands when and where to seek help
      - Identify and address transportation needs
  - ⊖ **Home care, All:**
    - Home environment safe and accessible (89)
    - Patient and/or caregiver able to learn care (93)
    - Treatment regimen established
    - ⊖ Skilled services, ≥ **One:**
      - Chest physiotherapy or nebulizer
      - Tracheostomy management
      - Clinical assessment (94)
      - Home mechanical ventilation or NIPPV with established regimen
      - Oxygen > 28%(0.28) (9)

- Patient or caregiver education [95]
- Rehab therapy (PT, OT, or SLP)

⛔ Complete prior to discharge, **All:**
- Follow-up care planned and home care services arranged [90]
- Comprehensive written discharge and teaching instructions reviewed [91]
- Medication reconciliation [92]
- Patient or caregiver understands when and where to seek help
- Identify and address transportation needs

⛔ **Skilled Medical or Therapy, All:**
- Medical practitioner, NP, or PA assessment or oversight ≥ 1x/wk
- Treatment precluded at a lower level [96]

⛔ Skilled services, ≥ **One:**

⛔ Able to tolerate 1-2h/d of skilled therapy ≥ 5d/wk, **All:**
- Functional impairment requiring at least supervision [25]
- Goal directed therapy and at least 1 therapy discipline required
- Rehab potential with expectation for clinical and functional improvement [27]

⛔ Skilled services required daily, ≥ **One:** [97]
- Nursing intervention or assessment 1-2x/24h
- Respiratory intervention ≥ 2x/24h, 7d/wk

⛔ Complete prior to facility transfer, **All:**
- Comprehensive written discharge and teaching instructions reviewed [91]
- Medication reconciliation [92]
- Obtain and complete forms for facility
- Obtain discharge summary and transmit to facility and medical practitioner
- Arrange transportation

⛔ **Subacute Medical or Therapy**, **All:**
- Medical practitioner, NP, or PA assessment or oversight ≥ 2x/wk
- Treatment precluded at a lower level [96]

⛔ Skilled services, ≥ **One:**

⛔ Able to tolerate 2-3h/d of skilled therapy ≥ 5d/wk, **All:**
- ≥ 2 functional impairments requiring at least minimum assistance [25]
- Goal directed therapy and ≥ 2 therapy disciplines required
- Rehab potential with expectation for clinical and functional improvement [27]

⛔ Skilled nursing services ≥ 4h/24h, ≥ **One:** [98]
- Respiratory intervention ≥ 3x/24h, 7d/wk
- Ventilator management

⛔ Complete prior to facility transfer, **All:**
- Comprehensive written discharge and teaching instructions reviewed [91]
- Medication reconciliation [92]
- Obtain and complete forms for facility
- Obtain discharge summary and transmit to facility and medical practitioner
- Arrange transportation

- **Other ALOC** [99]

Notes:

1:
Indications for chest tubes include pneumothorax, pleural effusion, chylothorax, empyema, hemothorax, and hydrothorax. The goal is to evacuate air, fluid, or blood from the pleural space. The removal of fluid or air is accomplished by connection of the chest tube to a drainage device (e.g., water seal drainage system, one-way valve, etc.). There is considerable debate on whether or not water seal or low-pressure suction is the best method to achieve full lung expansion. In the management of chest trauma, there is some evidence suggesting that low-pressure suction may be a better option than water seal by decreasing the duration of chest tube treatment, length of hospital stay, and persistent air leakage (Feenstra et al., Eur J Trauma Emerg Surg 2018, 44: 819-27). Post-insertion monitoring includes vital sign and lung assessment, insertion site inspection, water seal and suction device checks with measurement of drainage, and assessment for complications (bleeding, infection, subcutaneous emphysema, lung trauma, or bronchopleural fistula). Serial chest x-rays may also be performed to ensure that there is no re-accumulation of air or fluid. The decision to remove a chest tube is based on the reason for placement and patient response. Generally, the chest tube is removed when there is no evidence of air leak, minimal drainage (less than or equal to 200 mL/day or less than 2 mL/kg/day whichever is less) and the lung is fully expanded. In some postoperative situations, chest tubes can be safely withdrawn with daily outputs up to 450 mL/day. Following the removal of a chest tube, a routine chest x-ray may be performed within 1 to 4 hours for mechanically ventilated patients to detect a recurrent pneumothorax. In non-mechanically ventilated patients, the decision is dependent upon the patient's signs and symptoms and medical practitioner preference (Porcel, Tuberc Respir Dis (Seoul) 2018, 81: 106-15).

2:
The Centers for Medicare and Medicaid reports patients admitted with chronic obstructive pulmonary disease (COPD) experienced a 30-day all-cause readmission rate of 20% from 2012 to 2015, with a mortality rate of 8 in that same time period (Centers for Medicare & Medicaid Services, Hospital Compare datasets. 2016). One out of five patients discharged with the diagnosis of COPD requires rehospitalization within 30 days. Research shows follow-up within 7 to 30 days of discharge from hospitalization when compared to no follow-up care is associated with a reduced risk of readmission, emergency department visits, and mortality (McPherson et al., Healthc Q 2015, 18: 11-3). Additionally, self-management interventions that include an action plan may lower risk of respiratory-related admissions and improve health-related quality of life (Zwerink et al., Cochrane Database Syst Rev 2014: CD002990).

3:
Noninvasive positive pressure ventilation (NIPPV) may be used as a weaning strategy for patients who may be difficult to wean. The American College of Chest Physicians and the American Thoracic Society Clinical Practice Guideline recommend preventative use of NIPPV in hospitalized critically ill patients at high risk (e.g., hypercapnia, chronic obstructive pulmonary disease (COPD), congestive heart failure (CHF), or other serious comorbidities) for extubation failure who have been receiving mechanical ventilation for more than 24 hours and who have passed an spontaneous breathing trial (SBT) (Ouellette et al., Chest 2017, 151: 166-80). In patients with COPD, NIPPV is a viable strategy in weaning from mechanical ventilation and, when compared to ongoing ventilation, reduces hospital mortality and ventilator-associated pneumonia (Yeung et al., Intensive Care Med 2018, 44: 2192-204). Patients with neuromuscular disease who failed SBTs have been successfully extubated to full volume-cycled noninvasive support (Kim et al., Ann Rehabil Med 2017, 41: 450-5).

4:
Previously asymptomatic patients, maintained at home on noninvasive positive pressure ventilation (NIPPV), either utilizing continuous positive airway pressure (CPAP) or bilevel positive airway pressure devices (BiPAP) (excluding those using CPAP for known obstructive sleep apnea), are defined as having failed home management when they become symptomatic (e.g., complaints of shortness of breath, difficulty breathing, increased respiratory rate, excessive fatigue, cognitive dysfunction, sleepiness, morning headache, hypersomnolence).

5:
Noninvasive positive pressure ventilation (NIPPV), also known as NIV, provides respiratory support by application of a tightly fitting facial mask, nasal mask, or helmet rather than an endotracheal tube or tracheostomy. In some cases, the use of NIPPV can avoid the need for endotracheal intubation and decreases the risk of barotrauma, lung injury, and/or infection. NIPPV is commonly delivered by a bilevel positive airway pressure ventilator (BiPAP), a

continuous positive airway pressure device (CPAP), or a mechanical ventilator. Supplemental oxygen can be delivered at concentrations approximating 100%(1.0).
The decision to provide respiratory support via NIPPV, and the modality to provide NIPPV, is based upon the patient's specific clinical findings (e.g., medical condition leading to respiratory failure, underlying comorbidities, clinical progression, improvement). Examples of NIPPV devices are volumetric (i.e., deliver a defined volume), barometric (i.e., deliver a defined pressure), and combined (i.e., deliver defined volumes and pressure). The terminology for NIPPV delivery systems may differ between equipment manufacturers and provider organizations. InterQual® criteria do not differentiate between the different NIPPV modalities.
Whether or not high-flow nasal cannula (HFNC) should be classified as a component of NIPPV is unclear, and there is conflicting evidence in the medical literature. Where HFNC is an appropriate modality, InterQual® defines this in a specific criteria point. As such, NIPPV does not include HFNC (Hackett, A., PulmCCM 2018; Nardi et al., F1000Res 2017, 6: 290; Osadnik et al., Cochrane Database Syst Rev 2017, 7: CD004104; Allison and Winters, Emerg Med Clin North Am 2016, 34: 51-62; Gregoretti et al., Crit Care Clin 2015, 31: 435-57).

6:

Transition Plan: InterQual® Transition Plan identifies patients at high risk for readmission who may benefit from a comprehensive discharge plan. Chronic obstructive pulmonary disease (COPD) patients at high risk for readmission include those with a prior history of exacerbation of COPD requiring hospital admission. Prior emergency room visits and hospitalized exacerbations in the past 12 months are strong predictors for future admissions. Evidence also demonstrates a marked increase in the risk of readmission with each new exacerbation requiring hospitalization (Global Initiative for Chronic Obstructive Lung Disease (GOLD). Global Strategy for the Diagnosis, Management and Prevention of COPD. 2025 Press et al., Chest 2021, 159: 996-1006 Njoku et al., Respir Med 2020, 173: 105988). Readmission rates have been found to be high among patients of African American race, males, 65 years of age or less, lower-income households, and those with multiple comorbidities. The following conditions are also associated with increased risk of early readmission: congestive heart failure (CHF), chronic renal insufficiency, diabetes, psychiatric conditions (anxiety, depression, psychosis, alcohol and illicit drug use), frailty, poor health-related quality of life, low body mass index (BMI), lack of routine physical activity, oral corticosteroid use, long-term oxygen therapy, elevated serum arterial blood carbon dioxide level, and forced expiratory volume in 1 second (FEV_1) values below 50%(0.50) of predicted value (Chow et al., Int J Chron Obstruct Pulmon Dis 2023, 18: 2581-617 Kong and Wilkinson, ERJ Open Res 2020, 6: epub Njoku et al., Respir Med 2020, 173: 105988 Tsui et al., Int J Tuberc Lung Dis 2016, 20: 396-401). Interventions that may reduce early readmissions after COPD exacerbation include inhaler device training, early physician outpatient follow-up within 30 days after hospitalization, and self-management interventions that include a COPD exacerbation action plan (Miravitlles et al., Adv Ther 2023, 40: 4236-63 Kong and Wilkinson, ERJ Open Res 2020, 6: epub Lenferink et al., Cochrane Database Syst Rev 2017, 8: CD011682 Ospina et al., Thorax 2017, 72: 31-9). Additional recommendations to reduce early readmissions include influenza and pneumococcal vaccination, pulmonary rehabilitation program that is at least 6-8 weeks in duration for COPD exacerbation, and access to education and case management that includes direct access to a healthcare specialist at least monthly (Global Initiative for Chronic Obstructive Lung Disease (GOLD). Global Strategy for the Diagnosis, Management and Prevention of COPD. 2025 Halpin et al., Int J Chron Obstruct Pulmon Dis 2017, 12: 2891-908 Whittaker Brown and Braman, Med Clin North Am 2020, 104: 615-30).

7:

Respiratory interventions refer to any of the following: oxygen supplementation with weaning or adjustment, oximetry monitoring, mobilization of secretions with standard postural drainage, percussion, and vibration, suctioning, apnea monitoring, and medication administration.

8:

Pre-op optimization refers to those patients who may require an aggressive medical management program prior to a surgical procedure (Zietlow et al., Am J Med 2022, 135: 39-48).
Pre-operative goals may include:

- Stabilization of cardiac condition
- Optimization of nutritional status (e.g., TPN)
- Maximization of oxygen delivery
- Control or elimination of infection or sepsis
- Increased granulation tissue prior to skin flap surgery
- Anticoagulation management

9:

Oxygen therapy is the administration of oxygen at concentrations greater than ambient air (room air: 21%(0.21)) with the intent of treating and/or preventing the symptoms and manifestations of hypoxia. The oxygen concentration or percentage (FiO_2) delivered varies with the manufacturer's design, oxygen flow rate, the patient's respiratory rate, and tidal volume. Actual inspired FiO_2 with nasal cannula varies significantly with the patient's minute ventilation and pattern of breathing. For patients at risk for CO_2 retention, where a precise inspired FiO_2 is required, the Venturi mask is the preferred method. In general, patients who are very ill or have respiratory disease may require considerably higher flow rates to achieve the desired FiO_2. The following are estimates of O_2 delivered at the associated flow rates:

LOW-FLOW SYSTEMS

Nasal cannula

Room air 21%(*0.21*)
1L 24%(*0.24*) **4L** 36%(*0.36*)
2L 28%(*0.28*) **5L** 40%(*0.40*)
3L 32%(*0.32*) **6L** 44%(*0.44*)

Simple oxygen masks

- 35-50%(*0.35-0.50*) FiO_2 (5-10 L/min)
- Flow rates are usually maintained at 5 L/min or more to avoid accumulation of CO_2 in the mask

Venturi masks

- 24-50%(*0.24-0.50*) FiO_2 (4-12 L/min)

Partial rebreathing masks

- 40-70%(*0.40-0.70*) FiO_2 (6-10 L/min)

Non-rebreathing masks

- 60-80%(*0.60-0.80*) FiO_2 (minimum flow of 10 L/min)

HIGH-FLOW SYSTEMS

Air-entrainment masks/nebulizers

- 24-40%(0.24-0.40) FiO_2

Heated, humidified high-flow concentrating nasal cannula (HFNC)

- 24-100%(0.24-1.0) FiO_2

10:

Instruction: These criteria require the reviewer to select the comorbid conditions that impact the patient's primary reason for admission and continued stay. Selection of a comorbid condition is appropriate when:

- It is not the primary reason for admission. For example, persistent dyspnea and continued hypoxia is the primary reason for admission, selection of respiratory insufficiency as a comorbid condition is not allowed.
- The condition affects the patient's current medical status and skilled assessment, active medical treatment (including psychiatric consultation, if appropriate), and intervention is required during this episode of care. Treatment of a comorbid condition with maintenance therapy would not meet criteria.

11:

Acute kidney injury (AKI) is a term used to describe the broad spectrum of kidney function impairment, including insufficiency, oliguria, and failure. The spectrum ranges from minor changes in renal function markers (e.g., increase in serum creatinine, decreased urine output) to failure requiring renal replacement therapy.
AKI is defined as a sudden decrease in renal function resulting from multiple etiologies, including intrinsic kidney disease, ischemia, nephrotoxicity, and extrarenal pathology.
AKI encompasses patients with chronic kidney disease who experience an acute deterioration. AKI is associated with significant morbidity and mortality in hospitalized patients (Ostermann et al., Kidney Int 2020, 98: 294-309; Guideline Updates, In: Acute kidney injury: prevention, detection and management. 2019; Kidney Disease: Improving Global Outcomes (KDIGO), Kidney International Supplements 2012, 2: ii.-138; Wang et al., Am J Nephrol 2012, 35: 349-55).

12:

Instruction: This criteria refers to an established dialysis regimen. This may consist of hemodialysis, generally performed three times a week, or peritoneal dialysis performed at least daily.

13:

Patients with end-stage renal disease on chronic dialysis are at increased risk for altered mental status, muscle weakness, and infection, which can lead to interrupted physical therapy and prolonged clinical and physical improvement (Vijayan et al., Clin J Am Soc Nephrol 2021, 16: 1601-9).

14:

Mental status change may include confusion, disorientation, delirium, or increasing lethargy (Lacey et al., Ann Med 2019, 51: 232-51).
Instruction: Patients with acute coma, stupor, or obtundation should be reviewed at a higher level of care due to the need for more frequent neurological monitoring. These criteria exclude chronic coma, stupor, or obtundation (Shenvi et al., Ann Emerg Med 2020, 75: 136-45).

15:

Change in cognition may include the following:

- Memory impairment, most commonly in recent memory
- Disorientation, usually manifests as delirium, and is related to time (e.g., thinking that it is morning when it is the middle of the night) or place (e.g., thinking that the hospital is home)
- Language disturbance evidenced as dysnomia, the impaired ability to name an object, or dysgraphia, the impaired ability to write

16:

Impulsive refers to the lack of control or inability of the patient to refrain from acting on wishes, fantasies, thoughts, and feelings, often resulting in negative consequences.

17:

Agitation refers to excessive motor or verbal activity that requires psychiatric intervention to control.

18:

Aggression is manifested by behaviors that range from mild to severe and include the following:

- Mild - verbal profanities
- Moderate - physical action using inanimate objects (e.g., throwing a chair, hitting or kicking a wall, smashing a dish) or verbal threats
- Severe - physical altercation with a person (e.g., twisting an arm, hitting, punching)

19:

This criteria refers to those patients who may experience perceptual disturbances in the form of misinterpretation (e.g., a door slamming is interpreted as a gunshot), an illusion (e.g., the folds of bed sheet become animated), or a hallucination (e.g., "seeing" a group of people hovering over the bed when no one is there) (American Psychiatric Association, Diagnostic and Statistical Manual of Mental Disorders, fifth edition. 2013).

20:

Social withdrawal is evident when the patient stops interacting with others and may be due to delusions, paranoia, hallucinations, or severe anxiety. A socially withdrawn patient may not respond to questions or maintain eye contact, or may act in a bizarre manner.

21:

Baseline refers to either the patient's normal baseline or a newly established baseline. In the absence of documentation, a patient's baseline status may be presumed to be normal.

22:

Venous blood gases (VBG) may be used to assess a patient's ventilation or metabolic status. Venous pH or HCO_3 values closely approximate corresponding values derived from arterial blood gases (ABG) in conditions such as chronic obstructive pulmonary disease (COPD), respiratory distress syndrome, neonatal sepsis, renal failure, pneumonia, diabetic ketoacidosis, and status epilepticus. VBG should not be used to determine oxygenation. Patients with chronic CO_2 retention hospitalized for acute respiratory illness will exhibit increased PCO_2 levels. PCO_2 values should be compared with baseline values when available and other signs and symptoms of respiratory distress should be considered when determining the appropriate level of care (e.g., worsening dyspnea, high respiratory rate, decreased oxygen saturation, confusion, drowsiness) (Global Initiative for Chronic Obstructive Lung Disease (GOLD). Global Strategy for the Diagnosis, Management and Prevention of COPD. 2025; McKeever et al., Thorax 2016, 71: 210-5).

23:

Diabetes mellitus (DM) is a chronic glucose metabolism disorder resulting from deficient insulin production, insulin resistance, or both. According to the American Diabetes Association, DM can be classified into the following general categories: (American Diabetes Association Professional Practice Committee, Diabetes Care 2025, 48: S1-S352):

- Type 1 DM: Occurs when the body produces little or no insulin. This is primarily due to pancreatic islet beta-cell destruction. Patients are insulin-dependent and are at risk for ketoacidosis.
- Type 2 DM: the most common form of diabetes that results from a progressive insulin secretory defect combined with insulin resistance (the body fails to respond appropriately to insulin)
- Gestational DM: first detected during pregnancy and is not clearly overt DM
- Other causes of DM: genetic defects of beta-cell function or insulin action, disease of the exocrine pancreas (e.g., cystic fibrosis and pancreatitis), and drug- or chemical-induced diabetes (e.g., glucocorticoid use)

Complications of diabetes can include organ damage, dysfunction, and failure, primarily of the eyes, kidneys, nerves, heart, brain, and blood vessels. Effective management includes self-monitoring of blood glucose and an appropriate combination of diet, exercise, and medication (American Diabetes Association Professional Practice Committee, Diabetes Care 2025, 48: S1-S352; Agiostratidou et al., Diabetes Care 2017, 40: 1622-30).

24:

Uncontrolled blood sugars frequently occur in diabetics who have recently experienced trauma, stress, surgery, infection, prolonged episodes of vomiting or diarrhea, changing insulin requirements, or have drug-induced blood sugar instability.

25:

Functional assistance levels are based upon the patient's function during tasks and activities necessary to return to household mobility or ambulation. The functional assistance level required for each individual task or activity (e.g., mobility, activities of daily living (ADLs)) may vary.
The following terms are commonly used in the post-acute setting:

- Independent - Patient can safely and within a reasonable amount of time perform a task (or developmentally appropriate task) without physical or cognitive assistance or supervision
- Modified Independent - Patient performs an activity with a supportive device, adaptive equipment, and/or prosthetic or orthotic device. Additional time may be required to complete the activity and/or there are safety (risk) considerations
- Supervision - Patient performs an activity with standby or distant supervision or setup. Verbal cueing or coaxing, without physical contact or setup of items and application of orthoses may be required when patient's safety awareness is impaired
- Minimum or limited Assistance - Patient performs at least 75%(0.75) of an activity and requires some physical contact to steady, guide, or move
- Moderate or extensive Assistance - Patient performs at least 50%(0.50) of an activity and requires physical assistance for functional mobility or ADLs
- Maximum Assistance - Patient performs 25%(0.25) to 50%(0.50) of an activity and requires physical assistance for functional mobility or ADLs
- Total Assistance or dependence - Patient performs less than 25%(0.25) of an activity and may require total assistance for functional mobility or ADLs

26:

A new impairment refers to a decline in physical function as compared to prior level of function. Patients that present with a new impairment or functional limitation may require ongoing rehabilitation for functional training in self-care, home management, and community reintegration. Examples include those patients who have experienced a post cerebral event (brain injury, cerebrovascular accident), post major surgical repair, exacerbation of a progressive or degenerative neuromuscular disorder (Parkinson's, multiple sclerosis, amyotrophic lateral sclerosis, Huntington's chorea, transverse myelitis), Guillain-Barre, trauma, or paraplegia.

27:

Rehabilitation potential refers to the probability that therapy and medical goals are realistic and attainable based on patient's prior level of function, severity of illness or injury, and the extent of impairments.

28:

The criteria "at least minimum assistance" refers to patients who require minimum, moderate, maximum, or total assistance.

29:

Transition Plan: InterQual's® Transition Plan identifies patients at high risk for readmission who may benefit from a comprehensive discharge plan. Heart failure (HF) ranks in the top 20 diagnoses with the highest 7-day and 30-day readmission rates. The 30-day all-cause readmission rate is as high as 23%(0.23) (Fingar et al., In: Healthcare Cost and Utilization Project (HCUP) Statistical Briefs. 2017). HF is a common condition in skilled nursing facilities (SNFs), with cardiovascular diagnoses as the largest diagnostic category for this setting. HF patients account for up to 27% (0.27) to 43%(0.43) of SNF 30-day rehospitalization rates (Jurgens et al., J Card Fail 2015, 21: 263-99). HF patients, in general, identified to be at highest risk for readmission include those with:

- Moderate to severe HF and age 65 or older (Iyngkaran et al., Clinical Medicine Insights: Cardiology 2018, 12: 1179546818809358)
- Age less than 65 at the time of initial HF admission (Iyngkaran et al., Clinical Medicine Insights: Cardiology 2018, 12: 1179546818809358)
- Age 65 or older and post major noncardiac surgery (Turrentine et al., J Am Coll Surg 2016, 222: 1220-9)
- Patients with preexisting atrial fibrillation (Tripathi et al., J Am Heart Assoc 2019, 8: e013026)
- Existence of a comorbid condition including diabetes, renal failure, chronic pulmonary disease, anemia, depression, and fluid and electrolyte disorder (Chamberlain et al., Int J Gen Med 2018, 11: 127-41; Arora et al., Am J Cardiol 2017, 120: 616-24)
- High pre-discharge B-type natriuretic peptide (BNP) level and less than 50%(0.50) decrease from admission level
- Poor comprehension of discharge instruction related to limited educational background or primary language other than English (Iyngkaran et al., Clinical Medicine Insights: Cardiology 2018, 12: 1179546818809358)
- Poor medication adherence (Ruppar et al., J Am Heart Assoc 2016, 5:)
- Medicaid coverage (Iyngkaran et al., Clinical Medicine Insights: Cardiology 2018, 12: 1179546818809358)
- Longer initial hospital stays (Arora et al., Am J Cardiol 2017, 120: 616-24; Albert et al., Circ Heart Fail 2015, 8: 384-409)
- Multiple emergency department visits within 6 months of hospitalization (Albert et al., Circ Heart Fail 2015, 8: 384-409)

A BNP level of greater than 350 pg/mL or less than a 50%(0.50) reduction in N-terminal prohormone BNP (NT-proBNP) during the hospital stay is also associated with an increased risk for rehospitalization or death, as is the development of hypotension during hospitalization (Patel et al., Circ Heart Fail 2014, 7: 918-25). Patients with a discharge BNP ≥ 1000 pg/mL had an unadjusted 30-day HF-specific readmission rate over 3 times as high as patients whose discharge BNP was ≤ 200 pg/mL (Flint et al., J Am Heart Assoc 2014, 3: e000806).

30:

New York Heart Association (NYHA) classification for heart failure is defined as follows (Yap et al., Clinical cardiology 2015, 38: 621-8; New York Heart Association, Diseases of the Heart and Blood Vessels. Nomenclature and Criteria for diagnosis. 1964):

- Class I - No limitation of physical activity. Ordinary physical activity does not cause undue fatigue,

palpitation, dyspnea, or anginal pain.
- Class II - Slight limitation of physical activity. Comfortable at rest. Ordinary physical activity results in fatigue, palpitation, dyspnea, or anginal pain.
- Class III - Marked limitation of physical activity. Comfortable at rest. Less than ordinary physical activity causes fatigue, palpitation, dyspnea, or anginal pain.
- Class IV - Inability to carry on any physical activity without discomfort. Symptoms of cardiac insufficiency or of anginal syndrome may be present even at rest. If any physical activity is undertaken, discomfort is increased.

31:

Hepatic encephalopathy (HE) is a complication of acute or chronic liver disease that is primarily characterized by changes in personality, consciousness, cognition, and motor function. West Haven criteria for grading HE includes (Montrief et al., Am J Emerg Med 2019, 37: 329-37; Weissenborn, Drugs 2019, 79: 5-9; Ferenci, Gastroenterol Rep (Oxf) 2017, 5: 138-47):
- Grade I - Lack of awareness, anxiety, short attention span, euphoria, inability to add/subtract
- Grade II - Disorientation for time, inappropriate behavior, lethargy/apathy, obvious personality change, dyspraxia, or asterixis
- Grade III - Confusion, bizarre behavior, gross disorientation, responsive to verbal stimuli, somnolence to semi-stupor
- Grade IV - Coma

32:

Immunocompromised individuals, those with a diminished ability to fend off invading organisms due to an impaired immune system, are particularly vulnerable. This can be a result of various comorbidities or certain immunosuppressive medications or therapies. The most significant complication of immunodeficiency or immunosuppression is the heightened susceptibility to infections, which are often severe in nature, frequent, and prolonged. This is in stark contrast to immunocompetent individuals who may be exposed to the same pathogen. Moreover, immunocompromised or suppressed individuals are also at an increased risk of opportunistic infections. Overall, this can lead to more severe in-hospital complications, longer lengths of stay, and/or mortality.
It is essential to distinguish between primary and secondary immunodeficiency. Primary immunodeficiency is congenital, caused by inherited disorders of the immune system. On the other hand, secondary immunodeficiency is acquired, caused by a disease process or by treatment of other chronic diseases. This distinction is essential for healthcare professionals as it helps to identify the patient who is at higher risk.
Primary causes of immunodeficiency account for more than 450 genetic disorders that impact immune system function at various immune pathways from antibody deficiency to phagocytic dysfunction to adversely affecting cellular and humoral immunity (Quinn et al., Allergy Asthma Clin Immunol 2022, 18: 19Tangye et al., J Clin Immunol 2022, 42: 1473-507). Some examples of primary immunodeficiency include (but are not limited to):
- Common Variable Immunodeficiency (CVID)
- IgA deficiency
- Chronic granulomatous disease
- DiGeorge syndrome
- X-linked agammaglobulinemia (XLA)
- Ataxia - Telangiectasia
- Severe combined immunodeficiency (SCID)
- Isolated IgG subclass deficiency
- Wiskott syndrome
- Transient hypogammaglobinemia of infancy

Secondary immune deficiencies are caused by extrinsic or environmental factors that adversely affect the immune response and consequently increase the risk of infections. These factors could be transient or persistent. Similarly, components of the immune response that are affected could be impaired skin and mucosal barriers, phagocytic activity, antibody production, or T-cell activity.
Examples of secondary immune deficiency include (Czapka et al., Transpl Infect Dis 2023, 25 Suppl 1: e14148Mustafa, Ann Allergy Asthma Immunol 2023, 130: 713-7Centers for Disease Control and Prevention, National Diabetes Statistics Report. 2022Swanson et al., Annals of Blood 2022, 8: Malpica and Moll, Hematology Am Soc Hematol Educ Program 2020, 2020: 319-27Youssef et al., Rheum Dis Clin North Am 2016, 42: 157-76, ix-xBonilla et al., J Allergy Clin Immunol 2015, 136: 1186-205 e78Lipska et al., Diabetes Care 2013, 36: 3535-42):
- Poorly controlled diabetes mellitus defined as HbA1c greater than or equal to 9%(0.09) (drawn on

admission or within the past three months)
- End-stage liver disease (ESLD)
- Active hematopoietic malignancies
- Allogeneic hematopoietic stem cell transplantation (HSCT) with Graft-versus-Host Disease (GVHD)
- Autologous HSCT within the last 6 months or patient who develop GVHD
- Patients undergoing Car T-cell therapy
- Immunosuppressive therapy (active or within the last 3 months): Chemotherapy, Radiation, Anti-rejection medications, TNF-alpha inhibitors, JAK inhibitors, IL-1 or IL-6 inhibitors, Immunotherapy, and/or prolonged high-dose steroid use (Prednisone or equivalent greater than or equal to 20mg daily for 4 weeks or more)
- Patients with severe neutropenia with absolute neutrophil count (ANC) less than 500/cu.mm($500x10^6$/L)
- Human immunodeficiency virus (HIV) or Acquired Immune Deficiency Syndrome (AIDS) with CD_4 count less than 200/cu.mm($200x10^6$/L)
- History of splenectomy
- Splenic dysfunction due to sickle cell disease

33:
This criterion refers to any patient with an infection that requires active treatment with intravenous medication. The requirement is for parenteral anti-infective with the exception of *Clostridioides difficile*, which can be treated with oral medication.

34:
Systemic manifestations of infection may include fever, rigors, nausea, or vomiting.

35:
End-stage disease is an irreversible, chronic state from which the patient is incapable of recovery.

36:
An adult malnutrition diagnosis cannot be achieved with a single characteristic. Patients that are undernourished, or are not absorbing nutrients, need nutritional intervention. The American Society for Parenteral and Enteral Nutrition defines malnutrition by at least 2 of the following (Quartarolo et al., Nutr Clin Pract 2021, 36: 1068-71; White et al., JPEN J Parenter Enteral Nutr 2012, 36: 275-83):
- Unable to take in enough calories
- Documented weight loss (greater than 2%(0.02) weight loss from baseline within the last week or greater than 5%(0.05) weight loss from baseline within the last 30 days)
- Decreased muscle mass or wasting (subcutaneous fat loss)
- Decreased hand grip strength (documented loss of functional status)
- Localized or generalized fluid accumulation that masks weight loss

37:
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- Decreased muscle mass or wasting (subcutaneous fat loss)
- Decreased hand grip strength (documented loss of functional status)
- Localized or generalized fluid accumulation that masks weight loss

38:
Ventilator dependent refers to those patients who require continued management of ventilator needs and are not actively weaning.

39:
Although the vast majority of wound care is readily handled in the post-acute setting, there are situations when a patient requires care at the acute level, such as high-frequency wound care required, prolonged length of time

required performing the procedure, and the type or amount of medication required to keep the patient comfortable during the procedure. For children less than 12 years of age (or less than 30 kg), the wound care regimen may need to be adjusted to a lesser frequency and/or duration (e.g., twice per day, 10 minutes), though still requiring the current level of care, due to the patient's size, pain tolerance, fluid shifts, and vital sign lability.
To determine the appropriate discharge destination, an assessment is required of the patient and/or caregiver's ability to learn the necessary wound care regimen, complexity of the treatment regimen, and a plan for managing contributory factors. For discharge to the home setting, the patient and/or caregiver must be able and willing to participate in the care plan, or there is sufficient agency assistance available to adequately meet the patient's needs.
Patient and/or caregiver instruction should include all the following (Bryant and Nix, Acute & chronic wounds: current management concepts, 5th ed. 2015, xiv, 655 p.):

- Wound care regimen that includes a plan to monitor patient-specific contributory factors
- Adjunctive therapies (medications, nutritional plan, and supplements)
- Re-ordering medications and wound management supplies
- When to seek medical care (e.g., signs, symptoms, and complications to report to the health care provider)
- Continued follow-up and support with health care providers

40:
Acute changes in chronic wounds may warrant complex nursing care at a skilled nursing facility (SNF) or subacute care (SAC) facility. Wound or skin care involves daily observation and assessment of a patient's altered skin integrity, including burns and grafts. Interventions that may be necessary include:

- Wound debridement
- Soaks and irrigations
- Whirlpool
- Specialized occlusive dressings (excluding dry sterile dressing changes)
- Packings
- Specialized treatments
- Pressure redistribution beds
- Patient and/or caregiver education

41:
Clinical complexity refers to care requiring frequent medical assessment and intervention not possible in a less intensive setting, or where the level of monitoring is very intense due to the high-risk nature of the treatment, or there is potential for rapid or unpredictable deterioration in clinical status.

42:
In a patient with pneumonia, it may take up to 6 weeks for a chest x-ray (CXR) to show improvement. The CXR may often look worse, or have little improvement even after the patient is showing signs of clinical improvement or is medically stable (Metlay et al., Am J Respir Crit Care Med 2019, 200: e45-e67; Kaysin and Viera, Am Fam Physician 2016, 94: 698-706).

43:
Instruction: This criteria point includes patients who are improving or are demonstrating clinical stability even if there is a chest x-ray abnormality.

44:
Neurological stability is a clinical state characterized by:

- Lack of deterioration or return to baseline in mental status or level of consciousness
- Seizures absent or controlled
- Absence of neurological deficit
- Stabilization of neurological deficit that develops during current hospitalization

45:
Arrhythmias may need to be managed with cardiac monitoring and/or antiarrhythmics. A patient who is appropriate to transfer to the next level of care is hemodynamically stable

with cardiac symptoms controlled or manageable.

46:

When a criteria point states "within acceptable limits," it refers to either the patient's normal baseline, a newly established baseline, or parameters that the medical practitioner determines are acceptable.

47:

Discharge planning is a component of care coordination and should be initiated on admission and re-evaluated throughout the patient's stay. The discharge plan may include an estimated length of stay, projected discharge destination, and a plan for post-discharge care. It may also include the following:

- Durable medical equipment needs
- Home environment assessment
- Identification of community resources
- Patient and/or caregiver education and instruction
- Patient's support system assessed, and level of care options identified

48:

Psychosocial issues, which include coping skills or adjustment to functional loss, can impede medical and functional progress. Ongoing assessment, active treatment, and management must be addressed during the course of hospitalization.

49:

Instruction: The medical practitioner's daily assessment manages the conditions and comorbid illnesses that impact the patient's primary reason for admission and continued stay.
Selection of a comorbid condition is appropriate when:

- It is not the primary reason for admission. For example, persistent dyspnea and continued hypoxia is the primary reason for admission, selection of respiratory insufficiency as a comorbid condition is not allowed.
- The condition affects the patient's current medical status and skilled assessment, active medical treatment (including psychiatric consultation, if appropriate), and intervention is required during this episode of care. Treatment of a comorbid condition with maintenance therapy would not meet criteria.

50:

Medically complex patients in long-term acute care (LTAC) require daily medical and physical assessment and management provided by a licensed medical practitioner. Although practitioners specialized in rehabilitation medicine, also known as physiatrists, may be common practitioners in the LTAC setting, legislative and geographical variances, as well as organizational policy, govern the specific practitioner requirements.

51:

Blood products include packed cells, platelets, albumin, and fresh frozen plasma.

52:

Syncope is the transient loss of consciousness caused by diminished cerebral blood flow, identified as brief, with spontaneous onset and recovery (Brignole et al., Eur Heart J 2018, 39: 1883-948; Shen et al., Journal of the American College of Cardiology 2017, 70: e39-e110).

53:

Chest tubes are used to evacuate air, fluid, or blood from the pleural space. For malignancies involving the pleura, chest tubes may also be used for the administration of sclerosing agents. Serial chest x-rays may be performed to ensure that there is no re-accumulation of air or fluid. The chest tube may be removed when there is no evidence of air leak, output has slowed to 250-400 mL/day, and the lung is fully expanded (Vuong et al., Respir Med 2018, 137: 152-66).

54:

Chest physiotherapy can improve bronchial hygiene and includes chest percussion and vibration, postural drainage, suctioning, turning, and directed cough. These techniques can be performed with or without the administration of bronchodilators or mucolytics. The goal of physiotherapy is to promote clearance of secretions and improve ventilation.

55:

Instruction: These criteria apply to the administration of a bronchodilator via a nebulizer, an inhaler, or an intravenous route. According to the available evidence, inhalers produce outcomes that are at least equivalent to nebulizers. Further research is needed to determine the optimal inhalation device according to individual patient characteristics and disease state. Education on correct usage is vitally important to ensure effective medication delivery to the lungs (Global Initiative for Chronic Obstructive Lung Disease (GOLD). Global Strategy for the Diagnosis, Management and Prevention of COPD. 2025; van Geffen et al., Cochrane Database Syst Rev 2016: CD011826).

56:

Instruction: This criterion includes administration of aerosolized medication via nebulizer or inhaler. Appropriate selection of a delivery device for aerosol therapy depends on multiple factors including cognitive state or developmental stage, manual dexterity, breathing pattern, respiratory drive, and drug formulation. Efficacy is optimized when the device is used correctly and complements the patient's age, physical characteristics, and cognitive ability (Tashkin, Int J Chron Obstruct Pulmon Dis 2016, 11: 2585-96; Brittan et al., J Pediatr 2015, 166: 998-1005 e1).

57:

A neurological assessment establishes a baseline so that subtle changes can be monitored. A comprehensive neurological assessment often includes an evaluation of:

- Mental status (e.g., level of consciousness, orientation, insight, calculation ability)
- Cranial nerves (e.g., olfactory, optic, vestibulocochlear)
- Motor system (e.g., muscle tone, strength, reflexes)
- Sensory system (e.g., light touch, pain, temperature)
- Coordination (e.g., orchestration and fluidity of movement)
- Gait (e.g., heel-to-toe straight-line walking)

58:

Instruction: For these criteria, medication adjustment refers to a change in dose, frequency of administration, or change in medication.

59:

In the post-acute setting, management of complex wounds is a multi-step process provided by skilled professionals who are trained in the assessment and treatment strategies for complex wound management. The basic principles of wound care aim to identify the etiologic causes and address underlying systemic and metabolic conditions that contribute to non-healing wounds. Debridement, offloading, management of ischemia, management of infection, wound bed preparation and optimization of medical and nutritional status are pillars of wound healing. Advanced novel therapeutic approaches (e.g., Negative Pressure Wound Therapy (VAC), growth factors, electrical stimulation, ultrasound, hyperbaric oxygen therapy, human skin equivalents) are recommended when standard therapies fail to result in wound healing. Pain management, nutritional support, and the use of support surfaces (e.g., overlay, replacement mattress, specialty beds) may also be part of the treatment plan. Ongoing patient and wound reassessment are required to optimize wound progression and healing. Wounds that are appropriately managed should show measurable progress within two to four weeks. Nonhealing wounds may reflect a wound that is not realistically expected to heal or indicative of an underlying comorbid condition, or in rare cases, may be the result of a poor management plan. If there has been less than a 50% change in wound size in 4 weeks, or the wound has not changed, the wound care plan may need to be altered. An alternate level of care for continued wound treatment should be considered when there is evidence of continued wound healing, stabilization of contributory wound factors, and effective pain control.
Discharge planning to the home setting includes an assessment of the patient and/or caregiver's ability to learn and perform the necessary wound care regimen, complexity of the treatment regimen, and a plan for managing contributory factors. The patient and/or caregiver must be able and willing to participate in self-care, or there is

sufficient caregiver or agency assistance planned to adequately meet the patient's needs (Gupta et al., Wounds 2017, 29: S19-S36; Frykberg and Banks, Adv Wound Care (New Rochelle) 2015, 4: 560-82).

60:

Clostridioides difficile is the most common cause of nosocomial infectious diarrhea, particularly in patients receiving antibiotics. Guidelines describe multiple acceptable regimens but do indicate a preference for oral fidamoxicin for patients with mild to moderate disease. Alternative regimens are driven by disease severity and the number of episodes the patient has experienced. Treatment guidelines recommend discontinuation of the inciting antibiotic as soon as possible to prevent recurrence. Other interventions include IV fluids, electrolytes, or oral fluids to maintain hydration. Use of opiates and antidiarrheal medications should be avoided because decreased intestinal motility will exacerbate the infection (Johnson et al., Clin Infect Dis 2021, 73: e1029-e44).

61:

Patients with symptomatic *Clostridioides difficile* require a private room with a dedicated toilet and contact precautions to prevent transmission. Contact precautions should be maintained for the duration of diarrhea and may be discontinued when the patient is asymptomatic or for at least 48 hours after diarrhea has resolved. Extending precautions for the duration of hospitalization is recommended for those hospitals with elevated rates of incidence (Marra et al., Am J Infect Control 2018, 46: 333-40). Follow-up testing of stool for the *Clostridioides difficile* toxin from asymptomatic patients is not useful as a test of cure and therefore, it is not recommended (McDonald et al., Clin Infect Dis 2018, 66: 987-94).

62:

While an elevated ammonia level is the classic laboratory finding used to diagnose hepatic encephalopathy, serial ammonia measurements are inferior to clinical assessment in gauging improvement or deterioration in a patient receiving treatment (Ferenci, Gastroenterol Rep (Oxf) 2017, 5: 138-47).

63:

Oral branched-chain amino acid (BCAA) enriched formulations may improve the manifestations of occult or minimal episodic hepatic encephalopathy (HE). Intravenous administration is ineffective (Ferenci, Gastroenterol Rep (Oxf) 2017, 5: 138-47; J Hepatol 2014, 61: 642-59). Although BCAA has a beneficial effect on HE, there is no evidence regarding an effect on mortality, quality of life, or nutritional parameters (Gluud et al., Cochrane Database Syst Rev 2017, 5: CD001939).

64:

Lactulose is recommended by the American Association for the Study of Liver Diseases/European Association for the Study of the Liver guidelines as the first-line treatment for episodes of hepatic encephalopathy. It is a nonabsorbable substance used to treat an elevation in blood ammonia (NH_3) and reduces plasma ammonia concentration by converting soluble ammonia into insoluble ammonia in the colon. The laxative effect of lactulose results in the expulsion of trapped ammonium in the form of diarrhea. Lactulose can be administered orally, via a nasogastric tube, or as a retention enema (Swaminathan et al., Hepat Med 2018, 10: 1-11; J Hepatol 2014, 61: 642-59).

65:

Evidence has shown that L-ornithine L-aspartate (LOLA) is effective in lowering ammonia and improving mental status in patients with cirrhosis and hepatic encephalopathy (HE), with the oral form of LOLA being especially beneficial (Butterworth et al., J Clin Exp Hepatol 2018, 8: 301-13). In a 2017 randomized, controlled trial, patients with persistent HE showed improvement from intravenous LOLA administration, whereas oral supplementation was determined to be ineffective (Ferenci, Gastroenterol Rep (Oxf) 2017, 5: 138-47). A recent systematic review reassessed both oral and intravenous (IV) LOLA for the treatment of low-grade or minimal hepatic encephalopathy (MHE) and high grade or overt hepatic encephalopathy (OHE). The relative efficacy of LOLA depended on the type of HE as well as the route of administration. Patients with MHE, defined as patients with cirrhosis and alterations in mental status diagnosed by psychometric testing, appear to benefit more from the oral administration of LOLA than patients with high grade overt HE (Weissenborn, Drugs 2019, 79: 5-9; Butterworth et al., J Clin Exp Hepatol 2018, 8: 301-13).

66:

The renal and ototoxicity of neomycin have rendered this medication nearly obsolete in the treatment of hepatic encephalopathy (Tabbers et al., J Pediatr Gastroenterol Nutr 2014, 58: 258-74).

67:

Rifaximin is an anti-infective recommended by evidence-based clinical guidelines as an effective add-on therapy to lactulose for the treatment of overt hepatic encephalopathy (OHE). It has been shown to reduce healthcare resource utilization over the long term by lessening OHE recurrences and rehospitalization (Hudson and Schuchmann, European journal of gastroenterology & hepatology 2019, 31: 434). In a systematic review comparing the effectiveness and safety of interventions in patients with OHE, Rifaximin showed the greatest reduction in blood ammonia concentration (Zhu et al., Aliment Pharmacol Ther 2015, 41: 624-35).

68:

Fluid is replaced based on measured and insensible losses. Examples of measurable fluid loss include:

- Urine
- Nasogastric
- Wound
- Ostomy drainage
- Diarrhea
- Vomiting
- Fluid sequestration

Examples of insensible loss include:

- Perspiration
- Breathing.

The intent of the criteria is to address patients who have excessive fluid loss due to diarrhea and/or inability to take adequate oral fluids to replace fluid loss. If the losses are due to diarrhea, there is no expectation that the order for intravenous fluids will specify measurement of the diarrhea, replacement on a cubic centimeter (cc) for cc basis, or any titration of the fluid rate based on the number of cc's lost. Continuous intravenous fluid should be ordered in a clinically significant amount that indicates a need for replacement along with documentation of excessive diarrhea (to support that there are "losses").

69:

Oliguria is defined as urine output less than 0.5 *mL/kg*/h.

70:

Therapeutic anticoagulation (e.g., heparin drip protocol, fondaparinux, full dose weight-adjusted low molecular weight heparin [LMWH]) is used to treat an underlying thromboembolic event or may be required for certain vascular and cardiovascular problems. Prophylactic anticoagulation (e.g., subcutaneous heparin every eight hours or fixed low dose LMWH daily) is used to prevent thrombosis and is not sufficient to meet this criterion.

71:

Intravenous (IV) loop diuretics (e.g., furosemide, torsemide, bumetanide, ethacrynic acid) are administered to relieve the symptoms of dyspnea and congestion without excessively reducing intravascular volume. Due to their relatively short half-life, diuretic effectiveness can be enhanced by continuous administration or multiple boluses daily. Careful monitoring of daily weights, orthostatic vital signs, intake and output, electrolytes, and renal function are key components of diuretic therapy. If a patient does not initially respond to IV diuretics, other options may be considered, including increasing the dose to ensure adequate drug levels reach the kidneys and adding a second diuretic, typically a thiazide, to the loop diuretic in order to improve diuretic responsiveness (Heidenreich et al., Circulation 2022, 145: e895-e1032; Maddox et al., J Am Coll Cardiol 2021, 77: 772-810; Rosendorff et al., Circulation 2015).

72:

Dextrose 50%(0.50) with insulin is used for the treatment of hyperkalemia. This treatment shifts potassium intracellularly, and repeated doses can be given if the hyperkalemia persists. Other treatments that may be used

simultaneously include potassium binding agents, diuretics, nebulized albuterol, calcium, sodium bicarbonate, and dialysis (Depret et al., Ann Intensive Care 2019, 9: 32).

73:

Immunosuppressant medications are used to treat conditions such as graft-versus-host disease (GVHD), hemolytic anemia, organ transplant, graft failure, rejection, inflammatory bowel disease, acute glomerulonephritis, and inflammatory cellulitis. Medications used for immunosuppression include prednisone, prednisolone, cyclosporine, azathioprine, mycophenolate mofetil, tacrolimus, sirolimus, everolimus, belatacept, antithymocyte globulin (ATG), and basiliximab.

74:

This criterion applies to insulin adjustments based on blood glucose values obtained by lab draw or glucose monitor. To meet this criterion, intermittent insulin must be administered at least three times in 24 hours. If the patient is on a continuous insulin infusion, the rate must be adjusted at least three times in 24 hours.

75:

Instruction: Vasoactive agents, which can safely be administered in the long-term acute care (LTAC) setting include low-dose dobutamine, intravenous nitroglycerin, and dopamine (≤ 5µg/kg/min). This criteria excludes the administration of vasopressors. Higher dosage levels of vasoactive agents should only be administered by LTAC facilities with appropriate monitoring capabilities and nursing care.

76:

Continuous or intermittent topical negative pressure wound therapy (NPWT) is used to remove fluids or infectious material from the wound, thereby stimulating growth of healthy granulation tissue. The major forms of NPWT include a vacuum-assisted closure device and a portable non-electric device that has specialized springs to deliver the negative pressure. NPWT is employed when standard wound care has failed to promote healing of acute and traumatic wounds, chronic wounds, diabetic foot wounds, dehisced surgical wounds, partial-thickness burns, and pre- or post-operative flaps and grafts. Comparative effectiveness reviews of mechanical- and electric-powered NPWT have shown there is some evidence of improvement in granulated tissue formation, reduced time to heal, and decreased cost of treatment when compared with standard dressings. NPWT may be beneficial in preventing surgical site infection for surgical wound healing by primary closure, but the evidence is low (Webster et al., Cochrane Database Syst Rev 2019, 3: CD009261). In general, systematic reviews of NPWT highlight the lack of high-level studies showing NPWT efficacy, particularly in terms of its different indications and modalities. Treatment contraindications include when necrotic tissue or malignancy is present in the wound, untreated osteomyelitis, non-enteric and unexplored fistulas in an organ or body cavity, and in the presence of exposed vasculature, nerves, anastomotic sites, or organs. Cautious use is recommended in those patients with actively bleeding wounds, patients at high risk for bleeding and hemorrhage, patients receiving chronic anticoagulation or antiplatelet therapy, wounds with difficult hemostasis, and when placing a NPWT dressing in close proximity to organs or blood vessels. Discontinuation of NPWT should be considered when there is no change in wound size within 2-4 weeks, or the wound has healed as evidenced by a thin area of new epidermis, or adequate healing has occurred (Webster et al., Cochrane Database Syst Rev 2019, 3: CD009261; Iheozor-Ejiofor et al., Cochrane Database Syst Rev 2018, 7: CD012522; Johal and Kreder, Clin Orthop Relat Res 2018, 476: 463-5; Liu et al., Cochrane Database Syst Rev 2018, 10: CD010318).

77:

Established hemodialysis is generally performed 3 times per week and some fatigue prior to or post-dialysis treatment is expected. Therapy schedules should be adjusted around planned or established invasive procedures or treatments. Unexpected fatigue may occur if the patient is new to the dialysis regimen or if other invasive procedures are scheduled (e.g., endoscopic retrograde cholangiopancreatography (ERCP), computerized tomography (CT) with contrast or central line change). In these instances, therapies may need to be delayed or reduced accordingly.

78:

Minimally invasive procedures may include arthroscopy, endoscopy, interventional radiology, or interventional cardiology.

79:
Volume expanders are fluids administered intravenously to increase circulatory volume. Studies have demonstrated that a balanced crystalloid solution (e.g., Lactated Ringer's) is preferable to colloids in restoration of intravascular volume in sepsis and septic shock (Evans et al., Crit Care Med 2021, 49: e1063-e143; Rhodes et al., Crit Care Med 2017, 45: 486-552; Winters et al., J Emerg Med 2017, 53: 928-39). However, crystalloids have been found to be less effective than colloids at stabilizing hemodynamic endpoints in critically ill patients (Martin and Bassett, J Crit Care 2019, 50: 144-54). The type of fluid selected for administration should be based on the indication for its use and other patient-specific factors.
Instruction: In order to apply criteria for volume expanders, there should be documentation of a volume deficit supported by clinical findings. The volume of infusion is patient-specific and varies based on the cause of volume depletion, comorbid condition, and patient response. Criteria for volume expander should not be applied for maintenance intravenous fluids or electrolyte replacement.

80:
Wound debridement is the gold standard for removing necrotic (devitalized) wound tissue and is indicated for both acute and chronic wounds when necrotic, damaged, or infected tissue matter is present. It is a crucial step in promoting wound healing and reducing the bacterial load. Debridement may be accomplished by sharp surgical removal, enzymatic (chemical) agents, autolysis, biologic agents (maggot or larval therapy), or by mechanical removal with the aid of wet-to-dry dressings, or whirlpool treatment. Recent advances in wound debridement include hydrosurgery, ultrasound therapy, and plasma-mediated radiofrequency ablation therapy. Ultrasound therapy showed a significant reduction in healing time and shorter operating time when compared to the gold standard debridement technique of using a scalpel or curette. Selection of more than one debridement method may be appropriate and will depend on the status of the wound (e.g., type and amount of necrotic wound tissue, vascularity of the wound, absence or presence of infection) and the patient's medical condition and treatment goals. Autolysis and conservative sharp debridement are usually the methods of choice for wounds with slough. Surgical sharp debridement involves the use of instruments or laser therapy and is the treatment of choice for wounds when there is an urgent need for debridement such as advancing cellulitis, extensive necrosis, crepitus, fluctuance, and/or sepsis secondary to ulcer infection. Sharp surgical debridement is contraindicated in patients with an intact eschar and no clinical evidence of an underlying infection. Risk of bleeding is a concern, especially in those on anticoagulant therapy (Bekara et al., Arch Plast Surg 2018, 45: 102-10; McCallon et al., J Am Coll Clin Wound Spec 2014, 6: 14-23).

81:
Selection of this criteria point indicates that the patient is responding to treatment and is clinically stable for transfer or discharge. To determine the most appropriate post-acute level of care, see discharge criteria.

82:
Hemodynamic stability is determined by blood pressure and heart rate, and occurs in the absence of active cardiac symptoms or clinically significant blood pressure changes.

83:
A finding of neurologic stability includes:
- Improvement, or no deterioration in the mental status exam or level of consciousness
- Seizures controlled
- No new neurologic deficits (e.g., aphasia, ataxia, dysarthria, paresis, visual field loss)

84:
Hypertension is defined as a systolic blood pressure (SBP) of greater than 130 mmHg or a diastolic blood pressure (DBP) of 80 mmHg or greater. Recommendations for initial management may include a conservative approach with diet and lifestyle modification with or without medications. The goal of antihypertensive therapy is to reduce morbidity and mortality. In non-urgent situations, blood pressure (BP) control is achieved in the outpatient setting. Goals for target BP level should be individualized, but a SBP less than 130 mmHg and a DBP less than 80 mmHg are desirable. Populations at high risk include patients with the following conditions (Whelton et al., Hypertension 2018, 71: 1269-324):
- Clinical cardiovascular disease or 10-year atherosclerotic cardiovascular disease (ASCVD) risk 10%(0.1)

- Heart failure
- Stable ischemic heart disease
- Chronic kidney disease
- Chronic kidney disease after renal transplantation

85:
Patients on mechanical ventilation may be considered for discharge to home when there is evidence of hemodynamic stability and documentation that the patient and family are able and willing to participate in self-care. Furthermore, planned caregiver or agency assistance is required to adequately meet the patient's medical needs. Lack of an appropriate discharge plan, an unsafe physical environment, and lack of appropriate resources would be contraindications for home ventilation.
Instruction: Patients not appropriate for mechanical ventilation in the home may be transferred to an alternative level of care (e.g., subacute facility, skilled nursing facility, hospital transitional care unit), when available.

86:
Activities of daily living (ADLs) are defined as basic self-care activities. Examples of ADLs include eating, dressing, bathing, grooming, toileting, and walking or transferring. Instrumental activities of daily living (IADLs) are defined as advanced skills or activities requiring more complex interactions with others and the environment, such as household management, financial management, childcare, etc (Centers for Medicare & Medicaid Services. Title 42 441.505. 2024). For younger patients, IADLs may include performing chores and attending school. The ability or inability to perform ADLs can be used as a measure of ability or disability in assessing rehabilitation outcomes.

87:
Prior level of function refers to the patient's level of function prior to the onset of this episode of illness or injury. This must be taken into consideration when discharge goals are identified.

88:
The discharge screen is a resource tool and not criteria. Referring to the discharge screen at the initiation of discharge planning is recommended.

89:
The home environment and safety assessment will normally include an evaluation of the patient's pre- and post-hospitalization functional level, physical layout of the home (e.g., entrances and exits, stairs, access to the community), identification of unsafe conditions (e.g., scatter rugs, missing handrails, oxygen use and smoking, lack of fire safety devices, inadequate lighting, heating, and cooling), factors that may trigger symptoms (e.g., secondhand smoke, poor food choices, dysfunctional family dynamics), sanitation hazards (e.g., lack of electricity, running water, refrigeration, inadequate toilet facilities, presence of insects or rodents), and the need for adaptive equipment (e.g., walker, handrails for the tub or shower, elevated toilet seat).

90:
Follow-up care can be provided by the medical practitioner at the office, by other healthcare providers, and through outpatient visits, including laboratory testing.

91:
Ensuring the patient and/or caregiver understands all aspects of the condition and can assume responsibility for self-care is crucial in preventing readmission. Assessing a patient and/or caregiver's level of understanding after education has been provided can be difficult. The teach-back method is an effective way of providing education at the appropriate level and can also be used to assess the learner's comprehension. To use the teach-back method, discuss key points in common terms and avoid using medical jargon or unfamiliar terms. After the education has been delivered, ask the learner to repeat what was learned. Gaps or misinterpretations in the learner's explanation will pinpoint areas where communication may have failed and provide opportunity for clarification.

92:
Medication reconciliation is a formal process or technique used by health care providers and pharmacists to

identify the most complete and accurate list of all medications a patient is taking at times of transitions in care (e.g., upon hospital admission, transfer from one unit to another during hospitalization, or discharge from the hospital to home or another facility). The goals of this process are to ensure medication and dosages are appropriate for the patient, resolve discrepancies in drug regimens, and ultimately prevent medication errors and reduce adverse drug events. Medication reconciliation is a Joint Commission National Patient Safety goal. Coordinating information when a patient is transferred to another setting, service, practitioner, or level of care ensures accurate medications are listed. The process is comprised of the following (Hospital: National Patient Safety Goals. 2020):

- Obtain an external list of medications (e.g., medications taken prior to admission)
- Develop a list of current medications and add them to the medical record
- Compare the medications from the external list to the current list
- Clarify inconsistencies/discrepancies (e.g., omissions, duplications, contraindications, unclear information, and changes)
- Develop a list of medications to be prescribed at discharge or transfer
- Communicate the new list to the patient and/or appropriate caregiver(s)
- Ensure that patient and/or caregiver(s) understand the medication information upon discharge

Specific medication issues identified as being problematic include missing medication information from transfer orders, lack of information on medications provided in the acute setting, incomplete medication records, discrepancies between hospital regimen and discharge summary, and missing information pertaining to the patient's tolerance of a medication regimen. Although medication reconciliation is an important aspect in patient safety, there is a lack of consensus and evidence about the best effective methods of implementing this process. Physician-led and electronic medication reconciliation in hospitals are effective strategies to reduce medication discrepancies, however, the impact of these interventions is uncertain due to the low quality of evidence (Choi and Kim, J Clin Pharm Ther 2019, 44: 932-45; Redmond et al., Cochrane Database Syst Rev 2018, 8: CD010791). Trained pharmacy technicians, under the direction of a licensed pharmacist, may be an option for developing and expanding medication reconciliation processes (Irwin et al., Hosp Pharm 2017, 52: 44-53).

93:

Completion of family training, with the goal of the patient and/or family being able to safely manage care, may include demonstrating knowledge and aptitude in areas such as transfer skills, medication management, application of splints/pressure garments, skin care, and knowledge of community resources.

94:

The initial clinical assessment is performed by a licensed professional and includes a comprehensive review of the patient's presenting diagnosis and a review of body systems. Identification of current and potential medical needs and health problems can be identified by the clinical assessment. The clinical assessment includes:

- History and physical exam (e.g., vital signs, height, weight)
- Pain assessment includes cause, intensity, quality, onset, duration, and effects on quality of life (e.g., activities of daily living (ADLs), instrumental activities of daily living (IADLs), and interpersonal relationships). Pain relievers should also be included
- Nutritional and hydration status
- Functional ability
- Safety and infection control measures
- Prescribed and over-the-counter (OTC) medications, herbal supplements, and home remedies
- Patient's and/or caregiver's understanding of medication use, dosing, side effects, and adherence to the medication or treatment regimen
- Patient's and/or caregiver's understanding of the illness or disease process and potential long-term complications
- Patient's and/or caregiver's coping strategies to deal with the illness or injury and ability to follow the plan of care

95:

Patient and caregiver education may be provided by one-on-one instruction, audiovisual aids, simulations and role-playing, and self-instruction modules. An assessment of the patient's and/or caregiver's understanding of the material provided may be evaluated by a demonstration of the specific skills or by a verbal response indicating comprehension of the material. Topics for teaching may include disease process, medication administration, indications and effects, diet, prescribed exercises, or treatments (e.g., dressing changes, oxygen administration,

blood glucose monitoring, enteral feedings), safety precautions, importance of follow-up with health care provider, emergency management, and community services.

96:

Treatment precluded in a lower level (e.g., home care services, outpatient clinic) is dependent upon several factors including:

- The patient's caregiver or family support system
- The availability of qualified alternate levels of care
- The patient's benefit plan

The patient's medical needs should be met at the least intensive level of care that can safely provide the necessary services.

97:

Skilled nursing services refers to services that must be provided by a licensed nurse who is qualified to assess and monitor patient condition(s) and provide medical treatment and/or teaching to patients who have skilled nursing needs. Examples of Skilled Nursing Facility level of care interventions include:

- Parenteral medications ≥ 2x/day
- Assessment of clinical status at least daily
- Management and evaluation of a care plan
- New enteral feeding management and teaching
- Patient and/or caregiver education

98:

Skilled nursing services refers to services that must be provided by a licensed nurse who is qualified to assess and monitor patient condition(s) and provide medical treatment and/or teaching to patients who have skilled nursing needs. Examples of Subacute level of care interventions include:

- Multiple intravenous (IV) medications
- Single IV medication given ≥ 3x/day
- Chronic ventilator management
- Monitoring and assessment of conditions where clinical assessment is required ≥ 3x/24h in combination with multiple parenteral medications and/or therapies
- Daily or every other day blood or albumin transfusions
- Multiple and frequent (3-4x/24h) interventions such as respiratory, wound management, and/or total parenteral nutrition (TPN) or peripheral parenteral nutrition (PPN)

99:

Based on the patient's current medical condition and expected discharge needs, other services, or alternate levels of care (ALOC) may be appropriate to adequately address any medical, psychiatric, or substance-related disorder needs.

2025, Mar. 2025 Release LOC:Long-Term Acute Care Transition Plan

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Overview

Informational Notes
This guideline is intended to be used for those patients who are at increased risk of readmission following discharge. It serves as an adjunct to the review process and can assist the reviewer in ***planning*** for a safe discharge by providing a framework for identifying discharge needs and outlining the interventions necessary to ensure continuity of quality patient care. The National Quality Forum Consensus Standards Maintenance Committee has identified hospital discharge as a critical area for improvement (National Quality Forum (NQF). Safe Practices for Better Healthcare - 2010 Update. 2010 [cited Jan 4 2017]). It is recommended that clinicians be proactive and document a complete discharge plan for all patients and begin the planning process ***at the time of admission***.

The term "transition of care" encompasses the patient who moves from one care setting to another, for example, transitioning from a skilled nursing or inpatient hospital setting to another care setting, such as the home. Transitioning care involves a collaborative effort between multiple providers, e.g., medical practitioner, nurse, social worker, pharmacist, and the patient, family and/or caregiver. To ensure quality of care, a transition should be appropriately timed and well coordinated (National Transitions of Care Coalition 2010; Jack et al., Ann Intern Med 2009; 150(3): 178-187).
Early comprehensive discharge planning and attention to transitioning care can reduce readmission rates, improve health outcomes, and may decrease length of stay (Jackson, Health Affairs 2013, 32: 1407-15; Osei-Anto et al., Health care leader action guide to reduce avoidable readmissions. 2010). Studies focusing on the transition of care from the inpatient to the outpatient setting have identified both safety and quality deficiencies in the current delivery system (Snow et al., J Gen Intern Med 2009, 24: 971-6; Coleman et al., Arch Intern Med 2006; 166(17): 1822-1828). Incomplete handoffs at the time of discharge can lead to adverse events for patients and result in avoidable readmissions (Halasyamani et al., J Hosp Med 2006; 1(6): 354-360). In 2013, the Center for Medicare and Medicaid Services updated its guidance for hospital discharge planning teams. The revised guidance establishes the medical information that must follow the patient at referral or transfer (Centers for Medicare & Medicaid Services, Hospital Compare datasets. 2016). As many as 20%(0.20) of the older patients are readmitted to the hospital within 30 days of discharge and the risk of readmission is increased when there is a delay in follow-up care (Jencks et al., N Engl J Med 2009; 360(14): 1418-1428). In 2012, the Patient Protection and Affordable Care Act began financially penalizing hospitals for high readmission rates, making transition planning an even more vital component of discharge preparation. From July 2012 to June 2015, the Centers for Medicare and Medicaid Services' national overall readmission rate was 15.6 for all 30-day readmissions after discharges (Centers for Medicare & Medicaid Services, Hospital Compare datasets. 2016).

Transition Plan

Readmission is a frequent and costly occurrence that is influenced by many factors including demographic, social, disease-related characteristics, medication related issues and perceived readiness for discharge. A recent study suggests that hospital readmissions within 30 days of discharge occur in 1 of 6 medical and 1 of 8 surgical Medicare patients (The Revolving Door: A Report on U.S. Hospital Readmissions. 2013). Discharge and transitional planning, which starts from the time of admission, is now starting even earlier in instances where hospital and community-based multidisciplinary teams work together alongside patients. Patient-centered care envisions patients as equal partners in this process (National Institute for Health and Care Excellence (NICE). Transition between inpatient hospital settings and community or care home settings for adults with social care needs. 2015).

Risk factors for readmission

- Adult
  - Depression/Mood disorders [1]
  - Schizophrenia [2]
    - Not receiving long acting antipsychotic injections [3]
  - Low health literacy [4]
  - Racial disparities [5]
  - Acute myocardial infarction (AMI)
    - History of chronic obstructive airway disease (COPD) [6]
    - History of diabetes mellitus (DM) [7]
    - History of heart failure (HF) [8]
    - Need for hospice care [9]
    - Decreased renal function [10]
    - Low systolic blood pressure [11]
    - Liver disease [12]
    - Infection [13]
    - Length of stay ≥ 8 days [12]
    - Discharge to home [12]
  - Coronary artery bypass graft (CABG) surgery and diabetes [14]
  - Heart failure (HF) [15]
    - Moderate to severe and age 65 or older [16, 17]
    - Age 65 or younger at the time of initial HF admission [18]
    - High pre-discharge BNP level and less than 50% decrease from admission level [19]
    - Age 65 or older and post major non-cardiac surgery [20]
    - Older individual and worsening renal function [21]
    - Length of stay ≥ 3 days [22]
    - Psychosis [22]
    - Comorbidities [23]
    - No access to outpatient cardiac rehabilitation [24]
    - Diabetes [25]
  - Chronic obstructive pulmonary disease (COPD) [26, 27, 28, 29, 30, 31, 32, 33, 34]
  - Pneumonia [35]
    - Age 65 or older
    - Worsening of comorbidities
    - Instability at discharge [36]
    - Treatment failure [36]
    - Chronic liver disease [37]
  - Sickle cell disease [38]
  - Stroke/TIA [39]
    - Hospital acquired infection [40]
    - Diabetes mellitus [41]
    - Age 65 or older [42]
  - 5 or more chronic comorbid conditions [43]
  - Prior admission within 30 days [43]
  - Age 60 or older, with comorbidity and history of adverse drug reaction [44]
  - Discharge medications [45, 46]
    - 6 or more
    - High risk
  - Age ≥ 75 [47]
    - Comorbidity
    - Functional disability
    - Previous admission
    - Prolonged length of stay

- Surgical patient [48]
  - Complex GI procedures
  - Total hip or knee arthroplasty [49]
  - Multiple comorbidities requiring pre-op admission
  - Surgical complications
- **CMS Readmissions Reduction Program** [50]
  - AMI
  - CABG
  - COPD, acute exacerbation
  - HF
  - Pneumonia
    - Including aspiration pneumonia
    - Sepsis patients coded with pneumonia present on admission (excluding severe sepsis)
  - Total hip or total knee arthroplasty [49]
- Pediatric
  - Asthma and prior asthma admission [51]
  - Sickle Cell Disease [52]
    - Discharge less than 24 hours after transition from oxygen to room air
    - History of asthma
    - Greater than 3 admissions in the previous 12 months
    - Corticosteroid administration
  - Discharge from NICU
    - Bronchopulmonary dysplasia (BPD) [53]
    - Extreme low birth weight infants [54]
  - Sepsis [55]
    - Age less than 1 year
    - Neurologic or hematologic organ dysfunction during admission
    - Cardiovascular or bloodstream infection
    - Comorbidities
  - Congenital Heart Disease and length of stay greater than 14 days [56]
  - Medically complex child [57, 58]
  - ECMO [59]

Expected Discharge Level of Care

- **HOME**
  - **Identify if home setting is appropriate**
    - Assess for impairments that may impact self-care
      - Functional
      - Cognitive
      - Visual
      - Hearing
      - Speech
      - Language
    - Assess level of independence or if there is a willing and able caregiver
  - **Complete prior to discharge**
    - Condition specific discharge information
      - Acute Coronary Syndrome (ACS)
        - Follow-up appointments
          - Primary medical practitioner
          - Cardiologist
        - Referrals and consults
          - Community-based or inpatient cardiac rehabilitation program
          - Nutritional counseling for diet modification (e.g., low sodium, low fat)

- Palliative care or end of life support for advanced heart disease
- Smoking cessation counseling

⊖ Patient Education

- Influenza, pneumococcal, pertussis, and COVID-19 vaccinations
- Medication adherence [60]
- Physical activity [61]
- Proper wound care, if post surgery (e.g., keeping wound clean, dressing wound and washing of hands when changing dressings) and notifying medical practitioner for signs of infections (e.g., wound area is more red or painful or warm to touch, blood, pus, or other fluid coming from the wound area, presence of fever, chills or muscle aches)
- Recognizing acute cardiac symptoms and appropriate actions [62]
- Recognizing signs of depression and seeking emotional support [63]
- Secondary prevention methods [64, 65]

⊖ Discharge medications

- Ace inhibitor
- Anticoagulant
- Antihypertensive
- Beta blocker
- Statin

⊖ Acute kidney failure

⊖ Follow-up appointments

- Primary medical practitioner
- Nephrologist

⊖ Referrals and consults

- Nutrition consult
- Smoking cessation counseling

⊖ Patient Education

- Avoidance of nephrotoxins and adherence to treatment for conditions that contributed to kidney disease (e.g., hypertension, heart disease, high blood sugar)
- Elimination or reduction of alcohol intake, if indicated
- Following specific diet recommendations (including fluid intake) as instructed by medical practitioner
- Influenza, pneumococcal, pertussis, and COVID-19 vaccinations
- Limiting over the counter medications containing sodium bicarbonate or sodium carbonate (e.g., laxatives, stomach medicine) and avoiding overuse of nonsteroidal anti-inflammatory drugs
- Medication adherence
- Monitoring sodium intake, if indicated
- Strict medication adherence
- Taking care of health (e.g., getting at least 7h or more per day of sleep, eating a healthy diet, learning ways to manage stress and staying physically active as advised by medical practitioner)
- Recognizing risk factors for developing chronic kidney failure and appropriate actions for follow up care (e.g., kidney function tests)
- When to call medical practitioner when symptoms return or when blood sugar or blood pressure level is not within range recommended by medical practitioner
- When to seek emergency care (e.g., sudden chest pain, trouble breathing)

⊖ Discharge medications

- Aldosterone Antagonists
- Anti-hypertensive
- Calcimimetics
- Diuretics
- Erythropoiesis-stimulating agent
- Phosphate binders

⊖ Alcohol Dependence

⊖ Follow-up appointments

- Primary medical practitioner
- Behavioral health practitioners

- Referrals and consults
  - Consider palliative care or end of life support for advanced condition
  - Community support programs (e.g., Alcoholics Anonymous, Narcotics Anonymous)
  - Individual, group, or family counseling
  - Medication-assisted treatment
  - Sober living facility or transitional housing
  - Smoking cessation counseling
- Patient Education
  - Activity restrictions (e.g., not driving or operating machinery) as recommended by medical practitioner or pharmacist, especially when taking sedatives
  - Alcohol use disorder, dependence, and withdrawal symptoms
  - Avoidance of tobacco, excessive alcohol, and illicit drug use
  - Influenza, pneumococcal, pertussis, and COVID-19 vaccinations
  - Community based resources and treatment options (e.g., medication management, cognitive behavioral therapy, motivational enhancement therapy, peer recovery coaching, twelve step meetings like Alcoholics Anonymous (AA) or Narcotics Anonymous (NA), non-twelve step support group meetings, or peer-to-peer guidance, sober living facility, transitional housing, residential treatment, SAMHSAs National Helpline))
  - Medication adherence
  - Alcohol use disorder, dependence, and withdrawal symptoms
  - Recognizing signs of depression or anxiety and seeking emotional support
  - Taking care of health (e.g., getting at least 7h or more per day of sleep, eating a healthy diet, learning ways to manage stress and staying physically active as advised by medical practitioner)
  - When to call medical practitioner for new or worsening symptoms (e.g., severe shakiness, hallucinations, confusion, extreme drowsiness, increasing upper abdominal pain, uncontrolled vomiting)
  - When to seek emergency care (e.g., convulsion, difficulty breathing, chest pain, fast heart beat, heavy bleeding or vomiting blood, very drowsy or trouble awakening, fainting or loss of consciousness, thinking about hurting yourself or someone)
- Discharge medications
  - Acamprosate
  - Antiadrenergic agents
  - Anticonvulsants
  - Antidepressants
  - Antipsychotics
  - Benzodiazepines (Diazepam, Lorazepam)
  - Disulfiram
  - Opioid antagonists (Naltrexone)

- Arrhythmia, atrial
  - Follow-up appointments
    - Primary medical practitioner
    - Cardiologist
  - Referrals and consults
    - Smoking cessation counseling
  - Patient Education
    - Avoidance of tobacco, excessive alcohol, and illicit drug use
    - Managing ICD or pacemaker, if indicated (e.g., following precautions such as using caution with security devices, avoiding magnetic resonance image (MRI) scans, taking antibiotics before dental or surgical procedures, avoiding certain activities)
    - Influenza, pneumococcal, pertussis, and COVID-19 vaccinations
    - Limiting intake of coffee, tea, cola, and over the counter meds with caffeine
    - Managing blood thinner medication, if indicated (blood tests to monitor drug level, preventing cuts, notifying medical practitioner for bleeding or bruising)

- Strict medication adherence
- Taking care of health (e.g., getting at least 7h or more per day of sleep, eating a healthy diet, learning ways to manage stress and staying physically active as advised by medical practitioner)
- Taking pulse and keeping record
- When to call medical practitioner for new or worsening symptoms (e.g., heart is beating too fast or slow, skipping beats or heart rate is more than 110 beats per minute, numbness in arm or hand on the same side if ICD/pacemaker inserted, signs of infection at surgical wound if indicated)
- When to seek emergency care (e.g., chest pain or discomfort in back, neck, jaw, stomach, or arm, shortness of breath, lightheadedness or a sudden cold sweat, feeling very tired, faint, or sick to your stomach, nausea, vomiting)

⛔ Discharge medications
- Antiarrhythmic
- Anticoagulant
- Antiplatelet
- Digoxin

⛔ Cellulitis

⛔ Follow-up appointments
- Primary medical practitioner
- Wound care Specialist

⛔ Referrals and consults
- Home care for ongoing skilled needs
- Smoking cessation counseling

⛔ Patient Education
- Activity restrictions (e.g., not driving or operating machinery) as recommended by medical practitioner or pharmacist, especially when taking pain medicines or muscle relaxants
- Care of the affected extremity (e.g., keeping the infected area clean, raising the infected area above the level of the heart to help decrease swelling)
- Influenza, pneumococcal, pertussis, and COVID-19 vaccinations
- Recognizing factors or conditions that increase risk for infection and worsening symptoms (e.g., prolonged immobility, malnutrition, etc.)
- Smoking cessation, if indicated
- Strict medication adherence
- Taking care of health (e.g., getting at least 7h or more per day of sleep, eating a healthy diet, learning ways to manage stress and staying physically active as advised by medical practitioner)
- When to call medical practitioner for new or worsening symptoms (vomiting, shaking chills, fever, difficulty or pain when moving joints above or below the infected area, increased redness, swelling, or drainage of pus from the infected area)

⛔ Discharge medications
- Analgesic
- Anti-infective

⛔ COPD

⛔ Follow-up appointments
- Primary medical practitioner
- Pulmonologist

⛔ Referrals and consults
- Enroll patient in call back program, if available [66]
- Palliative care or end of life support for advanced COPD
- Pulmonary rehab program
- Refer patient to a medical home, disease management program, or case management program, if appropriate and available [67, 68]
- Nutritional counseling or supplementation, if severely overweight or malnourished
- Smoking cessation counseling

⛔ Patient Education
- Avoidance of air pollutants, including a smoking cessation program, if indicated [69]

- Adherence with follow-up COPD care [70, 71]
- Correct use of inhalers [72]
- Energy conservation and breathing exercises
- Following instructions for oxygen therapy, if appropriate for chronic respiratory failure
- Influenza, pneumococcal, pertussis, and COVID-19 vaccinations [73]
- Medication adherence [74]
- Pulmonary rehabilitation [75]
- Recognizing signs of depression or anxiety and seeking emotional support from medical practitioner and community resources (e.g., Better Breathing Support Groups)
- Taking care of health (e.g., getting at least 7h or more per day of sleep, eating a healthy diet, learning ways to manage stress and staying physically active as advised by medical practitioner)
- When to call medical practitioner for new or worsening symptoms (e.g., chest pain when taking breaths, fever higher than 101.5 F (38.6 C), coughing up thick or blood-stained mucus, increased shortness of breath)
- When to seek emergency care (e.g., trouble talking or walking because of shortness of breath, bluish or gray colored lips or fingernails, trouble breathing that does not get easier with medicine, fast breathing or trouble catching breath, feeling like you are going to die, chest discomfort (pressure, fullness, squeezing or pain) that lasts more than a few minutes or goes away and comes back or chest discomfort that goes to your arms, neck, jaw or back)

⛔ Discharge medications
- Anticholinergics
- Beta-Agonists
- Inhaled glucocorticosteroids
- Mucolytic Agents
- Oral glucocorticosteroids (prednisone methylprednisone)
- Phosphodiesterase -4 Inhibitors

⛔ COVID-19

⛔ Follow-up appointments
- Primary medical practitioner
- Infectious disease specialist
- Pulmonologist

⛔ Referrals and consults
- Consider palliative care or end of life support for advanced illness
- Medical home or home care for ongoing skilled needs
- Nutritional counseling or supplementation, if severely overweight or malnourished
- Smoking cessation counseling

⛔ Patient Education
- Breathing exercises (e.g., incentive spirometry, rhythmic inhalation, coughing)
- Influenza, pneumococcal, pertussis, and COVID-19 vaccinations [76]
- Limiting alcohol intake and drinking liquids as directed
- Following instructions for oxygen therapy if appropriate for chronic respiratory failure
- Following medical practitioner recommendations for transmission-based precautions (self-isolating in home and limiting contact with others to avoid spreading the virus) and when self-isolation can be eliminated depending upon symptoms, immune status and repeated testing
- Knowledge of lingering COVID-19 symptoms (loss of taste and smell, nausea, or tiredness)
- Medication adherence
- Prevention measures, if immunocompromised (e.g., wearing a mask, staying 6ft apart from others outside not in living area, avoidance of crowds and poorly ventilated indoor spaces)
- Recognizing signs of depression or anxiety and seeking emotional support
- Smoking cessation program, if indicated [77]
- Taking care of health (e.g., getting at least 7h or more per day of sleep, eating a healthy diet, learning ways to manage stress and staying physically active as advised by medical practitioner)
- When to seek emergency care (e.g., difficulty in breathing, chest pressure or pain, confusion, seizures, weakness or numbness of face or limbs, bluish lips or face, swelling of face or arms, fever)

- Discharge medications
  - Analgesic
  - Anti-infective or anti-viral or anti-fungal
- Gastrointestinal bleeding
  - Follow-up appointments
    - Primary medical practitioner
    - Gastroenterologist
  - Referrals and consults
    - Home care for ongoing skilled needs
    - Smoking cessation counseling
  - Patient Education
    - Anticoagulation management, if indicated
    - Avoidance of foods that may cause gastrointestinal irritation
    - Avoidance or caution when using nonsteroidal anti-inflammatory medications or aspirin
    - Elimination or reduction of alcohol intake if indicated
    - Influenza, pneumococcal, pertussis, and COVID-19 vaccinations
    - Medication adherence
    - Smoking cessation program, if indicated [77]
    - Taking care of health (e.g., getting at least 7h or more per day of sleep, eating a healthy diet, learning ways to manage stress and staying physically active as advised by medical practitioner)
    - When to seek emergency medical care (e.g., bright red blood in vomit that looks like coffee grounds, bowel movement with bright red blood, fainting)
  - Discharge medications
    - Analgesic
    - Anticoagulant
- Heart failure
  - Follow-up appointments
    - Primary medical practitioner
    - Cardiologist
  - Referrals and consults
    - Cardiac rehab program
    - Enroll patient in call back program, if available [66]
    - Nutritional counseling for diet modification (e.g., low sodium, low fat)
    - Palliative care or end of life support for advanced heart failure
    - Refer patient to a medical home, disease management program, or case management program, if appropriate and available [67, 68]
    - Smoking cessation counseling
  - Patient Education
    - Avoidance of tobacco, excessive alcohol, illicit drug, and nonsteroidal anti-inflammatory drug (NSAID) use
    - Energy conservation and breathing exercises
    - Fluid restriction, if ordered
    - Following instructions for oxygen therapy if appropriate for chronic respiratory failure
    - Following specific diet recommendations and maintaining a specific body weight
    - Influenza, pneumococcal, pertussis, and COVID-19 vaccinations
    - Maintaining blood pressure within target range
    - Limiting salt (sodium) intake
    - Following medical practitioner recommendations for exercise and recognizing activities such as walking or gardening may be helpful
    - Knowledge of self-management and written action plan that identifies HF triggers and management of worsening symptoms (e.g., diuretic regimen, fluid restriction for volume overload)
    - Performing daily weights and reporting a gain of > 2 lbs/day to medical practitioner
    - Recognizing signs of depression or anxiety and seeking emotional support from medical practitioner and community resources (e.g., Together in HF from the American Association of HF

Nurses, American Heart Association, and the American Heart Failure Society of America
- Strict medication adherence
- Taking care of health (e.g., getting at least 7h or more per day of sleep, eating a healthy diet, learning ways to manage stress and staying physically active as advised by medical practitioner)
- When to call medical practitioner for new or worsening symptoms (sudden weight gain of more than 2 pounds in 1 day or 5 pounds in 1 week, or weight gain parameters from medical practitioner, trouble breathing at rest, new or increased swelling of your legs or ankles, swelling or pain in your abdomen, breathing trouble at night, frequent coughing that doesn't go away)
- When to seek emergency care (e.g. severe shortness of breath, severe chest pain that does not resolve with rest or nitroglycerine, pink, foamy mucus with cough and shortness of breath, rapid or irregular heartbeat, passing out or fainting, etc.)

⛔ Discharge medications
- Aldosterone Antagonists
- Angiotensin-Converting Enzyme (ACE)
- Angiotensin II Receptor Blockers (or Inhibitors)
- Angiotensin-Receptor Neprilysin Inhibitors (ARNIs)
- Beta Blockers
- Diuretics
- Hydralazine and isosorbide dinitrate

⛔ Osteomyelitis

⛔ Follow-up appointments
- Primary medical practitioner
- Orthopedic surgeon

⛔ Referrals and consults
- Home care for ongoing skilled needs
- Smoking cessation counseling

⛔ Patient Education
- Activity restrictions (e.g., not driving or operating machinery) as recommended by medical practitioner or pharmacist, especially when taking pain medicines or muscle relaxants
- Care of the affected extremity (e.g., keeping the area free from injury, use of a splint, sling, or brace as directed by medical practitioner)
- Influenza, pneumococcal, pertussis, and COVID-19 vaccinations
- Proper care of catheter site, if indicated (e.g., keeping site clean and dry, monitoring for infection)
- Proper wound care, if wound present (e.g., keeping wound clean, dressing wound and washing of hands when changing dressings, etc.)
- Recognizing factors or conditions that increase risk for infection and worsening symptoms (e.g., prolonged immobility, malnutrition, etc.)
- Smoking cessation, if indicated
- Strict medication adherence
- Taking care of health (e.g., getting at least 7h or more per day of sleep, eating a healthy diet, learning ways to manage stress and staying physically active as advised by medical practitioner)
- When to call medical practitioner for new or worsening symptoms (increasing pain, swelling, warmth, redness or drainage from the infected area, more pain around the infected area, fever)

⛔ Discharge medications
- Analgesic
- Antifungal
- Anti-infective

⛔ Pneumonia

⛔ Follow-up appointments
- Primary medical practitioner
- Pulmonologist

⛔ Referrals and consults
- Home care for patients with ongoing skilled needs
- Consider palliative care or end of life support for advanced conditions contributing to pneumonia

- Smoking cessation counseling
- Patient Education
  - Breathing exercises (e.g., incentive spirometry, rhythmic inhalation and coughing)
  - Drinking liquids to stay hydrated to promote coughing up mucus (unless told to limit fluids)
  - Influenza, pneumococcal, pertussis and COVID-19 vaccinations [76]
  - Recognizing factors or conditions that increase risk for pneumonia or worsen symptoms (e.g., smoking and air pollution, upper respiratory infections, prolonged immobility, malnutrition, poor handwashing, etc) and
  - Following instructions for oxygen therapy, if appropriate for chronic respiratory failure
  - Medication adherence
  - Smoking cessation, if indicated [78]
  - Taking care of health (e.g., getting at least 7h or more per day of sleep, eating a healthy diet, learning ways to manage stress and staying physically active as advised by medical practitioner)
  - Use of a cool mist humidifier to increase air moisture
  - When to call medical practitioner for new or worsening symptoms (e.g., shortness of breath, chest pain when you take a breath, wheezing, coughing up mucus that is thick or blood-stained, fever higher than 101.5 F (38.6 C))
- Discharge medications
  - Analgesic
  - Anti-infective, anti-viral, or anti-fungal
  - Inhaled glucocorticosteroids
  - Mucolytic Agents
  - Oral glucocorticosteroids

- Pyelonephritis or complex UTI
  - Follow-up appointments
    - Primary medical practitioner
    - Urologist
  - Referrals and consults
    - Home care for ongoing skilled needs
    - Smoking cessation counseling
  - Patient Education
    - Influenza, pneumococcal, pertussis and COVID-19 vaccinations
    - Knowledge of factors or conditions that increase risk for infection and worsen symptoms (e.g., prolonged immobility, malnutrition, etc.)
    - Limiting alcohol intake and drinking enough fluids to keep urine light yellow in color (unless told to limit fluids)
    - Medication adherence and completing full antibiotic course
    - Preventing future infection (keeping genital area clean, proper wiping of genital, urinating frequently, practicing safe sex)
    - Proper care of indwelling catheters, if applicable (including clean procedures and when to replace)
    - Smoking cessation, if indicated
    - Taking care of health (e.g., getting at least 7h or more per day of sleep, eating a healthy diet, learning ways to manage stress and staying physically active as advised by medical practitioner)
    - When to call health care medical practitioner for new or worsening symptoms (fever, shaking chills, vomiting, urinating very little or not at all, blood in your urine, dark-colored or foul-smelling urine, side or back pain that gets worse)
  - Discharge medications
    - Analgesic
    - Anti-infective
- Respiratory failure
  - Follow-up appointments
    - Primary medical practitioner
    - Pulmonologist
  - Referrals and consults

- Enroll patient in call back program, if available [66]
- Palliative care or end of life support for advanced lung disease
- Refer patient to a medical home, disease management program, or case management program, if appropriate and available [67, 68]
- Nutritional counseling or supplementation, if severely overweight or malnourished
- Smoking cessation counseling

⊖ Patient Education

- Avoidance of air pollutants, including a smoking cessation program, if indicated [69]
- Breathing exercises to manage shortness of breath (e.g., pursed-lip breathing)
- Following instructions for oxygen therapy, if appropriate for chronic respiratory failure
- Influenza, pneumococcal, pertussis, and COVID-19 vaccinations [73]
- Recognizing signs of depression or anxiety and seeking emotional support from medical practitioner and community resources (e.g., Better Breathing Support Groups)
- Taking care of health (e.g., getting at least 7h or more per day of sleep, eating a healthy diet, learning ways to manage stress and staying physically active as advised by medical practitioner)
- When to call medical practitioner for new or worsening symptoms (e.g., increased swelling in legs, feet or abdomen, wheezing, coughing up blood in sputum, fever)
- When to seek emergency care (e.g., difficulty breathing, shortness of breath, chest pain)

⊖ Discharge medications

- Anticholinergics
- Beta-Agonists
- Inhaled glucocorticosteroids
- Mucolytic Agents
- Oral glucocorticosteroids (prednisone methylprednisone)
- Phosphodiesterase -4 Inhibitors

⊖ Sepsis

⊖ Follow-up appointments

- Primary medical practitioner
- Infectious disease specialist
- Wound care specialist

⊖ Referrals and consults

- Home care for ongoing skilled needs
- Consider palliative care or end of life support for advanced conditions contributing to sepsis
- Smoking cessation counseling

⊖ Patient Education

- Influenza, pneumococcal, pertussis and COVID-19 vaccinations
- Knowledge of factors or conditions that increase risk for infection and worsen symptoms (e.g., prolonged immobility, malnutrition)
- Limiting alcohol intake and drinking enough fluids to keep urine light yellow in color, unless told to limit fluids
- Medication adherence
- Proper wound care, if wound present or post surgery (e.g., keeping wound clean, dressing wound and washing of hands when changing dressings, etc.)
- Smoking cessation, if indicated
- Staying physically active with exercise as instructed by medical practitioner
- Taking care of health (e.g., getting at least 7h or more per day of sleep, eating a healthy diet, learning ways to manage stress and staying physically active as advised by medical practitioner)
- Understanding Post Sepsis Syndrome and long-term effects of sepsis (e.g., insomnia, extreme fatigue, poor concentration, decreased mental or cognitive functioning, loss of self-esteem, nightmares, vivid hallucinations, panic attacks, disabling muscle and joint pain)
- When to call medical practitioner for new or worsening symptoms (chills, sweats, nausea or vomiting, fever higher than 101.5 F (38.6 C), body aches, fast heartbeat, dizziness when you stand up or fainting, confusion, redness, swelling, or drainage of pus from any wounds or from around area where an IV goes into skin)

- Discharge medications
  - Analgesic
  - Anti-infective, anti-viral, or anti-fungal
- Stroke
  - Follow-up appointments
    - Primary medical practitioner
    - Neurologist
  - Referrals and consults
    - Home or community-based rehabilitation or inpatient rehabilitation program
    - Palliative care or end of life support for advanced disease
    - Smoking cessation counseling
  - Patient Education
    - Achieving and maintaining a healthy weight
    - Elimination or reduction of alcohol intake
    - Influenza, pneumococcal, pertussis, and COVID-19 vaccinations
    - Recognizing depression is common after stroke and seeking emotional support
    - Smoking cessation and avoiding passive smoke [79]
    - Staying physically active as advised by medical practitioner
    - Strict medication adherence [80]
    - Taking care of health (e.g., getting at least 7h or more per day of sleep, eating a healthy diet, learning ways to manage stress and staying physically active as advised by medical practitioner)
    - Understanding risk of having another stroke and any necessary life-style modification(s) (e.g., maintaining a healthy weight and blood pressure, quitting smoking, and for ischemic stroke healthy eating to control blood sugar and cholesterol level)
    - Understanding risk of falling and changes necessary to maintain a safe living environment if indicated
    - Understanding common problems associated with stroke (e.g., changes in behavior, difficulty doing tasks, memory, moving and doing ADLs, muscle spasms, swallowing, lack of sensation or awareness of one part of the body, thinking, talking, etc.) and any planned therapy services (e.g., physical, occupational or speech therapy)
    - When to call medical practitioner for new or worsening symptoms (e.g., loss of balance or coordination, personality changes, dizziness or lightheadedness, headache that will not go away after treatment, confusion, forgetfulness)
    - When to seek emergency care (e.g., weakness, numbness, drooping, or tingling of face, trouble seeing, severe headache, seizure, trouble thinking, trouble swallowing, trouble talking or understanding speech, feeling dizzy, weakness, numbness or tingling in arm or leg, trouble walking or moving arm or leg, loss of bladder or bowel control)
  - Discharge medications
    - Anticoagulant
    - Antihypertensive
    - Antiplatelet agent
- Assess social drivers of health (SDOH)
  - Adult [81]
    - Assess for alcohol or substance use
      - Care coordination with outpatient medical or behavioral health providers
      - Provide information about community resources and programs
      - Referral to addiction social support systems
    - Assess for domestic abuse, abuse of elderly, and vulnerable adults [82]
      - Provide information about legal and community resources
      - Create a long-term safety plan or make appropriate referral
      - Consider intensive home nursing interventions and psychosocial counseling interventions [83]
    - Assess need for end of life planning
      - Consider palliative care for patients with end stage disease
      - Consider hospice care for terminally ill patients with a life expectancy of less than 6 months [84]

- Assess for strained or limited financial resources
  - For income insecurity, identify income-support resources [85]
  - Consider direct income assistance benefits and indirect income assistance programs (i.e., programs that improve access to basic living necessities such as provision of food, daycare, and fuel or rent supplements)
  - Consider referral to Area Agencies on Aging (AAA) for information on nutrition and meals programs, home homemaking services, transportation resources
  - For food insecurity provide information about local food banks and Supplemental Nutrition Assistance Program (SNAP) incentive programs [86]
- Assess for functional or ADL impairment
  - Consider an alternate level of care
  - Assess the need for a capacity evaluation [87]
  - Provide information to patient and family about advance directive or power of attorney
- Assess for mental health co-morbidities
  - Arrange for appointment with primary care provider or behavioral health specialist upon discharge
  - Coordinate care with outpatient behavioral health providers
  - Provide information on community resources
- Assess risk for readmission
  - Consider home care services
  - Consider transfer to an alternative level of care or readmission reduction program [88]
  - Consider telehealth and mobile health interventions
  - Provide patient and family with information on disease management programs
  - For older individuals at risk for malnutrition consider dietitian evaluation, home-delivered meals, and other community resources [89]
- Assess risk for treatment non-adherence
  - For patients with poor insight into illness or non-adherence with treatment, introduce peer support groups to help improve service user experience and quality of life (National Institute for Health and Care Excellence (NICE) [90]
  - Consider in-home intervention to prevent medical relapse, or readmission, and to enhance medication adherence
  - For patients at risk of medication non-adherence, consider patient education and behavioral support initiatives such as text message reminders to take a medication and electronic medication dispensers
- Assess for environmental exposure to toxic substances and other physical hazards
  - For tobacco use and/or exposure, information should be given about tobacco-use cessation and the risk of second-hand smoke [91]
  - For lead poisoning, provide community resources for primary prevention and secondary prevention strategies including blood lead level testing and follow up [92]
- Assess for unstable living environment, housing vulnerability or potential for homelessness upon discharge [93]
  - Assist or provide health insurance application
  - Assist or provide homeless shelter application and provide information to patient
  - Consider referral to walk-in state or federally sponsored outpatient programs
  - Consider referral to local housing coordinator or case manager for immediate link to permanent supportive housing and coordinated access system [94]
  - For individuals with homelessness and the greatest service need (i.e., serious mental illness, history of hospitalizations, functional impairment) consider Intensive Case Management Intervention, Assertive Community Treatment, or other Intensive Community-Based Treatment services [95]
- Assess for unsafe home environment
  - If home environment is unsafe, consider a skilled nursing facility (SNF)
  - For patients at risk for falls, provide information on community-based fall prevention programs through the National Council on Aging
- Pediatric [96]

- Assess for alcohol or substance use
  - Coordinate care with outpatient primary care or behavioral health providers
  - Refer to addiction social support systems
  - Provide information about community resources and programs for family-centered treatment (e.g., intensive case management, detox, outpatient, residential treatment, day treatment, and medication assisted treatment)
  - Provide information about home visitation programs (e.g., Parent-Child Assistance Program (PCAP) for pregnant and parenting individual with substance use disorders aftercare) [97]
  - Provide information about Cognitive Behavioral Therapy (CBT) Multidimensional Family Therapy (MDFT) and/or Pharmacotherapy for youth with co-occurring emotional/mental disorders [98]
- Assess for child maltreatment or abuse (e.g., sexual and/or psychological abuse)
  - Arrange for alternative housing situation, foster care, or shelter if home environment is unsafe
  - Assist with creating a long-term safety plan or make appropriate referral
  - Refer to child protective services (CPS) and other domestic violence services
  - Refer for psychosocial support
  - Provide community resources and legal information
  - Provide information on parent training programs such as the Nurse Family Partnership Program (NFP) [99]
- Assess need for end of life planning, palliative care, or hospice services
  - Consider palliative care for children with end stage disease
  - Consider hospice care for terminally ill children with a life expectancy of less than 6 months
- Assess for environmental exposure to toxic substances and other physical hazards
  - For lead poisoning provide community resources for primary prevention and secondary prevention strategies (e.g., blood lead level testing and follow up [92]
  - For tobacco use (e.g., cigarettes, E-cigarettes, vaping) provide education and/or brief counseling about tobacco use cessation and the risk of second-hand smoke [91]
- Assess for infants and children with special health care needs
  - Provide anticipatory guidance and education to caregivers regarding medical condition and expected progress after discharge over the next few days, months, or years, as appropriate [100]
  - Consider referral for follow-up care to neonatologist or other medical subspecialist for infants or children with ongoing and/or chronic medical issues, (e.g., bronchopulmonary dysplasia or feeding dysfunction) [101]
  - Initiate referral for adaptive or assistive medical equipment and equipment for technology-dependent children (e.g., home oxygen, ventilators, monitors, or tube feeding) [101]
  - Consider referral for neurodevelopmental assessment for high-risk infants
  - Consider referral to post-discharge follow-up programs [102]
  - Consider referral for behavioral support and/or counseling for caregivers through therapy groups, telephone support, and/or peer support groups for caregivers of children with similar health needs [103]
  - Consider referral to lactation consultant in the hospital and home visits for infants at risk for poor lactation or suboptimal infant breast-feeding behavior [104]
  - Consider referral for respite services
- Assess for strained or limited financial resources
  - For food insecurity provide information about local food banks and special nutrition programs (e.g., Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), U.S. Department of Agriculture Summer Food Service [86]
  - For income insecurity identify income resources and refer to direct and/or indirect income assistance programs (e.g., programs that improve access to basic living necessities such as provision of food, daycare, and fuel or rent supplements)
- Assess for mental health co-morbidities
  - Arrange appointment with primary care provider or behavioral health specialist upon discharge
  - Coordinate care with outpatient behavioral health providers
  - Provide information about suicide prevention, including the National Suicide Prevention hotline [105]
  - Consider referral for psychiatric services for suicide risk screening and intervention [105]

- – Consider referral to school-based mental health interventions [106]
- – Provide information about Intensive Community-based treatment (e.g., Functional Family Therapy, Intensive Child and Adolescent and Psychiatric Services, Multidimensional Family Therapy, and Intensive Case Management)
- – Consider referral to day treatment program, residential addiction services, or partial hospitalization

⊖ Assess risk for treatment non-adherence
- – Provide information about educational and behavioral support initiatives for children at risk of medication non-adherence and their caregivers [107]
- – Provide information about peer support groups for children and/or families with poor insight into illness or non-adherence with treatment [108]
- – Consider home care services or community resources to prevent medical relapse, or readmission, and to enhance medication adherence

⊖ Assess risk for readmission
- – Consider transfer to an alternative level of care such as subacute care
- – Consider home care services
- – Consider early childhood home visiting programs (e.g., Early Head Start; Early On; Nurse Family Partnership; and the Maternal, Infant, and Early Childhood Home Visiting Program) [102]
- – Consider telehealth and web-based training programs (e.g., telepsychiatry or telebehavioral health and mobile health interventions) [109]
- – Consider intensive in-home behavioral health service
- – Provide patient and family with condition-specific information including appropriate planning for prevention of RSV infection and appropriate immunizations if appropriate

⊖ Assess for special health risk behaviors in adolescence and young adulthood
- – Arrange follow-up appointment with primary care provider and/or specialists upon discharge
- – Coordinate care with outpatient behavioral health providers
- – Provide information on mentoring programs, (e.g., Big Brothers Big Sisters of America)
- – Consider referral for Intensive Community-Based treatment for adolescents with comorbid behavioral health issues
- – Provide community resources for teen pregnancy prevention and family planning (use of birth control, subsequent pregnancies) [110]

⊖ For eating disorders
- – Provide information on nutrition services including education and resources for diet management, physical activity, and promotion of healthy eating attitudes and behaviors [111]
- – Provide information on outpatient psychosocial interventions and Family-Based Treatment [112]
- – Refer to an intensive weight management program that includes culturally tailored interventions [113]

⊖ Provide parenting resources
- – Provide information on Family Resource Centers and Parenting support groups for young, first-time parents, (e.g., National parent help line) [114]
- – Provide information on community resources to improve parenting skills (face-to-face or by telephone) [115]

⊖ Assess for unstable living environment, housing vulnerability or potential for homelessness upon discharge [93]
- – Assist or provide health insurance application
- – Assist or provide homeless shelter application to caregivers
- – Consider referral to local housing coordinator or case manager for immediate access to permanent supportive housing and coordinated access system [94]
- – Consider referral to walk-in state or federally sponsored outpatient programs
- – Consider referral to Intensive Case Management Intervention, Assertive Community Treatment, or other Intensive Community Treatment services [116]

⊖ Plan for follow-up care [117, 118]

⊖ Assist or arrange follow-up care or testing
- – Solicit input from patient or caregiver about convenient dates, times, and places

- Coordinate appointments with practitioners, testing sites, and other service areas
- Discuss reason for, and importance of, follow-up care

⊖ Organize post discharge services and medical supplies or equipment
- Ensure patient or caregiver understands the importance of services
- Discuss what to expect with each service

- Clarify any questions about medical care and follow-up
- Refer patient to a medical home, disease management program, or case management program, if appropriate and available [67, 68]
- Enroll patient in call back program, if available [66]

⊖ Review discharge instructions [119]
- Identify any pending in-hospital tests or studies and determine who will follow-up with them [120]
- Educate patient or caregiver about relevant diagnoses [121]
- Review contact information for medical practitioner, specialty care, services, and outpatient testing
- Provide a written list of scheduled appointments and tests
- Assess understanding of plan by asking patient to explain it in his or her own words (may require discussion with caregiver) [122, 123]

⊖ Medication reconciliation [46]

⊖ Provide list and discuss
- How and when medications should be taken
- Reasons for medications
- Common side effects
- Changes to previously prescribed medications

- Review of over-the-counter (OTC) medications, supplements, and herbal remedies
- Assess for potential drug interactions or drug allergies
- Assess the risks and benefits of opiate therapy for acute/chronic pain management, following recommendations for initiation, continuation, and follow-up management of opioid therapy [124]

⊖ Address potential reasons for non-adherence [125]
- Does the patient have a mechanism for filling prescriptions?
- Does the patient have the means to pay for medications?
- Are there community resources or discount programs available?
- Are there generic alternatives?

- Ensure prescriptions are provided or e-prescriptions sent
- Ensure patient or caregiver verbalizes understanding of regimen [122]

⊖ Assess understanding of when and where to seek help [122]
- What constitutes an emergency
- What to do in the case of an emergency
- When to contact medical practitioner
- Who to call on weekends or evenings

- Identify and address transportation needs
- Obtain discharge summary and ensure it is transmitted to medical practitioner prior to the first follow-up visit [126, 127]

⊖ **HOME CARE**

⊖ **Identify if home setting is appropriate**

⊖ Assess for impairments that may impact self-care
- Functional
- Cognitive
- Visual
- Hearing
- Speech
- Language

- Assess level of independence or if there is a willing and able caregiver
- Assess need for skilled home care services for assessment, treatment, monitoring, or education

⊖ **Arrange home care services** [128]

- Set expectation that home care services are temporary while skilled need exists
- Discuss reason for, and importance of, home health services

Complete prior to discharge

Condition specific discharge information

Acute Coronary Syndrome (ACS)

Follow-up appointments

- Primary medical practitioner
- Cardiologist

Referrals and consults

- Community-based or inpatient cardiac rehabilitation program
- Nutritional counseling for diet modification (e.g., low sodium, low fat)
- Palliative care or end of life support for advanced heart disease
- Smoking cessation counseling

Patient Education

- Influenza, pneumococcal, pertussis, and COVID-19 vaccinations
- Medication adherence [60]
- Physical activity [61]
- Proper wound care, if post surgery (e.g., keeping wound clean, dressing wound and washing of hands when changing dressings) and notifying medical practitioner for signs of infections (e.g., wound area is more red or painful or warm to touch, blood, pus, or other fluid coming from the wound area, presence of fever, chills or muscle aches)
- Recognizing acute cardiac symptoms and appropriate actions [62]
- Recognizing signs of depression and seeking emotional support [63]
- Secondary prevention methods [64, 65]

Discharge medications

- Ace inhibitor
- Anticoagulant
- Antihypertensive
- Beta blocker
- Statin

Acute kidney failure

Follow-up appointments

- Primary medical practitioner
- Nephrologist

Referrals and consults

- Nutrition consult
- Smoking cessation counseling

Patient Education

- Avoidance of nephrotoxins and adherence to treatment for conditions that contributed to kidney disease (e.g., hypertension, heart disease, high blood sugar)
- Elimination or reduction of alcohol intake, if indicated
- Following specific diet recommendations (including fluid intake) as instructed by medical practitioner
- Influenza, pneumococcal, pertussis, and COVID-19 vaccinations
- Limiting over the counter medications containing sodium bicarbonate or sodium carbonate (e.g., laxatives, stomach medicine) and avoiding overuse of nonsteroidal anti-inflammatory drugs
- Medication adherence
- Monitoring sodium intake, if indicated
- Strict medication adherence
- Taking care of health (e.g., getting at least 7h or more per day of sleep, eating a healthy diet, learning ways to manage stress and staying physically active as advised by medical practitioner)
- Recognizing risk factors for developing chronic kidney failure and appropriate actions for follow up care (e.g., kidney function tests)
- When to call medical practitioner when symptoms return or when blood sugar or blood pressure

level is not within range recommended by medical practitioner
- When to seek emergency care (e.g., sudden chest pain, trouble breathing)

- Discharge medications
  - Aldosterone Antagonists
  - Anti-hypertensive
  - Calcimimetics
  - Diuretics
  - Erythropoiesis-stimulating agent
  - Phosphate binders

- Alcohol Dependence
  - Follow-up appointments
    - Primary medical practitioner
    - Behavioral health practitioners
  - Referrals and consults
    - Consider palliative care or end of life support for advanced condition
    - Community support programs (e.g., Alcoholics Anonymous, Narcotics Anonymous)
    - Individual, group, or family counseling
    - Medication-assisted treatment
    - Sober living facility or transitional housing
    - Smoking cessation counseling
  - Patient Education
    - Activity restrictions (e.g., not driving or operating machinery) as recommended by medical practitioner or pharmacist, especially when taking sedatives
    - Alcohol use disorder, dependence, and withdrawal symptoms
    - Avoidance of tobacco, excessive alcohol, and illicit drug use
    - Influenza, pneumococcal, pertussis, and COVID-19 vaccinations
    - Community based resources and treatment options (e.g., medication management, cognitive behavioral therapy, motivational enhancement therapy, peer recovery coaching, twelve step meetings like Alcoholics Anonymous (AA) or Narcotics Anonymous (NA), non-twelve step support group meetings, or peer-to-peer guidance, sober living facility, transitional housing, residential treatment, SAMHSAs National Helpline))
    - Medication adherence
    - Alcohol use disorder, dependence, and withdrawal symptoms
    - Recognizing signs of depression or anxiety and seeking emotional support
    - Taking care of health (e.g., getting at least 7h or more per day of sleep, eating a healthy diet, learning ways to manage stress and staying physically active as advised by medical practitioner)
    - When to call medical practitioner for new or worsening symptoms (e.g., severe shakiness, hallucinations, confusion, extreme drowsiness, increasing upper abdominal pain, uncontrolled vomiting)
    - When to seek emergency care (e.g., convulsion, difficulty breathing, chest pain, fast heart beat, heavy bleeding or vomiting blood, very drowsy or trouble awakening, fainting or loss of consciousness, thinking about hurting yourself or someone)
  - Discharge medications
    - Acamprosate
    - Antiadrenergic agents
    - Anticonvulsants
    - Antidepressants
    - Antipsychotics
    - Benzodiazepines (Diazepam, Lorazepam)
    - Disulfiram
    - Opioid antagonists (Naltrexone)

- Arrhythmia, atrial
  - Follow-up appointments
    - Primary medical practitioner

- Cardiologist
- Referrals and consults
  - Smoking cessation counseling
- Patient Education
  - Avoidance of tobacco, excessive alcohol, and illicit drug use
  - Managing ICD or pacemaker, if indicated (e.g., following precautions such as using caution with security devices, avoiding magnetic resonance image (MRI) scans, taking antibiotics before dental or surgical procedures, avoiding certain activities)
  - Influenza, pneumococcal, pertussis, and COVID-19 vaccinations
  - Limiting intake of coffee, tea, cola, and over the counter meds with caffeine
  - Managing blood thinner medication, if indicated (blood tests to monitor drug level, preventing cuts, notifying medical practitioner for bleeding or bruising)
  - Strict medication adherence
  - Taking care of health (e.g., getting at least 7h or more per day of sleep, eating a healthy diet, learning ways to manage stress and staying physically active as advised by medical practitioner)
  - Taking pulse and keeping record
  - When to call medical practitioner for new or worsening symptoms (e.g., heart is beating too fast or slow, skipping beats or heart rate is more than 110 beats per minute, numbness in arm or hand on the same side if ICD/pacemaker inserted, signs of infection at surgical wound if indicated)
  - When to seek emergency care (e.g., chest pain or discomfort in back, neck, jaw, stomach, or arm, shortness of breath, lightheadedness or a sudden cold sweat, feeling very tired, faint, or sick to your stomach, nausea, vomiting)
- Discharge medications
  - Antiarrhythmic
  - Anticoagulant
  - Antiplatelet
  - Digoxin

- Cellulitis
  - Follow-up appointments
    - Primary medical practitioner
    - Wound care Specialist
  - Referrals and consults
    - Home care for ongoing skilled needs
    - Smoking cessation counseling
  - Patient Education
    - Activity restrictions (e.g., not driving or operating machinery) as recommended by medical practitioner or pharmacist, especially when taking pain medicines or muscle relaxants
    - Care of the affected extremity (e.g., keeping the infected area clean, raising the infected area above the level of the heart to help decrease swelling)
    - Influenza, pneumococcal, pertussis, and COVID-19 vaccinations
    - Recognizing factors or conditions that increase risk for infection and worsening symptoms (e.g., prolonged immobility, malnutrition, etc.)
    - Smoking cessation, if indicated
    - Strict medication adherence
    - Taking care of health (e.g., getting at least 7h or more per day of sleep, eating a healthy diet, learning ways to manage stress and staying physically active as advised by medical practitioner)
    - When to call medical practitioner for new or worsening symptoms (vomiting, shaking chills, fever, difficulty or pain when moving joints above or below the infected area, increased redness, swelling, or drainage of pus from the infected area)
  - Discharge medications
    - Analgesic
    - Anti-infective
- COPD
  - Follow-up appointments

- Primary medical practitioner
- Pulmonologist

⊖ Referrals and consults
- Enroll patient in call back program, if available [66]
- Palliative care or end of life support for advanced COPD
- Pulmonary rehab program
- Refer patient to a medical home, disease management program, or case management program, if appropriate and available [67, 68]
- Nutritional counseling or supplementation, if severely overweight or malnourished
- Smoking cessation counseling

⊖ Patient Education
- Avoidance of air pollutants, including a smoking cessation program, if indicated [69]
- Adherence with follow-up COPD care [70, 71]
- Correct use of inhalers [72]
- Energy conservation and breathing exercises
- Following instructions for oxygen therapy, if appropriate for chronic respiratory failure
- Influenza, pneumococcal, pertussis, and COVID-19 vaccinations [73]
- Medication adherence [74]
- Pulmonary rehabilitation [75]
- Recognizing signs of depression or anxiety and seeking emotional support from medical practitioner and community resources (e.g., Better Breathing Support Groups)
- Taking care of health (e.g., getting at least 7h or more per day of sleep, eating a healthy diet, learning ways to manage stress and staying physically active as advised by medical practitioner)
- When to call medical practitioner for new or worsening symptoms (e.g., chest pain when taking breaths, fever higher than 101.5 F (38.6 C), coughing up thick or blood-stained mucus, increased shortness of breath)
- When to seek emergency care (e.g., trouble talking or walking because of shortness of breath, bluish or gray colored lips or fingernails, trouble breathing that does not get easier with medicine, fast breathing or trouble catching breath, feeling like you are going to die, chest discomfort (pressure, fullness, squeezing or pain) that lasts more than a few minutes or goes away and comes back or chest discomfort that goes to your arms, neck, jaw or back)

⊖ Discharge medications
- Anticholinergics
- Beta-Agonists
- Inhaled glucocorticosteroids
- Mucolytic Agents
- Oral glucocorticosteroids (prednisone methylprednisone)
- Phosphodiesterase -4 Inhibitors

⊖ COVID-19

⊖ Follow-up appointments
- Primary medical practitioner
- Infectious disease specialist
- Pulmonologist

⊖ Referrals and consults
- Consider palliative care or end of life support for advanced illness
- Medical home or home care for ongoing skilled needs
- Nutritional counseling or supplementation, if severely overweight or malnourished
- Smoking cessation counseling

⊖ Patient Education
- Breathing exercises (e.g., incentive spirometry, rhythmic inhalation, coughing)
- Influenza, pneumococcal, pertussis, and COVID-19 vaccinations [76]
- Limiting alcohol intake and drinking liquids as directed
- Following instructions for oxygen therapy if appropriate for chronic respiratory failure
- Following medical practitioner recommendations for transmission-based precautions (self-

isolating in home and limiting contact with others to avoid spreading the virus) and when self-isolation can be eliminated depending upon symptoms, immune status and repeated testing
- Knowledge of lingering COVID-19 symptoms (loss of taste and smell, nausea, or tiredness)
- Medication adherence
- Prevention measures, if immunocompromised (e.g., wearing a mask, staying 6ft apart from others outside not in living area, avoidance of crowds and poorly ventilated indoor spaces)
- Recognizing signs of depression or anxiety and seeking emotional support
- Smoking cessation program, if indicated [77]
- Taking care of health (e.g., getting at least 7h or more per day of sleep, eating a healthy diet, learning ways to manage stress and staying physically active as advised by medical practitioner)
- When to seek emergency care (e.g., difficulty in breathing, chest pressure or pain, confusion, seizures, weakness or numbness of face or limbs, bluish lips or face, swelling of face or arms, fever)

⊖ Discharge medications
- Analgesic
- Anti-infective or anti-viral or anti-fungal

⊖ Gastrointestinal bleeding
⊖ Follow-up appointments
- Primary medical practitioner
- Gastroenterologist

⊖ Referrals and consults
- Home care for ongoing skilled needs
- Smoking cessation counseling

⊖ Patient Education
- Anticoagulation management, if indicated
- Avoidance of foods that may cause gastrointestinal irritation
- Avoidance or caution when using nonsteroidal anti-inflammatory medications or aspirin
- Elimination or reduction of alcohol intake if indicated
- Influenza, pneumococcal, pertussis, and COVID-19 vaccinations
- Medication adherence
- Smoking cessation program, if indicated [77]
- Taking care of health (e.g., getting at least 7h or more per day of sleep, eating a healthy diet, learning ways to manage stress and staying physically active as advised by medical practitioner)
- When to seek emergency medical care (e.g., bright red blood in vomit that looks like coffee grounds, bowel movement with bright red blood, fainting)

⊖ Discharge medications
- Analgesic
- Anticoagulant

⊖ Heart failure
⊖ Follow-up appointments
- Primary medical practitioner
- Cardiologist

⊖ Referrals and consults
- Cardiac rehab program
- Enroll patient in call back program, if available [66]
- Nutritional counseling for diet modification (e.g., low sodium, low fat)
- Palliative care or end of life support for advanced heart failure
- Refer patient to a medical home, disease management program, or case management program, if appropriate and available [67, 68]
- Smoking cessation counseling

⊖ Patient Education
- Avoidance of tobacco, excessive alcohol, illicit drug, and nonsteroidal anti-inflammatory drug (NSAID) use
- Energy conservation and breathing exercises

- Fluid restriction, if ordered
- Following instructions for oxygen therapy if appropriate for chronic respiratory failure
- Following specific diet recommendations and maintaining a specific body weight
- Influenza, pneumococcal, pertussis, and COVID-19 vaccinations
- Maintaining blood pressure within target range
- Limiting salt (sodium) intake
- Following medical practitioner recommendations for exercise and recognizing activities such as walking or gardening may be helpful
- Knowledge of self-management and written action plan that identifies HF triggers and management of worsening symptoms (e.g., diuretic regimen, fluid restriction for volume overload)
- Performing daily weights and reporting a gain of > 2 lbs/day to medical practitioner
- Recognizing signs of depression or anxiety and seeking emotional support from medical practitioner and community resources (e.g., Together in HF from the American Association of HF Nurses, American Heart Association, and the American Heart Failure Society of America
- Strict medication adherence
- Taking care of health (e.g., getting at least 7h or more per day of sleep, eating a healthy diet, learning ways to manage stress and staying physically active as advised by medical practitioner)
- When to call medical practitioner for new or worsening symptoms (sudden weight gain of more than 2 pounds in 1 day or 5 pounds in 1 week, or weight gain parameters from medical practitioner, trouble breathing at rest, new or increased swelling of your legs or ankles, swelling or pain in your abdomen, breathing trouble at night, frequent coughing that doesn't go away)
- When to seek emergency care (e.g. severe shortness of breath, severe chest pain that does not resolve with rest or nitroglycerine, pink, foamy mucus with cough and shortness of breath, rapid or irregular heartbeat, passing out or fainting, etc.)

⛔ Discharge medications
- Aldosterone Antagonists
- Angiotensin-Converting Enzyme (ACE)
- Angiotensin II Receptor Blockers (or Inhibitors)
- Angiotensin-Receptor Neprilysin Inhibitors (ARNIs)
- Beta Blockers
- Diuretics
- Hydralazine and isosorbide dinitrate

⛔ Osteomyelitis

⛔ Follow-up appointments
- Primary medical practitioner
- Orthopedic surgeon

⛔ Referrals and consults
- Home care for ongoing skilled needs
- Smoking cessation counseling

⛔ Patient Education
- Activity restrictions (e.g., not driving or operating machinery) as recommended by medical practitioner or pharmacist, especially when taking pain medicines or muscle relaxants
- Care of the affected extremity (e.g., keeping the area free from injury, use of a splint, sling, or brace as directed by medical practitioner)
- Influenza, pneumococcal, pertussis, and COVID-19 vaccinations
- Proper care of catheter site, if indicated (e.g., keeping site clean and dry, monitoring for infection)
- Proper wound care, if wound present (e.g., keeping wound clean, dressing wound and washing of hands when changing dressings, etc.)
- Recognizing factors or conditions that increase risk for infection and worsening symptoms (e.g., prolonged immobility, malnutrition, etc.)
- Smoking cessation, if indicated
- Strict medication adherence
- Taking care of health (e.g., getting at least 7h or more per day of sleep, eating a healthy diet, learning ways to manage stress and staying physically active as advised by medical practitioner)

- When to call medical practitioner for new or worsening symptoms (increasing pain, swelling, warmth, redness or drainage from the infected area, more pain around the infected area, fever)

- Discharge medications
  - Analgesic
  - Antifungal
  - Anti-infective

- Pneumonia
  - Follow-up appointments
    - Primary medical practitioner
    - Pulmonologist
  - Referrals and consults
    - Home care for patients with ongoing skilled needs
    - Consider palliative care or end of life support for advanced conditions contributing to pneumonia
    - Smoking cessation counseling
  - Patient Education
    - Breathing exercises (e.g., incentive spirometry, rhythmic inhalation and coughing)
    - Drinking liquids to stay hydrated to promote coughing up mucus (unless told to limit fluids)
    - Influenza, pneumococcal, pertussis and COVID-19 vaccinations [76]
    - Recognizing factors or conditions that increase risk for pneumonia or worsen symptoms (e.g., smoking and air pollution, upper respiratory infections, prolonged immobility, malnutrition, poor handwashing, etc) and
    - Following instructions for oxygen therapy, if appropriate for chronic respiratory failure
    - Medication adherence
    - Smoking cessation, if indicated [78]
    - Taking care of health (e.g., getting at least 7h or more per day of sleep, eating a healthy diet, learning ways to manage stress and staying physically active as advised by medical practitioner)
    - Use of a cool mist humidifier to increase air moisture
    - When to call medical practitioner for new or worsening symptoms (e.g., shortness of breath, chest pain when you take a breath, wheezing, coughing up mucus that is thick or blood-stained, fever higher than 101.5 F (38.6 C))
  - Discharge medications
    - Analgesic
    - Anti-infective, anti-viral, or anti-fungal
    - Inhaled glucocorticosteroids
    - Mucolytic Agents
    - Oral glucocorticosteroids

- Pyelonephritis or complex UTI
  - Follow-up appointments
    - Primary medical practitioner
    - Urologist
  - Referrals and consults
    - Home care for ongoing skilled needs
    - Smoking cessation counseling
  - Patient Education
    - Influenza, pneumococcal, pertussis and COVID-19 vaccinations
    - Knowledge of factors or conditions that increase risk for infection and worsen symptoms (e.g., prolonged immobility, malnutrition, etc.)
    - Limiting alcohol intake and drinking enough fluids to keep urine light yellow in color (unless told to limit fluids)
    - Medication adherence and completing full antibiotic course
    - Preventing future infection (keeping genial area clean, proper wiping of genital for woman, urinating frequently, practicing safe sex)
    - Proper care of indwelling catheters, if applicable (including clean procedures and when to replace)
    - Smoking cessation, if indicated

- Taking care of health (e.g., getting at least 7h or more per day of sleep, eating a healthy diet, learning ways to manage stress and staying physically active as advised by medical practitioner)
- When to call health care medical practitioner for new or worsening symptoms (fever, shaking chills, vomiting, urinating very little or not at all, blood in your urine, dark-colored or foul-smelling urine, side or back pain that gets worse)

⛔ Discharge medications
- Analgesic
- Anti-infective

⛔ Respiratory failure

⛔ Follow-up appointments
- Primary medical practitioner
- Pulmonologist

⛔ Referrals and consults
- Enroll patient in call back program, if available [66]
- Palliative care or end of life support for advanced lung disease
- Refer patient to a medical home, disease management program, or case management program, if appropriate and available [67, 68]
- Nutritional counseling or supplementation, if severely overweight or malnourished
- Smoking cessation counseling

⛔ Patient Education
- Avoidance of air pollutants, including a smoking cessation program, if indicated [69]
- Breathing exercises to manage shortness of breath (e.g., pursed-lip breathing)
- Following instructions for oxygen therapy, if appropriate for chronic respiratory failure
- Influenza, pneumococcal, pertussis, and COVID-19 vaccinations [73]
- Recognizing signs of depression or anxiety and seeking emotional support from medical practitioner and community resources (e.g., Better Breathing Support Groups)
- Taking care of health (e.g., getting at least 7h or more per day of sleep, eating a healthy diet, learning ways to manage stress and staying physically active as advised by medical practitioner)
- When to call medical practitioner for new or worsening symptoms (e.g., increased swelling in legs, feet or abdomen, wheezing, coughing up blood in sputum, fever)
- When to seek emergency care (e.g., difficulty breathing, shortness of breath, chest pain)

⛔ Discharge medications
- Anticholinergics
- Beta-Agonists
- Inhaled glucocorticosteroids
- Mucolytic Agents
- Oral glucocorticosteroids (prednisone methylprednisone)
- Phosphodiesterase -4 Inhibitors

⛔ Sepsis

⛔ Follow-up appointments
- Primary medical practitioner
- Infectious disease specialist
- Wound care specialist

⛔ Referrals and consults
- Home care for ongoing skilled needs
- Consider palliative care or end of life support for advanced conditions contributing to sepsis
- Smoking cessation counseling

⛔ Patient Education
- Influenza, pneumococcal, pertussis and COVID-19 vaccinations
- Knowledge of factors or conditions that increase risk for infection and worsen symptoms (e.g., prolonged immobility, malnutrition)
- Limiting alcohol intake and drinking enough fluids to keep urine light yellow in color, unless told to limit fluids
- Medication adherence

- Proper wound care, if wound present or post surgery (e.g., keeping wound clean, dressing wound and washing of hands when changing dressings, etc.)
- Smoking cessation, if indicated
- Staying physically active with exercise as instructed by medical practitioner
- Taking care of health (e.g., getting at least 7h or more per day of sleep, eating a healthy diet, learning ways to manage stress and staying physically active as advised by medical practitioner)
- Understanding Post Sepsis Syndrome and long-term effects of sepsis (e.g., insomnia, extreme fatigue, poor concentration, decreased mental or cognitive functioning, loss of self-esteem, nightmares, vivid hallucinations, panic attacks, disabling muscle and joint pain)
- When to call medical practitioner for new or worsening symptoms (chills, sweats, nausea or vomiting, fever higher than 101.5 F (38.6 C), body aches, fast heartbeat, dizziness when you stand up or fainting, confusion, redness, swelling, or drainage of pus from any wounds or from around area where an IV goes into skin)

⛔ Discharge medications
- Analgesic
- Anti-infective, anti-viral, or anti-fungal

⛔ Stroke

⛔ Follow-up appointments
- Primary medical practitioner
- Neurologist

⛔ Referrals and consults
- Home or community-based rehabilitation or inpatient rehabilitation program
- Palliative care or end of life support for advanced disease
- Smoking cessation counseling

⛔ Patient Education
- Achieving and maintaining a healthy weight
- Elimination or reduction of alcohol intake
- Influenza, pneumococcal, pertussis, and COVID-19 vaccinations
- Recognizing depression is common after stroke and seeking emotional support
- Smoking cessation and avoiding passive smoke [79]
- Staying physically active as advised by medical practitioner
- Strict medication adherence [80]
- Taking care of health (e.g., getting at least 7h or more per day of sleep, eating a healthy diet, learning ways to manage stress and staying physically active as advised by medical practitioner)
- Understanding risk of having another stroke and any necessary life-style modification(s) (e.g., maintaining a healthy weight and blood pressure, quitting smoking, and for ischemic stroke healthy eating to control blood sugar and cholesterol level)
- Understanding risk of falling and changes necessary to maintain a safe living environment if indicated
- Understanding common problems associated with stroke (e.g., changes in behavior, difficulty doing tasks, memory, moving and doing ADLs, muscle spasms, swallowing, lack of sensation or awareness of one part of the body, thinking, talking, etc.) and any planned therapy services (e.g., physical, occupational or speech therapy)
- When to call medical practitioner for new or worsening symptoms (e.g., loss of balance or coordination, personality changes, dizziness or lightheadedness, headache that will not go away after treatment, confusion, forgetfulness)
- When to seek emergency care (e.g., weakness, numbness, drooping, or tingling of face, trouble seeing, severe headache, seizure, trouble thinking, trouble swallowing, trouble talking or understanding speech, feeling dizzy, weakness, numbness or tingling in arm or leg, trouble walking or moving arm or leg, loss of bladder or bowel control)

⛔ Discharge medications
- Anticoagulant
- Antihypertensive
- Antiplatelet agent

⛔ Assess social drivers of health (SDOH)

- Adult [81]
  - Assess for alcohol or substance use
    - Care coordination with outpatient medical or behavioral health providers
    - Provide information about community resources and programs
    - Referral to addiction social support systems
  - Assess for domestic abuse, abuse of elderly, and vulnerable adults [82]
    - Provide information about legal and community resources
    - Create a long-term safety plan or make appropriate referral
    - Consider intensive home nursing interventions and psychosocial counseling interventions [83]
  - Assess need for end of life planning
    - Consider palliative care for patients with end stage disease
    - Consider hospice care for terminally ill patients with a life expectancy of less than 6 months [84]
  - Assess for strained or limited financial resources
    - For income insecurity, identify income-support resources [85]
    - Consider direct income assistance benefits and indirect income assistance programs (i.e., programs that improve access to basic living necessities such as provision of food, daycare, and fuel or rent supplements)
    - Consider referral to Area Agencies on Aging (AAA) for information on nutrition and meals programs, home homemaking services, transportation resources
    - For food insecurity provide information about local food banks and Supplemental Nutrition Assistance Program (SNAP) incentive programs [86]
  - Assess for functional or ADL impairment
    - Consider an alternate level of care
    - Assess the need for a capacity evaluation [87]
    - Provide information to patient and family about advance directive or power of attorney
  - Assess for mental health co-morbidities
    - Arrange for appointment with primary care provider or behavioral health specialist upon discharge
    - Coordinate care with outpatient behavioral health providers
    - Provide information on community resources
  - Assess risk for readmission
    - Consider home care services
    - Consider transfer to an alternative level of care or readmission reduction program [88]
    - Consider telehealth and mobile health interventions
    - Provide patient and family with information on disease management programs
    - For older individuals at risk for malnutrition consider dietitian evaluation, home-delivered meals, and other community resources [89]
  - Assess risk for treatment non-adherence
    - For patients with poor insight into illness or non-adherence with treatment, introduce peer support groups to help improve service user experience and quality of life (National Institute for Health and Care Excellence (NICE) [90]
    - Consider in-home intervention to prevent medical relapse, or readmission, and to enhance medication adherence
    - For patients at risk of medication non-adherence, consider patient education and behavioral support initiatives such as text message reminders to take a medication and electronic medication dispensers
  - Assess for environmental exposure to toxic substances and other physical hazards
    - For tobacco use and/or exposure, information should be given about tobacco-use cessation and the risk of second-hand smoke [91]
    - For lead poisoning, provide community resources for primary prevention and secondary prevention strategies including blood lead level testing and follow up [92]
  - Assess for unstable living environment, housing vulnerability or potential for homelessness upon discharge [93]
    - Assist or provide health insurance application

- – Assist or provide homeless shelter application and provide information to patient
- – Consider referral to walk-in state or federally sponsored outpatient programs
- – Consider referral to local housing coordinator or case manager for immediate link to permanent supportive housing and coordinated access system [94]
- – For individuals with homelessness and the greatest service need (i.e., serious mental illness, history of hospitalizations, functional impairment) consider Intensive Case Management Intervention, Assertive Community Treatment, or other Intensive Community-Based Treatment services [95]

- Assess for unsafe home environment
  - – If home environment is unsafe, consider a skilled nursing facility (SNF)
  - – For patients at risk for falls, provide information on community-based fall prevention programs through the National Council on Aging

- Pediatric [96]
  - Assess for alcohol or substance use
    - – Coordinate care with outpatient primary care or behavioral health providers
    - – Refer to addiction social support systems
    - – Provide information about community resources and programs for family-centered treatment (e.g., intensive case management, detox, outpatient, residential treatment, day treatment, and medication assisted treatment)
    - – Provide information about home visitation programs (e.g., Parent child Assistance Program (PCAP) for pregnant and parenting women with substance use disorders aftercare) [97]
    - – Provide information about Cognitive Behavioral Therapy (CBT) Multidimensional Family Therapy (MDFT) and/or Pharmacotherapy for youth with co-occurring emotional/mental disorders [98]
  - Assess for child maltreatment or abuse (e.g., sexual and/or psychological abuse)
    - – Arrange for alternative housing situation, foster care, or shelter if home environment is unsafe
    - – Assist with creating a long-term safety plan or make appropriate referral
    - – Refer to child protective services (CPS) and other domestic violence services
    - – Refer for psychosocial support
    - – Provide community resources and legal information
    - – Provide information on parent training programs such as the Nurse Family Partnership Program (NFP) [99]
  - Assess need for end of life planning, palliative care, or hospice services
    - – Consider palliative care for children with end stage disease
    - – Consider hospice care for terminally ill children with a life expectancy of less than 6 months
  - Assess for environmental exposure to toxic substances and other physical hazards
    - – For lead poisoning provide community resources for primary prevention and secondary prevention strategies (e.g., blood lead level testing and follow up [92]
    - – For tobacco use (e.g., cigarettes, E-cigarettes, vaping) provide education and/or brief counseling about tobacco use cessation and the risk of second-hand smoke [91]
  - Assess for infants and children with special health care needs
    - – Provide anticipatory guidance and education to caregivers regarding medical condition and expected progress after discharge over the next few days, months, or years, as appropriate [100]
    - – Consider referral for follow-up care to neonatologist or other medical subspecialist for infants or children with ongoing and/or chronic medical issues, (e.g., bronchopulmonary dysplasia or feeding dysfunction) [101]
    - – Initiate referral for adaptive or assistive medical equipment and equipment for technology-dependent children (e.g., home oxygen, ventilators, monitors, or tube feeding) [101]
    - – Consider referral for neurodevelopmental assessment for high-risk infants
    - – Consider referral to post-discharge follow-up programs [102]
    - – Consider referral for behavioral support and/or counseling for caregivers through therapy groups, telephone support, and/or peer support groups for caregivers of children with similar health needs [103]
    - – Consider referral to lactation consultant in the hospital and home visits for infants at risk for poor lactation or suboptimal infant breast-feeding behavior [104]
    - – Consider referral for respite services

- Assess for strained or limited financial resources
  - For food insecurity provide information about local food banks and special nutrition programs (e.g., Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), U.S. Department of Agriculture Summer Food Service [86]
  - For income insecurity identify income resources and refer to direct and/or indirect income assistance programs (e.g., programs that improve access to basic living necessities such as provision of food, daycare, and fuel or rent supplements)
- Assess for mental health co-morbidities
  - Arrange appointment with primary care provider or behavioral health specialist upon discharge
  - Coordinate care with outpatient behavioral health providers
  - Provide information about suicide prevention, including the National Suicide Prevention hotline [105]
  - Consider referral for psychiatric services for suicide risk screening and intervention [105]
  - Consider referral to school-based mental health interventions [106]
  - Provide information about Intensive Community-based treatment (e.g., Functional Family Therapy, Intensive Child and Adolescent and Psychiatric Services, Multidimensional Family Therapy, and Intensive Case Management)
  - Consider referral to day treatment program, residential addiction services, or partial hospitalization
- Assess risk for treatment non-adherence
  - Provide information about educational and behavioral support initiatives for children at risk of medication non-adherence and their caregivers [107]
  - Provide information about peer support groups for children and/or families with poor insight into illness or non-adherence with treatment [108]
  - Consider home care services or community resources to prevent medical relapse, or readmission, and to enhance medication adherence
- Assess risk for readmission
  - Consider transfer to an alternative level of care such as subacute care
  - Consider home care services
  - Consider early childhood home visiting programs (e.g., Early Head Start; Early On; Nurse Family Partnership; and the Maternal, Infant, and Early Childhood Home Visiting Program) [102]
  - Consider telehealth and web-based training programs (e.g., telepsychiatry or telebehavioral health and mobile health interventions) [109]
  - Consider intensive in-home behavioral health service
  - Provide patient and family with condition-specific information including appropriate planning for prevention of RSV infection and appropriate immunizations if appropriate
- Assess for special health risk behaviors in adolescence and young adulthood
  - Arrange follow-up appointment with primary care provider and/or specialists upon discharge
  - Coordinate care with outpatient behavioral health providers
  - Provide information on mentoring programs, (e.g., Big Brothers Big Sisters of America)
  - Consider referral for Intensive Community-Based treatment for adolescents with comorbid behavioral health issues
  - Provide community resources for teen pregnancy prevention and family planning (use of birth control, subsequent pregnancies) [110]
  - For eating disorders
    - Provide information on nutrition services including education and resources for diet management, physical activity, and promotion of healthy eating attitudes and behaviors [111]
    - Provide information on outpatient psychosocial interventions and Family-Based Treatment [112]
    - Refer to an intensive weight management program that includes culturally tailored interventions [113]
  - Provide parenting resources
    - Provide information on Family Resource Centers and Parenting support groups for young, first-time parents, (e.g., National parent help line) [114]
    - Provide information on community resources to improve parenting skills (face-to-face or by telephone) [115]

- ⛔ Assess for unstable living environment, housing vulnerability or potential for homelessness upon discharge [93]
  - – Assist or provide health insurance application
  - – Assist or provide homeless shelter application to caregivers
  - – Consider referral to local housing coordinator or case manager for immediate access to permanent supportive housing and coordinated access system [94]
  - – Consider referral to walk-in state or federally sponsored outpatient programs
  - – Consider referral to Intensive Case Management Intervention, Assertive Community Treatment, or other Intensive Community Treatment services [116]
- ⛔ Plan for follow-up care [117, 118]
  - ⛔ Assist or arrange follow-up care or testing
    - – Solicit input from patient or caregiver about convenient dates, times, and places
    - – Coordinate appointments with practitioners, testing sites, and other service areas
  - ⛔ Organize post discharge services and medical supplies or equipment
    - – Ensure patient or caregiver understands the importance of services
    - – Discuss what to expect with each service
  - – Clarify any questions about medical care and follow-up
  - – Refer patient to a medical home, disease management program, or case management program, if appropriate and available [67, 68]
  - – Enroll patient in call back program, if available [66]
- ⛔ Review discharge instructions [119]
  - – Identify any pending in-hospital tests or studies and determine who will follow-up with them [120]
  - – Educate patient or caregiver about relevant diagnoses [121]
  - – Review contact information for medical practitioner, specialty care, services, and outpatient testing
  - – Provide a written list of scheduled appointments and tests
  - – Assess understanding of plan by asking patient to explain it in his or her own words (may require discussion with caregiver) [122, 123]
- ⛔ Medication reconciliation [46]
  - ⛔ Provide list and discuss
    - – How and when medications should be taken
    - – Reasons for medications
    - – Common side effects
    - – Changes to previously prescribed medications
  - – Review of over-the-counter (OTC) medications, supplements, and herbal remedies
  - – Assess for potential drug interactions or drug allergies
  - – Assess the risks and benefits of opiate therapy for acute/chronic pain management, following recommendations for initiation, continuation, and follow-up management of opioid therapy [124]
  - ⛔ Address potential reasons for non-adherence [125]
    - – Does the patient have a mechanism for filling prescriptions?
    - – Does the patient have the means to pay for medications?
    - – Are there community resources or discount programs available?
    - – Are there generic alternatives?
  - – Ensure prescriptions are provided or e-prescriptions sent
  - – Ensure patient or caregiver verbalizes understanding of regimen [122]
- ⛔ Assess understanding of when and where to seek help [122]
  - – What constitutes an emergency
  - – What to do in the case of an emergency
  - – When to contact medical practitioner
  - – Who to call on weekends or evenings
- – Identify and address transportation needs
- – Obtain and complete forms for home care agency
- ⛔ Obtain discharge summary [126]
  - – Transmit to agency

- Transmit to medical practitioner prior to the first follow-up visit [127]

- **SKILLED NURSING FACILITY (SNF)**
  - **Home setting inappropriate**
    - Outpatient or home care services unavailable or inappropriate due to clinical complexity
    - Patient or caregiver unable to manage care
      - Cognitive limitation
        - Communication deficit prevents learning care tasks
        - Memory deficit prevents managing care tasks
        - Perception or processing deficit
      - Physical limitation
        - Physically unable to render care (e.g., wound location, contractures, unable to lift patient, has obesity)
        - Lacks dexterity, motor strength, or skills required to manage care
      - Comorbidity prevents management of care (e.g., blindness, paralysis)
  - **Skilled service required for assessment, treatment, monitoring, or education**
    - Medical practitioner oversight at least 1 time per week
    - Nursing daily or skilled therapy 1-2h per day at least 5d per week
  - **SNF available**
    - Provide information to patient or caregiver
    - Review site information or visit site [129]
  - **Complete prior to facility transfer**
    - Medication reconciliation [46, 124]
    - Obtain and complete forms for facility
    - Obtain discharge summary [126]
      - Transmit to facility
      - Transmit to medical practitioner [127]
    - Arrange transportation
- **SUBACUTE CARE (SAC)**
  - **Lower level of care inappropriate**
    - Outpatient or home care services unavailable or inappropriate due to clinical complexity
    - Patient or caregiver unable to manage care:
      - Cognitive limitation
        - Communication deficit prevents learning care tasks
        - Memory deficit prevents managing care tasks
        - Perception or processing deficit
      - Physical limitation
        - Physically unable to render care (e.g., wound location, contractures, unable to lift patient, has obesity)
        - Lacks dexterity, motor strength, or skills required to manage care
      - Comorbidity prevents management of care (e.g., blindness, paralysis)
  - **Skilled service required for assessment, treatment, monitoring, or education**
    - Medical practitioner oversight at least 2 times per week
    - Nursing 4h or more per day or skilled therapy 2-3h per day at least 5d per week
  - **SAC facility available**
    - Provide information to patient or caregiver
    - Review site information or visit site [129]
  - **Complete prior to facility transfer**
    - Medication reconciliation [46, 124]
    - Obtain and complete forms for facility
    - Obtain discharge summary [126]
      - Transmit to facility
      - Transmit to medical practitioner [127]
    - Arrange transportation
- **LONG-TERM ACUTE CARE (LTAC)**
  - **Lower level of care inappropriate due to clinical complexity**

- **Skilled service required for assessment, treatment, monitoring, or education**
  - Medical practitioner assessment or intervention daily
  - Nursing at least 6.5h per day
- **LTAC facility available**
  - Provide information to patient or caregiver
  - Review site information or visit site [129]
- **Complete prior to facility transfer**
  - Medication reconciliation [46, 124]
  - Obtain and complete forms for facility
  - Obtain discharge summary [126]
    - Transmit to facility
    - Transmit to medical practitioner [127]
  - Arrange transportation

ACUTE REHABILITATION

- **Lower level of care inappropriate due to clinical complexity**
  - Requires comprehensive rehabilitation program 3h or more per day at least 5d per week
  - Rehabilitation medical practitioner assessment or oversight at least 3 times per week
  - Nursing for daily assessment, treatment, monitoring, or education
- **Acute rehab facility available**
  - Provide information to patient or caregiver
  - Review site information or visit site [129]
- **Complete prior to facility transfer**
  - Medication reconciliation [46, 124]
  - Obtain and complete forms for facility
  - Obtain discharge summary [126]
    - Transmit to facility
    - Transmit to medical practitioner [127]
  - Arrange transportation

Notes:

1:
Major depression can play a significant role in readmission of patients with advanced chronic diseases such as heart failure, chronic obstructive pulmonary disease, and coronary artery disease (post myocardial infarction) (Almagro et al., Respiration 2006; 73(3): 311-317; Parashar et al., Arch Intern Med 2006; 166(18): 2035-2043; Jiang et al., Arch Intern Med 2001; 161(15): 1849-1856). Depression affects almost one third of medical inpatients up to 30 days post-discharge, with depressed patients with short-term poor prognoses having a 73 percent risk for readmission within 30 days compared to patients without depressive symptoms and similar findings at 90 days (Pederson et al., J Hosp Med 2016, 11: 373-80). In 2013, mood disorders had an all-cause 30-day hospital readmission rate of 15.3 (Fingar, Trends in Hospital Readmissions for Four High-Volume Conditions, 2009-2013. HCUP Statistical Brief #196. 2015).

2:
Schizophrenia and other psychotic disorders have been ranked by the Agency for Healthcare Research and Quality (AHRQ) as having a high-volume rate of 22.7 for all-cause readmissions within 30 days (Fingar, Trends in Hospital Readmissions for Four High-Volume Conditions, 2009-2013. HCUP Statistical Brief #196. 2015).

3:
Reference: (Maestri et al., Psychopharmacol Bull 2018, 48: 8-15; Taipale et al., Schizophr Bull 2018, 44: 1381-7)

4:
Inadequate functional health literacy has been linked to increased use of emergency department services, a higher risk of hospitalization, rehospitalization, and higher overall health care costs (Kripalani et al., JAMA 2007; 297(8): 831-841). Independent of education level, patients with low health literacy are likely to struggle with reading comprehension of prescription bottles, appointment slips, self-care instructions, and health education brochures. Written materials in some hospitals are written at third or fourth grade reading level using the patient's native language. They include the reason for hospitalization, symptoms to watch out for, a plain language list of appointment follow-ups, and information related to medications (Boutwell, et al., AHRQ Designing and Delivering Whole-Person Transitional Care: The Hospital Guide to Reducing Medicaid Readmissions. September 2016). Similarly, patients with chronic diseases, who struggle with inadequate literacy, are less likely to know basic elements of how to care for their medical problems (Baker et al., Am J Public Health 2002; 92(8): 1278-1283; Mitchell et al., J Health Commun 2012, 17 Suppl 3: 325-38). Interventions that focus on increasing self-care competence demonstrate reduced readmission rates (Leppin et al., JAMA Intern Med 2014, 174: 1095-107).

5:
Of all Medicare patients discharged from the hospital with acute myocardial infarction, congestive heart failure, or pneumonia, Black patients had higher 30-day readmission rates than their White counterparts. It was further noted that the difference was related, in part, to higher readmission rates among hospitals that have a disproportionate Black patient population (Joynt et al., JAMA 2011, 305: 675-81). Racial disparity is an area that requires further research.

6:
From July 2012 to June 2015, the Centers for Medicare and Medicaid's national hospital compare for all-cause 30-day readmission rate for an acute myocardial infarction (AMI) was 16.8 (Centers for Medicare & Medicaid Services, Hospital Compare datasets. 2016). Patients who have had a myocardial infarction (MI) with comorbid chronic obstructive airway disease (COPD) are at a higher risk for rehospitalization during the post-MI period. They also report a poorer quality of life, decreased physical functioning, and have a greater prevalence of angina one year post-MI, compared to those patients who have had an MI and who do not have comorbid COPD (Salisbury et al., Am J Cardiol 2007; 99(5): 636-641).

7:
Reference: (Kini et al., Circ Cardiovasc Qual Outcomes 2018, 11: e004788; Martin et al., J Am Heart Assoc 2018, 7: e009339; Shah et al., Circ Heart Fail 2018, 11: e004310)

8:
Reference: (Kini et al., Circ Cardiovasc Qual Outcomes 2018, 11: e004788)

9:
Reference: (Martin et al., J Am Heart Assoc 2018, 7: e009339)

10:
Reference: (Nguyen et al., J Am Heart Assoc 2018, 7:; Shah et al., Circ Heart Fail 2018, 11: e004310; Mahmoud et al., J Am Heart Assoc 2018, 7:)

11:
Reference: (Nguyen et al., J Am Heart Assoc 2018, 7:)

12:
Reference: (Shah et al., Circ Heart Fail 2018, 11: e004310)

13:
Reference: (Smilowitz et al., Circulation 2018, 137: 2332-9; Shah et al., Circ Heart Fail 2018, 11: e004310; Mahmoud et al., J Am Heart Assoc 2018, 7:)

14:
The Centers for Medicare and Medicaid reports patients admitted with coronary artery bypass graft surgery (CABG) experienced a 30-day all-cause readmission rate of 14.4 from July 2012 to June 2015, with a 3.2 mortality rate in that same period (Centers for Medicare & Medicaid Services, Hospital Compare datasets. 2016). In patients deemed low risk for post coronary artery bypass graft mortality, the presence of diabetes, a length of stay longer than 5 days, or the need for blood product transfusions were associated with an increased risk for readmission (Sun et al., Heart Surg Forum 2008; 11(6): E327-332).

15:
Out of the four high-volume conditions (acute myocardial infarction, heart failure, chronic obstructive lung disease, and pneumonia), heart failure was ranked as the condition with the highest 30-day all-cause readmission from July 2012 to June 2015 by the Centers for Medicare and Medicaid. This condition had a readmission rate of 21.9, with a 12.1 mortality rate in this same period (Centers for Medicare & Medicaid Services, Hospital Compare datasets. 2016).

16:
Comprehensive discharge planning along with post discharge support may reduce readmission rates and improve health outcomes for patients with heart failure (HF). Post discharge support shown to be of benefit includes a single home visit, home visit with frequent follow-up phone calls, extended home services, and day hospital services (Phillips et al., JAMA 2004; 291(11): 1358-1367; Bueno et al., JAMA 2010, 303: 2141-7; Feltner et al., Ann Intern Med 2014, 160: 774-84). Additionally, in a study evaluating heart failure patients treated and released from the emergency department, outcomes improved for those patients receiving follow-up care within the first 30 days of discharge provided by both their primary care physician and a cardiologist. This was attributed to the use of diagnostic interventions and medication management as a result of physician collaboration (Lee et al., Circulation 2010, 122: 1806-14).

17:
For patients admitted with heart failure (HF), post discharge assessment is now considered an essential part of their aftercare plan with early follow-up. Initial studies have shown post discharge assessment is associated with lower rates of all-cause readmission (Metra et al., Circulation 2010, 122: 1782-5).

18:

Patients who are younger than age 65, at the time of initial heart failure hospitalization, are at higher risk for readmission (Aranda et al., Clin Cardiol 2009; 32(1): 47-52).

19:

Heart failure patients with a high pre-discharge BNP that has not decreased by more than 50 percent of the admission value are at a higher risk for readmission (Cournot et al., Am Heart J 2008; 155(6): 986-991; Logeart et al., J Am Coll Cardiol 2004; 43(4): 635-641).

20:

Patients with clinically stable heart failure, regardless of ejection fraction, are at higher risk for readmission after undergoing elective major noncardiac surgery (Hammill et al., Anesthesiology 2008; 108(4): 559-567; Xu-Cai et al., Mayo Clin Proc 2008; 83(3): 280-288).

21:

Worsening renal function is a change in serum creatinine greater than, or equal to 0.3 mg/dL from admission to discharge (Patel et al., Am Heart J 2010; 160(1): 132-138 e131).

22:

Reference: (Shah et al., Clin Cardiol 2018, 41: 916-23)

23:

Reference: (Al-Omary et al., Heart Lung Circ 2018, 27: 917-27; Sokoreli et al., Eur J Heart Fail 2018, 20: 689-96)

24:

Reference: (Chen et al., Medicine (Baltimore) 2018, 97: e9629)

25:

(Sokoreli et al., Eur J Heart Fail 2018, 20: 689-96)

26:

The Centers for Medicare and Medicaid reports patients admitted with chronic obstructive pulmonary disease (COPD) experienced a 30-day all-cause readmission rate of 20 from 2012 to 2015, with a mortality rate of 8 in that same time period (Centers for Medicare & Medicaid Services, Hospital Compare datasets. 2016). One out of five patients discharged with the diagnosis of COPD require rehospitalization within 30 days. Research shows early follow-up post-hospitalization by either the patient's primary care physician or pulmonologist can result in decreased emergency room visits and hospital readmission within 30 days of discharge (Shah et al., Chest 2016, 150: 916-26).

27:

Patients admitted with chronic obstructive pulmonary disease (COPD) within the past year are at an increased risk of readmission. Evidence demonstrates a marked increase in the risk of readmission with each new exacerbation requiring hospitalization. The first three months following a severe exacerbation is considered a high risk period for readmission(Echevarria et al., Thorax 2017, 72: 686-93) . Additional risk factors include hypercapnia (Pco_2 greater than 45.0 mmHg) at discharge, long-term oxygen therapy, oral corticosteroid use, and poor health-related quality of life, and lack of routine physical activity . Post discharge home care including disease education, telephone support, and rapid access to outpatient clinics may reduce readmission rates in COPD patients (Shah et al., Chest 2016, 150: 916-26).

28:

Health-related quality of life is a comprehensive measure of health status. Recommended measurement tools include the COPD Assessment Test (CAT) and the COPD Control Questionnaire (CCQ) (Global Initiative for Chronic Obstructive Lung Disease (GOLD). Global Strategy for the Diagnosis, Management and Prevention of COPD. 2025; Zhou et al., Respirology 2017, 22: 251-62).

29:
Reference: (Abdulai et al., Am J Respir Crit Care Med 2018, 197: 433-49; Ehsani et al., Int J Chron Obstruct Pulmon Dis 2019, 14: 39-49)

30:
Reference:(Spece et al., Ann Am Thorac Soc 2018, 15: 1033-8; Bottle et al., In: Factors associated with hospital emergency readmission and mortality rates in patients with heart failure or chronic obstructive pulmonary disease: a national observational study. 2018)

31:
Reference: (Singh et al., J Allergy Clin Immunol Pract 2019, 7: 279-85 e6)

32:
Reference: (Bottle et al., In: Factors associated with hospital emergency readmission and mortality rates in patients with heart failure or chronic obstructive pulmonary disease: a national observational study. 2018)

33:
Reference:(Criner et al., Chest 2018, 153: 1497-8)

34:
Reference: (Cerezo Lajas et al., Lung 2018, 196: 185-93)

35:
From July 2012 to June 2015, the Centers for Medicare and Medicaid's national hospital compare all-cause 30-day readmission rate for pneumonia was 17.1, with a 16.3 mortality rate (Centers for Medicare & Medicaid Services, Hospital Compare datasets. 2016). Pneumonia patients at highest risk for readmission include those who are age 65 or older, those who experience worsening of comorbidities during hospitalization, or have unstable vital signs at discharge. While these risk factors may have a poor predictive value, it is important to note that the majority of pneumonia readmissions are related to comorbid conditions rather than complications of pneumonia. Over 40 percent of readmissions occur within a week of initial discharge. The most frequently identified comorbidities associated with readmission include coronary artery disease, chronic obstructive pulmonary disease and neurological diseases (Jasti et al., Clin Infect Dis 2008; 46(4): 550-556). Careful attention to the clinical stability of patients with comorbid conditions at and following hospital discharge may decrease the frequency of readmission in these patients (Capelastegui et al., Chest 2009; 136(4): 1079-1085; Jasti et al., Clin Infect Dis 2008; 46(4): 550-556).

36:
The risk of readmission is increased in patients with pneumonia who experience in-hospital treatment failure and one or more instability factors. Treatment failure includes clinical deterioration represented by any of the following: hemodynamic instability, respiratory failure, required mechanical ventilation, or the appearance of new infectious foci. Instability factors include (Capelastegui et al., Chest 2009; 136(4): 1079-1085):

- Temperature > 99.5°F
- Systolic BP < 90 mmHg
- Respiratory rate > 24 breaths/min
- Heart rate > 100 beats/min
- Oxygen saturation < 90% (0.90)

37:
Reference: (Toledo et al., BMJ Open 2018, 8: e020243)

38:
In a large retrospective cohort study, one in three patients with sickle cell disease required hospital readmission within 30 days, a higher rate of readmission when compared with patients hospitalized with asthma, heart failure, pneumonia, and diabetes. Of patients readmitted within 30 days, two-thirds were readmitted within 14 days.

Readmission was most common among patients 18 to 30 years old. Prevention of re-hospitalization may require evaluation and intervention while hospitalized and access to high quality, comprehensive outpatient care in the community setting (Brousseau et al., JAMA 2010, 303: 1288-94).

39:

From July 2012 to June 2015, the Centers for Medicare and Medicaid's national hospital compare all-cause 30-day readmission rate for stroke was 12.5, with a 14.9 mortality rate in that same period (Centers for Medicare & Medicaid Services, Hospital Compare datasets. 2016). There is a high risk of early and long-term hospital readmissions following a transient ischemic attack (TIA) and acute ischemic stroke. Following a TIA/acute stroke, 17.4 percent of patients will require readmission within the first month, and 42.5 percent within the first year. Reasons for readmission include: recurrent stroke, infection, and coronary artery disease. Emphasizing interventions to prevent pneumonia such as influenza and pneumococcal vaccination and improving oral hygiene can improve long term outcomes in stroke patients (Zhong et al., Neurological Sciences 2016: 1-8; Bravata et al., Stroke 2007, 38: 1899-904).

40:

Reference: (Boehme et al., Stroke 2018, 49: 2999-3005)

41:

Reference: (Elgendy et al., JACC Cardiovasc Interv 2018, 11: 2414-24; Echouffo-Tcheugui et al., Eur Heart J 2018, 39: 2376-86; Jin et al., Int J Stroke 2018, 13: 576-84)

42:

Reference: (Hirayama et al., Int J Stroke 2018, 13: 717-24)

43:

From July 2012 to June 2015, the Centers for Medicare and Medicaid's national hospital database rate for all-cause readmissions after hospital discharges was 15.6 (Centers for Medicare & Medicaid Services, Hospital Compare datasets. 2016). Several factors present at hospital admission have been identified as increasing the risk of readmission: 5 or more chronic comorbid conditions, history of depression, and previous hospital admission within the last 30 days (Librero et al., J Clin Epidemiol 1999; 52(3): 171-179; Marcantonio et al., Am J Med 1999; 107(1): 13-17). To prevent or minimize readmissions, key activities may include (Boutwell, et al., AHRQ Designing and Delivering Whole-Person Transitional Care: The Hospital Guide to Reducing Medicaid Readmissions. September 2016):

- Identifying high risk populations based on data collection and analysis
- Approaching population's social and whole-person transitional needs
- Communicating post hospital discharge plans
- Connecting patients to post-acute services when applicable
- Providing real-time information to providers, service agencies, and insurers who will be receiving patients post-discharge
- Timely post discharge contact with patients

44:

Comorbidity and adverse drug reactions in patients greater than 60 years of age have been shown to increase the risk of readmission. Risk reduction may be achieved by careful and frequent monitoring of prescribed drugs in older adults with comorbidities (Zhang et al., BMJ 2009; 338: a2752).

45:

Thirty percent of hospital admissions in older patients are medication related. Patients taking multiple or high risk medications have been shown to benefit from medication reconciliation and transition planning. High risk medications include digoxin, diuretics, anticoagulants, sedatives, opioids, asthma or chronic obstructive pulmonary disease medications, angiotensin converting enzyme inhibitors, or angiotensin receptor blockers. Interventions, such as telephonic follow-up by a pharmacist within 2 to 4 days after discharge or warfarin genotyping, have been shown to decrease risk of readmission (Society of Hospital Medicine, Project BOOST. 2008 [cited Nov 2015]; Fick et al., Arch Intern Med 2003, 163: 2716-24; Epstein et al., J Am Coll Cardiol 2010, 55: 2804-12; Jack et al., Ann Intern Med

2009; 150(3): 178-187).

46:

A comprehensive medication reconciliation process can reduce the likelihood of medication errors, and improve consistency and communication throughout the continuum of care (Medication Reconciliation. Quality and Patient Safety Division. Commonwealth of Massachusetts; 2015). Patients with complex care needs frequently require care in different settings and may be more likely to experience medication problems at each care transition or "handoff" between practitioners (Pediatrics 2008; 122(5): 1119-1126; Coleman et al., Arch Intern Med 2005; 165(16): 1842-1847). When patients move from one setting to another, medication reconciliation ensures that an accurate list of medication is maintained and consistent with the plan of care. Medication reconciliation is a subject of the 2005 National Patient Safety Goals from The Joint Commission (Arora and Farnan, Med Clin North Am 2008; 92(2): 315-324, viii). Additionally, organizations such as the National Transitions of Care Coalition developed a resource document with pertinent elements that they recommend are addressed during the medication reconciliation process (National Transitions of Care Coalition Medication Reconciliation Elements. 2010). Focused attention should be made for those patients at high risk for medication errors (Medication Reconciliation. Quality and Patient Safety Division. Commonwealth of Massachusetts; 2015):

- Low health literacy
- Older patients
- Multiple co-morbidities
- Cognitive impairment due to delirium, medication, and acute illness
- Transfer from facility of the hospital system
- Lack of access to preadmission medication sources
- Provider concern regarding medication safety

47:

Hospitalized patients who are 75 years or older and have a previous hospital admission, comorbidity, functional disability, or prolonged length of stay may be at increased risk for readmission (Garcia-Perez et al., QJM 2011, 104: 639-51).

48:

Post surgical patients who are at high risk for readmission within 30 days include those with multiple medical comorbidities admitted 24 hours prior to surgery, those who develop post surgical complications, and those who undergo complex gastrointestinal procedures. Comorbidities such as diabetes, smoking, and immunosuppression increase the risk for delayed wound healing, surgical site infection, and other postoperative complications. Post surgical complications, such as blood transfusion within 72 hours after surgery may increase the risk of readmission. Patients who undergo complex gastrointestinal surgery (e.g., pancreatectomy, hepatectomy, or colectomy) requiring pre-operative with admission and having pre-operative length of stay longer than 24 hours are considered to be at high risk for readmission (Kassin et al., J Am Coll Surg 2012, 215: 322-30). For high risk surgeries, such as open thoracic aortic aneurysm repair, follow-up with a primary care provider within 30 days after discharge is associated with a reduced 30-day readmission rate (Brooke et al., JAMA Surg 2014, 149: 821-8).

49:

From July 2012 to June 2015, the Centers for Medicare and Medicaid's national hospital compare all-cause 30-day readmission rate for hip/knee replacement surgery was 4.6 (Centers for Medicare & Medicaid Services, Hospital Compare datasets. 2016).

50:

In 2012, the Centers for Medicare and Medicaid Services (CMS) finalized the initial phase of the Readmissions Reduction Program. The program will significantly reduce payments to hospitals with excessive readmissions for beneficiaries with the following admission diagnoses: acute myocardial infarction; acute exacerbation of chronic obstructive pulmonary disease; heart failure; pneumonia, including aspiration pneumonia and sepsis coded with pneumonia present on admission (but not including severe sepsis); and total hip or knee arthroplasty (Centers for Medicare & Medicaid Services. 42 CFR 412.150. 2025).

51:

Readmissions make up a substantial portion of admissions in the asthma population, with 15 to 30 percent of children with asthma readmitted within a year. This rate varies across hospitals, with racial/ethnic, economic, caregiver health literacy and education, and primary care access disparities contributing to this variation (Auger et al., J Pediatr 2015, 166: 101-8). Black patients, patients with public insurance, adolescents, patients with complex chronic conditions, and patients who have already been admitted within the previous year for asthma had higher rates of readmission to hospitals (Kenyon et al., J Pediatr 2014, 164: 300-5). For those patients with a history of asthma admission, risk of admission increases with each subsequent readmission (Bloomberg et al., Am J Respir Crit Care Med 2003; 167(8): 1068-1076). Interventions aimed at coaching and increasing health literacy have been shown to decrease the risk of readmission (Fisher et al., Arch Pediatr Adolesc Med 2009; 163(3): 225-232). An inpatient focus on medication adherence is key to preventing hospital readmissions (Auger et al., J Pediatr 2015, 166: 101-8).

52:

The following factors have been associated with an increased risk of readmission among children with sickle cell disease (Sobota et al., Pediatr Blood Cancer 2012, 58: 61-5; Sobota et al., Am J Hematol 2010, 85: 24-8; Frei-Jones et al., Pediatr Blood Cancer 2009; 52(4): 481-485; Strouse et al., Pediatr Blood Cancer 2008, 50: 1006-12):

- History of asthma
- Oxygen requirement during hospitalization and discharge less than 24 hours after transition to room air
- History of greater than 3 hospital admission within the previous 12 months
- Corticosteroid administration

As with many other chronic conditions, follow-up care within 30 days of discharge has been shown to reduce the risk of readmission (Brousseau et al., JAMA 2010, 303: 1288-94; Frei-Jones et al., Pediatr Blood Cancer 2009; 52(4): 481-485). In addition, institution of a standardized pain treatment plan is associated with reduced readmission rates (Sobota et al., Pediatr Blood Cancer 2012, 58: 61-5).

53:

Infants discharged from the neonatal intensive care unit with a history of bronchopulmonary dysplasia are at a higher risk of readmission (Smith et al., J Pediatr 2004; 144(6): 799-803).

54:

Extreme low birth weight infants are at high risk for rehospitalization during their first year of life (Ambalavanan et al., Pediatrics 2011, 128: e1216-25).

55:

Children with severe sepsis at an increased risk of readmission include those with the following (Czaja et al., Pediatrics 2009; 123(3): 849-857):

- Age less than 1 year old
- Neurologic or hematologic dysfunction during the admission
- Cardiovascular or bloodstream infections
- Certain comorbid conditions (e.g., oncologic, hematologic, and other congenital or chromosomal abnormalities)

56:

A length of stay greater than 14 days has been shown to increase risk of readmission in patients with congenital heart disease (Mackie et al., Am Heart J 2008; 155(3): 577-584).

57:

A study of 37 tertiary care pediatric hospitals in the United States indicates a small percentage of patients account for recurrent readmissions. As readmissions increased from 0 to 4 over a 365-day interval, the readmissions were for complex chronic conditions, (e.g., renal, cardiovascular, malignancy, congenital), as opposed to an ambulatory care-sensitive condition (e.g., asthma). Although further strategies are needed to determine avoidable readmissions from admissions that are indicative of quality care, it is noted that the pediatric patients identified in this study may benefit from comprehensive discharge planning in order to ensure a safe transition from the inpatient setting (Berry et al., JAMA 2011, 305: 682-90).

58:
Children with chronic physical or developmental abnormalities who require more intensive health care and related services are considered to be children with medical complexity (CMC). CMC accounts for approximately one-third of child health expenditures with about 80 percent of this cost in hospital care (Coller et al., Pediatrics 2014, 134: e1628-47). CMC is defined by four cardinal characteristics:

- Chronic health condition(s) associated with a high degree of morbidity and/or mortality
- Intense medical needs, including multiple specialty services and care coordination
- Significant functional limitations
- High health care utilization

Once hospitalized, medically complex children typically have longer lengths of stay due to delayed response to treatment when compared to children without disabilities. Following discharge, this patient population is considered high risk for hospital readmission (Neff et al., Acad Pediatr 2015, 15: 191-6; Russell and Simon, Pediatr Ann 2014, 43: e157-62; Simon et al., Pediatrics 2014, 133: e1647-54; Cohen et al., Pediatrics 2012, 130: e1463-70; Berry et al., JAMA 2011, 305: 682-90; Burns et al., Pediatrics 2010, 126: 638-46; Simon et al., Pediatrics 2010, 126: 647-55; Srivastava et al., Pediatr Clin North Am 2005, 52: 1165-87, x).

59:
Hospital readmission is common in extracorporeal membrane oxygenation survivors, who often suffer from significant long-term neurologic and respiratory co-morbidities. Readmission rates are 60 percent in non-neonatal patients without congenital heart disease who are treated with ECMO (Jen and Shew, Pediatrics 2010, 125: 1217-23).

60:
For most patients with acute coronary syndrome, medications used to control ischemia during the hospitalization should be continued following discharge. The medication regimen should be individualized based on diagnostic findings, risk factors, medication tolerance, and procedural interventions (Arnett et al., J Am Coll Cardiol 2019, 74: 1376-414).

61:
Physical activity can reduce symptoms in cardiovascular disease as well as improve other cardiac risk factors by aiding weight loss and weight management. Patients should be encouraged to take daily walks immediately following discharge. In patients with uncomplicated acute coronary syndrome, sexual activity can be resumed within 7 to 10 days and driving can begin 7 days after discharge. In patients who have had a complicated recovery, these determinations should be made on a case-by-case basis. Enrollment in a cardiac rehabilitation program after discharge may enhance blood pressure control, exercise capacity, patient education, adherence and encourage participation in a regular exercise program (Arnett et al., J Am Coll Cardiol 2019, 74: 1376-414). The data are mixed as to whether center-based cardiac rehabilitation increases physical activity; home-based cardiac rehabilitation may lead to increased physical activity (Ter Hoeve et al., Phys Ther 2015, 95: 167-79). Patients who attend early, short-term, comprehensive cardiac rehabilitation programs may have improved prognoses (Rauch et al., Eur J Prev Cardiol 2014, 21: 1060-9).

62:
Prior to discharge from the hospital, patients with acute coronary syndrome should be informed about symptoms of worsening ischemia, and should be instructed when and where they should seek emergency care when such symptoms occur. Patients should be instructed that anginal discomfort lasting longer than two or three minutes requires action. The patient should discontinue physical activity, or remove themselves from the stressful situation. Pain that does not subside immediately should be treated with sublingual nitroglycerin up to three doses or as prescribed. The EMS system should be activated for pain that is not relieved after the first dose of sublingual nitroglycerin (Arnett et al., J Am Coll Cardiol 2019, 74: 1376-414; Anderson et al., J Am Coll Cardiol 2013, 61: e179-347).

63:
The occurrence of depression and anxiety are common following myocardial infarction and can be associated with an increase in behaviors that further increase cardiovascular risk (e.g., smoking, alcohol consumption, over-eating, medication non-adherence) (Berg et al., Journal of psychosomatic research 2018, 112: 66-72). Upon discharge

patients should be made aware of the warning signs of depression and anxiety and the importance of seeking out help from a mental health professional should symptoms arise.

64:
Secondary risk prevention, including aggressive risk factor management through medical therapy and lifestyle modification, is the mainstay of therapy for patients recovering from acute coronary syndrome. Lifestyle and risk factor modification includes stress reduction, lipid management, optimizing diet and exercise, weight management, and smoking cessation if indicated. Cardiac rehabilitation programs are recommended to improve long-term outcomes, including functional capacity, morbidity and mortality rates, symptom control, and quality of life. Cardiac rehabilitation involves assessment, surveillance, counseling, and training to ensure lifestyle and risk factor modifications are maintained (Arnett et al., J Am Coll Cardiol 2019, 74: 1376-414).

65:
A high-intensity statin should be administered once the patient is stabilized, provided no contraindications are present. Statins reduce the risk of death due to coronary heart disease, recurrent myocardial infarction, revascularization needs, and stroke. Contraindications to statin therapy include hypersensitivity and active liver disease (Benjo et al., Catheter Cardiovasc Interv 2015, 85: 53-60; Amsterdam et al., Circulation 2014, 130: 2354-94; O'Gara et al., Circulation 2013, 127: 529-55).

66:
Follow-up telephone calls, conducted two to four days post discharge, can be an effective means of bridging the inpatient-outpatient transition and provide an opportunity to answer questions as well as address new symptoms and medication related issues (Jack et al., Ann Intern Med 2009; 150(3): 178-187; Kripalani et al., JAMA 2007; 297(8): 831-841; Inglis et al., Cochrane Database Syst Rev 2010, 8: CD007228).

67:
The availability of disease management programs vary. Programs are traditionally focused on common chronic conditions such as ischemic heart disease, diabetes, chronic obstructive pulmonary disease, asthma, and heart failure. Patients who receive education based on disease-specific self-management principles have fewer hospital readmissions, emergency department and unscheduled family physician visits, as well as an increased quality of life (Bourbeau et al., Arch Intern Med 2003; 163(5): 585-591). Transitional care or chronic care management programs can increase adherence with medications and follow-up care, yield higher provider and patient satisfaction, and reduce admissions and emergency department visits (Jackson, Health Affairs 2013, 32: 1407-15).

68:
The medical home provides comprehensive primary care that facilitates partnerships between individual patients, their providers, and when appropriate, the patient's family. The provision of a medical home allows better access to health care, increase satisfaction with care, and improves health (Ziring et al., Pediatrics 1999, 104: 978-81. Reaffirmed 2005). Key attributes of the model include increasing access to healthcare, leveraging long term relationships, and facilitating comprehensive coordinated care. Enrollment in a medical home program has been shown to decrease the risk of readmission (Bayer, Innovations in reducing preventable hospital admissions, readmissions, and emergency room use. 2010; Hines et al., Nurs Econ 2010, 28: 74-85).

69:
A referral should be made to a comprehensive smoking cessation program that includes behavior changing techniques, patient education, and both pharmacological and non-pharmacological interventions (Global Initiative for Chronic Obstructive Lung Disease (GOLD). Global Strategy for the Diagnosis, Management and Prevention of COPD. 2025).

70:
The Global Initiative for Chronic Obstructive Lung Disease (GOLD) guidelines recommend outpatient follow-up with a primary care physician or pulmonologist between 1 to 4 weeks and again between 12 to 14 weeks post hospital discharge in order to prevent hospital readmission and improve health (Global Initiative for Chronic Obstructive Lung Disease (GOLD). Global Strategy for the Diagnosis, Management and Prevention of COPD. 2025Bilicki and

Reeves, Prev Chronic Dis 2024, 21: E74 Saxena et al., JAMA Netw Open 2022, 5: e2222056) .

71:
Starting maintenance medications prescribed after a chronic obstructive pulmonary disease (COPD) exacerbation within 30 days of discharge has been found to decrease future COPD exacerbations and the risk of emergency room visits and hospital admissions (Mannino et al., Int J Chron Obstruct Pulmon Dis 2022, 17: 491-504 Tkacz et al., Int J Chron Obstruct Pulmon Dis 2022, 17: 329-42).

72:
Proper inhaler technique is vital to optimizing the delivery of medication to the lungs and minimizing systemic side effects. Incorrect inhaler usage negatively impacts disease control and quality of life (Global Initiative for Chronic Obstructive Lung Disease (GOLD). Global Strategy for the Diagnosis, Management and Prevention of COPD. 2025).

73:
Prior to discharge following a chronic obstructive pulmonary disease (COPD) exacerbation, influenza and pneumococcal vaccination status should be reviewed. If a patient has not received vaccination prior to discharge, arrangements should be made for outpatient administration (Global Initiative for Chronic Obstructive Lung Disease (GOLD). Global Strategy for the Diagnosis, Management and Prevention of COPD. 2025Simon et al., Eur Respir Rev 2023, 32:).

74:
Poor adherence to prescribed medication results in an increase in chronic obstructive pulmonary disease (COPD) symptoms, hospitalization, mortality, cost of medication, and irregular follow-up appointments (Case and Eakin, Expert Rev Respir Med 2023, 17: 539-46).

75:
Pulmonary rehabilitation after an acute exacerbation of chronic obstructive pulmonary disease (COPD) for 6-8 weeks is associated with improved health-related quality of life, decreased mortality rate, and a lower rate of hospital readmissions (Global Initiative for Chronic Obstructive Lung Disease (GOLD). Global Strategy for the Diagnosis, Management and Prevention of COPD. 2025).

76:
Patients with pneumonia who are being discharged should review influenza and pneumococcal vaccinations. If the patient has not received either vaccination prior to discharge, arrangements should be made for outpatient administration (Mandell et al., Clin Infect Dis 2007; 44 Suppl 2: S27-72; Fiore et al., MMWR Recomm Rep 2010, 59: 1-62; Centers for Disease Control and Prevention. MMWR Recomm Rep 2010, 59: 1102-6; Tomczyk et al., MMWR Morb Mortal Wkly Rep 2014, 63: 822-5).

77:
A referral should be made to a comprehensive smoking cessation program that includes behavior changing techniques, patient education, and both pharmacological and non-pharmacological interventions (Global Initiative for Chronic Obstructive Lung Disease (GOLD). Global Strategy for the Diagnosis, Management and Prevention of COPD. 2025).

78:
Smoking cessation should be a goal of smokers who are hospitalized with pneumonia, as smoking is an independent risk factor for the development of pneumonia (Aliberti et al., Lancet 2021, 398: 906-19; Mandell et al., Clin Infect Dis 2007; 44 Suppl 2: S27-72).

79:
Reference: (Furie et al., Stroke 2011, 42: 227-76)

80:

Based on the results from the Stroke Prevention by Aggressive Reduction in Cholesterol Levels (SPARCL) trial, high-intensity statin therapy, when appropriate, is recommended for all patients with ischemic stroke and transient ischemic attack to reduce the risk of stroke and cardiovascular events (Grundy et al., Circulation 2019, 139: e1082-e143).

81:

Social Drivers of Health (SDOH)

Social Drivers of Health (SDOH) are conditions in a person's environment that may affect their health. SDOH factors may impact the decision to admit, care coordination during hospital stay, as well as discharge destination. Patients should be screened for SDOH-related barriers to health to mitigate any unmet social and psychosocial factors impacting the health of the patient. The following SDOH factors should be evaluated on admission to determine which factors and interventions are relevant to an individual patient. This list may not be all inclusive and all relevant SDOH factors should be considered. Any social need determined to be relevant to a given patient should be planned for throughout the hospital stay.

82:

Domestic Abuse (Feltner et al., Jama 2018, 320: 1688-701).

83:

Domestic Abuse and Community-Led Nursing Interventions(Boyle and Murphy-Tighe, J Adv Nurs 2022, 78: 1601-17).

84:

Hospice Care (Noh et al., Am J Hosp Palliat Care 2022, 39: 822-30).

85:

Income Insecurity (Pottie et al., CMAJ 2020, 192: E240-E54).

86:

Food insecurity (Testa and Jackson, Ann Epidemiol 2021, 58: 22-8; Berman et al., Pediatr Rev 2018, 39: 235-46).

87:

A capacity evaluation may be appropriate for a patient who is unable to make decisions for self, refuses treatment or demands to be discharged without a rational reason.

88:

Readmission Risk (Hutchison et al., Prof Case Manag 2022, 27: 47-57).

89:

Risk for Malnutrition (Arensberg et al., Inquiry 2022, 59: 469580221081431).

90:

Risk For Treatment Non-adherence and Mental Illness (National Institute for Health and Care Excellence (NICE). Psychosis and schizophrenia in adults: prevention and management. CG178. London: NICE; 2014.).

91:

Tobacco Use (U.S. Department of Health and Human Services, Tobacco Use in Children and Adolescents: Primary Care Interventions. 2021; American Academy of Family Physicians, Tobacco: Preventing and Treating Nicotine Dependence and Tobacco Use (Position Paper). 2019).

92:

Lead Poisoning (Centers for Disease Control and Prevention, Lead Poisoning Prevention. 2019).

93:
Housing Vulnerability (Anderst et al., BMJ Open 2022, 12: e054338; Martin et al., J Am Board Fam Med 2019, 32: 521-30; Pottie et al., CMAJ 2020, 192: E240-E54).

94:
Homeless and Vulnerably Housed People (Pottie et al., CMAJ 2020, 192: E240-E54)

95:
Case Management Interventions For The Homeless (Ponka et al., PLoS One 2020, 15: e0230896).

96:
Social Drivers of Health (SDOH) are conditions in a person's environment that may affect their health. SDOH factors may impact the decision to admit, care coordination during hospital stay, as well as discharge destination. Children and caregivers should be screened for SDOH-related barriers to health to mitigate any unmet social and psychosocial factors impacting the health of the child and family unit (Kreuter et al., Annu Rev Public Health 2021, 42: 329-44; Sokol et al., Pediatrics 2019, 144:). The following SDOH factors should be evaluated on admission to determine which factors and interventions are relevant to the individual child and their family support system. This list may not be all inclusive and all relevant SDOH factors should be considered. Any social need determined to be relevant to a given child and family should be planned for throughout the hospital stay. Interventions should be considered for all patients and families if social need is relevant.

97:
Parent Child Programs (Hildebrandt et al., Infant Ment Health J 2020, 41: 677-96; Vanderplasschen et al., Front Psychiatry 2019, 10: 186).

98:
Treatment Considerations for Youth (Substance Abuse and Mental Health Administration, Treatment Considerations for Youth and Young Adults with Serious Emotional Disturbances and Serious Mental Illnesses and Co-occurring Substance Use. 2021).

99:
Parent Training Programs (Nurse-Family Partnership National Resources for Families. 2021; Gubbels et al., Int J Environ Res Public Health 2019, 16:).

100:
Anticipatory Guidance (Dosman and Andrews, Paediatr Child Health 2012, 17: 75-80).

101:
Technology Dependent Children (Pediatrics 2008, 122: 1119-26).

102:
Post-discharge programs include (Nurse-Family Partnership National Resources for Families. 2021; Health Resources & Services Administration, Maternal and Child, The Maternal, Infant, and Early Childhood Home Visiting Program 2021):

- Early Head Start program for infants or toddlers under the age of 3 and pregnant individuals in need of medical, mental health, nutrition and education
- Nurse-Family Partnership for individuals pregnant with their first child and for ongoing nursing visits through the childs second birthday

103:
Behavioral Support (Reyes et al., Health Equity 2021, 5: 100-18; Substance Abuse and Mental Health Administration,

Treatment Considerations for Youth and Young Adults with Serious Emotional Disturbances and Serious Mental Illnesses and Co-occurring Substance Use. 2021; Pierron et al., BMC Public Health 2018, 18: 1087).

104:
Lactation Specialist (Leeman et al., Pediatr Qual Saf 2019, 4: e130).

105:
Youth Suicide (Milliman et al., J Pediatr Nurs 2021, 59: 1-9).

106:
School Based Interventions (Fazel et al., Lancet Psychiatry 2014, 1: 377-87).

107:
Children and their caregivers at risk for medication non-adherence may benefit from text message reminders to take medication(s) and the use of electronic medication dispensers.

108:
Peer Support Groups (Mental Health America, Peer Support: Research and Reports 2021; National Institute for Health and Care Excellence (NICE). Psychosis and schizophrenia in adults: prevention and management. CG178. London: NICE; 2014.).

109:
Telehealth (Solo-Josephson et al., Telemed J E Health 2022, 28: 558-65; J Am Acad Child Adolesc Psychiatry 2017, 56: 875-93).

110:
Teen Pregnancy (Maness et al., J Adolesc Health 2016, 58: 636-43).

111:
Eating Disorders (Gato-Moreno et al., Int J Environ Res Public Health 2021, 18:; Al-Khudairy et al., Cochrane Database Syst Rev 2017, 6: Cd012691).

112:
Eating Disorders and Family Based Treatment (Lock and La Via, J Am Acad Child Adolesc Psychiatry 2015, 54: 412-25).

113:
Childhood Obesity (DeCamp et al., Health Promot Pract 2022, 23: 518-29).

114:
Parenting Resources, National Parent Help Line (National Parent and Youth Helpline; U.S. Department of Health and Human Services, Parenting Resources. 2021).

115:
Parenting Resources (U.S. Department of Health and Human Services, Parenting Resources. 2021).

116:
Case Management Interventions for the Homeless (Ponka et al., PLoS One 2020, 15: e0230896; Vijverberg et al., BMC Psychiatry 2017, 17: 284).

117:
Close follow-up of older adults, pediatric, or at-risk patients after discharge can help minimize hospital readmission and total health care costs (Rising et al., Ann Emerg Med 2013, 62: 145-50; Frei-Jones et al., Pediatr Blood Cancer 2009; 52(4): 481-485; Kripalani et al., JAMA 2007; 297(8): 831-841). Studies have shown that for greater than 50% (0.50) of patients re-hospitalized within 30 days of discharge, there was no visit to a physician's office between the time of discharge and re-hospitalization (Hernandez et al., JAMA 2010, 303: 1716-22; Jencks et al., N Engl J Med 2009; 360(14): 1418-1428). Efforts to reduce readmissions should focus on patients known to be at high risk and patients who have frequent visits to the emergency department (ED). Patients at high risk may have multiple ED visits prior to readmission (Rising et al., Ann Emerg Med 2013, 62: 145-50).

118:
A visit with a primary care provider within a week of discharge is associated with a 30%(0.30) decrease in Medicaid hospital readmission rates compared to those who had later follow-up visits (Wiest et al., JAMA Netw Open 2019, 2: e187369).

119:
As part of the comprehensive discharge plan, all instruction should be in the patients preferred language, using translators as needed. Instruction materials should be written at an appropriate health literacy level (National Transitions of Care Coalition, 2008-2012). The Agency for Healthcare Research and Quality (AHRQ) provides a toolkit for adult and pediatric practices to help support communication and understanding of health information, navigation of the health care system, and patient self-management. Written materials in some hospitals are written at a third or fourth grade reading level using the patient's native language. They include the reason for hospitalization, symptoms to watch out for, and a plain language list of appointment follow-ups and information related to medications (Boutwell, et al., AHRQ Designing and Delivering Whole-Person Transitional Care: The Hospital Guide to Reducing Medicaid Readmissions. September 2016).

120:
Approximately 40 percent of patients have test results returning after discharge and physicians are commonly unaware of these results. Ten percent of these results require MD intervention (Roy et al., Ann Intern Med 2005; 143 (2): 121-128). Any test with a pending result at discharge holds the potential for an error due to a missed action. Steps must be taken to ensure the appropriate follow-up provider is aware of pending tests and that the results are communicated in a timely manner (Were et al., J Gen Intern Med 2009; 24(9): 1002-1006).

121:
Educational nursing interventions that occur early during hospitalization have been shown to increase the patient's knowledge of their condition as well as self care. Early involvement with self care activities can reduce medication errors and engage the patient in participating in their own care and treatment plan. Teaching should start as soon as the patients and family members are ready to learn (Osborn and Squires, J Ambul Care Manage 2012, 35: 118-28).

122:
Ensuring the patient and/or caregiver understands all aspects of the condition and can assume responsibility for self-care is crucial in preventing readmission. Assessing a patient and/or caregiver's level of understanding after education has been provided can be difficult. The teach-back method is an effective way of providing education at the appropriate level and can also be used to assess the learner's comprehension. To use the teach-back method, discuss key points in common terms and avoid using medical jargon or unfamiliar terms. After the education has been delivered, ask the learner to repeat what was learned. Gaps or misinterpretations in the learner's explanation will pinpoint areas where communication may have failed and provide opportunity for clarification.

123:
Encouraging patients and caregivers to assume a more active role in improving self-management knowledge such as medication management, condition management, and confidence about plan of care can reduce hospital readmissions (Pediatrics 2008; 122(5): 1119-1126; Coleman et al., Arch Intern Med 2006; 166(17): 1822-1828).

124:
For acute pain, the Center for Disease Control (CDC) recommends prescribing the lowest effective dose of

immediate-release opioids, with careful attention paid to the quantity and duration of the prescription. Three days or less will often work; more than 7 days is rare. For chronic pain unrelated to active cancer, palliative or end-of-life care, the CDC recommends the following guidelines for clinicians (Dowell et al., MMWR Recomm Rep 2016, 65: 1-49):

- Consider nonpharmacologic therapy and nonopioid pharmacologic therapy first
- Know the patient's history of controlled substance prescriptions, using the state prescription drug monitoring program (DMP) data when initiating opioid therapy and then every 3 months thereafter on every prescription
- Weigh the risks and benefits of opioid therapy before starting or continuing opioids
- Establish realistic treatment goals, discuss risks and benefits of opioid therapy, and go over the plan for discontinuing opioids if the harm outweighs the benefits
- Discuss patient and clinician responsibilities for managing this therapy. If a patient has an opioid use disorder, offer evidence-based medication-assisted treatment in combination with behavioral therapies

When prescribing opioids for chronic pain:

- Combine them with nonpharmacologic therapy/nonopioid therapy
- Prescribe immediate-release opioids versus extended release or long-acting opioids
- Start at the lowest dose
- Evaluate the benefits and the harm with patients within 1 to 4 weeks of starting opioid therapy, and then at least every 3 months thereafter
- Consider annual urine testing to assess for prescribed medications as well as other controlled prescription and/or illicit drugs
- Avoid prescribing opioid pain medication and benzodiazepines concurrently

125:

One in four patients does not adhere to prescribed drug therapy. Poor adherence is considered a critical barrier to treatment success and remains a leading challenge to healthcare professionals (Simpson et al., Bmj 2006; 333(7557): 15). Although non-adherence affects all age groups, older adults have specific barriers against effective medication use and can be more vulnerable to the incorrect administration of medication. In persons age 60 years or older, non-adherence with medication regimens varies from 26-59 percent. Reasons for non-adherence include confusion with doses and schedules, forgetfulness in taking the medication, toxic drug interactions, and excessive financial expense leading to underuse (Tangalos, Annals of Long Term Care 2006; 14:). Interventions that may successfully improve adherence include patient education, empowerment, reminders, frequent clinic visits, or telephone calls from staff or physicians. Every attempt should be made to simplify the patient's drug regimen by reducing the number of pills per day and by minimizing medication costs wherever possible (Mukherjee, Am Heart J 2008; 155 (4): 589-590).

126:

Primary care physician surveys, as well as a checklist tool developed by the Centers for Medicare and Medicaid Services, recommend including the following information in a discharge summary:

- Diagnoses
- Brief reason for hospital stay including the patient's condition on discharge and comorbids and/or behavioral health conditions, if applicable
- Comorbids and behavioral health conditions, if applicable
- Medication and allergy lists
- Pending test results
- Copy of patients advance directive
- Care instructions
- Follow-ups with post-hospital clinical, behavioral, and social services, if indicated
- List of follow-up appointments
- Follow-ups for high risk patients

Transmission of a discharge summary should occur within 48 hours of discharge (Boutwell, et al., AHRQ Designing and Delivering Whole-Person Transitional Care: The Hospital Guide to Reducing Medicaid Readmissions. September 2016; Kripalani et al., JAMA 2007; 297(8): 831-841).

127:

Ensuring the medical practitioner receives the discharge summary is a key intervention in safely transitioning care and improving outcomes (Jack et al., Ann Intern Med 2009; 150(3): 178-187). Summaries should be available at the time the patient is leaving the hospital. If the summary is not available at that time, it should be provided within 48h of discharge (Kripalani et al., JAMA 2007; 297(8): 831-841). As recommended by the National Quality Forum's Safe Practice on Discharge (2006), hospitals should confirm that the patient's medical practitioner received the discharge summary. This requires a tracking mechanism and may be in any format viable in each organization's structure, from a phone call (documented in the medical record) to a secure e-mail or a return fax (Society of Hospital Medicine, Project BOOST. 2008 [cited Nov 2015]).

128:

For those patients covered under a Medicare benefit, the Affordable Care Act mandates a certifying physician or an allowed non-physician practitioner, document that a face-to-face encounter has occurred with the patient prior to certifying eligibility for home care. To ensure this requirement is met for this patient population, the following should be included in the discharge plan:

- Determine who will perform the fact-to-face encounter
- Implement a policy for documenting encounters and transmitting this documentation to home care agencies

(Centers for Medicare & Medicaid Services. 42 CFR 440.70. 2025)

129:

The Centers for Medicare and Medicaid Services (CMS) recommends discharge planning teams be knowledgeable about local post acute providers, including special services. CMS requires hospitals to analyze readmission data and reassess discharge planning policies on an ongoing basis. Upon admission from a post acute setting, the discharge planning team must determine whether the originating provider is capable of continuing to care for the patient after hospital discharge (Centers for Medicare & Medicaid Services. 42 CFR 482.43. 2025).

2025, Mar. 2025 Release LOC:Long-Term Acute Care
Ventilator Weaning

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Overview

Level of Care Note
Introduction:
Ventilator weaning criteria may be used for complex respiratory conditions and active comorbidities that require prolonged ventilator weaning and multidisciplinary treatment after an Acute Care stay.
For patients who require stabilization of their underlying disease process, prior to liberation attempts, the appropriate subset for their management is Respiratory Complex.
Observational studies have shown that 50% of patients who have been otherwise difficult to wean, can be liberated from mechanical ventilation in specialized regional weaning units, such as Long-Term Acute care (LTAC) facilities. Successful weaning interventions include ventilator strategies, weaning protocols, early mobilization and physiotherapy, and specialized weaning units (Ambrosino and Vitacca, Multidiscip Respir Med 2018, 13: 6; Ambrosino et al., Multidisciplinary Respiratory Medicine 2015, 10: 31). Furthermore, weaning protocols employed by nonphysician clinicians have been demonstrated to shorten weaning time. Guidelines recommend that transfer to these facilities should be considered when tracheostomy is first considered in the acute care facility (Blackwood et al., Cochrane Database Syst Rev 2014, 11: CD006904; MacIntyre et al., Chest 2005, 128: 3937-54).
The top 20 diagnostic related groupings (DRGs) treated in LTACs include (Top 20 DRGs for Long-term Acute Care Hospitals, 03-31-2021 ed. 2021):

- Respiratory system diagnosis with ventilator support > 96 hours (national average length of stay of 34.6 days)

Evaluation and Treatment:
A comprehensive, rehabilitative, multidisciplinary model of care is recommended for the management of patients receiving prolonged mechanical ventilation. These patients are at high risk for acute respiratory decompensation due to the wide range of acute and chronic illnesses associated with their ventilator dependence. Therefore, care must be well planned, with collaboration among all health care providers, and include specific measurable goals for successful discontinuation of ventilator support. Guidelines highlight the importance of spontaneous breathing trials (SBT) and include the following recommendations: use of a ventilator liberation protocol, an SBT with modest inspiratory pressure augmentation, a cuff leak test to screen for laryngeal edema, and Noninvasive Ventilation (NIV) after extubation in patients at high risk of post-extubation failure. Additionally, strategies to minimize sedation and protocolized rehabilitation directed towards early mobilization may assist in improving extubation rates and earlier liberation from mechanical ventilation (Girard et al., Am J Respir Crit Care Med 2017, 195: 120-33).
The CMS Inpatient Prospective Payment System (IPPS) standard LTAC payment rate will be based on patient-level

clinical criteria:

- The (patient) stay in the LTAC was immediately preceded by a discharge from an acute care hospital that included at least 3 days in an intensive care unit (ICU)
- The stay in the LTAC was immediately preceded by a discharge from an acute care hospital and the patients LTAC stay is assigned to an MS-LTC-DRG based on the receipt of ventilator services for at least 96h

The above are related to reimbursement, not determination of medical necessity. Patients that do not meet these criteria may be eligible for waivers in some circumstances, and regardless of payment status may be clinically appropriate for LTAC level services. The InterQual® criteria are used for medical necessity determination.

InterQual® criteria are derived from the systematic, continuous review and critical appraisal of the most current evidence-based literature and include input from our independent panel of clinical experts. The content is based on a variety of references which are cited at specific criteria points throughout the subset.

Program Requirements:

Treatment required at this level of care due to clinical complexity includes the following:

- Acute and comorbid conditions requiring prolonged hospitalization
- Medical practitioner assessment or intervention daily
- Respiratory therapy ≥ 3x/24h
- Skilled nursing services ≥ 6.5h/24h

Severity of Illness

(In lieu of Acute or continued hospitalization or Failed ALOC)

- **Severity of Illness, Both:**
  - Admission
  - Ventilator dependent ≥ 6h/24h and, **One:** [1, 2]
    - Failed ventilator weaning and ventilator dependent ≥ 14d [3, 4]
    - No weaning attempt and ventilator dependent, ≥ **One:** [4, 5]
      - ≥ 2 rib fractures
      - Flail chest [6]
      - Neuromuscular disease [7]
      - Penetrating chest wound
      - Spinal cord injury
      - Status post tension pneumothorax
    - Tracheostomy placed and airway stable [8, 9]
  - Weaning potential and clinically stable, **All:** [10, 11]
    - CXR stable or improving
    - FiO_2 ≤ 50%(0.50) [12]
    - No continuous paralytic agent infusion
    - PEEP ≤ 10 cm H_2O and tolerates pressure support [13]
    - Stable airway
    - Spontaneous breathing with adequate inspiratory effort [14]
    - Underlying disease process stabilized [15]

Intensity of Service

(At least daily and excludes PO medication unless noted)

- **Intensity of Service, One:**
  - Admission Review
  - **Admission, Both:**
    - Multidisciplinary care coordination and psychosocial management, **Both:** [16, 17]
      - Medical practitioner assessment or evaluation daily [18, 19]
      - Discharge plan initiated or in process [16]
    - Mechanical ventilation or NIPPV, **One:** [20, 21]
      - Active weaning planned within the next 48h
      - Active weaning and medical stability maintained, ≥ **One:** [22, 23]
        - Reduction in ventilator support or FiO_2
        - Increased length of spontaneous breathing trial
      - Failed weaning trial requiring non-fatiguing ventilatory support, **Both:** [24, 25]
        - Further weaning anticipated and plan established within 24h to address weaning failure [26]
        - Management of pulmonary or comorbid condition to improve weaning potential, ≥ **One:** [27]
          - Respiratory assessment and intervention every 4h
          - PT for strengthening and endurance 1-3h/d [28]
  - Continued Stay
  - **Continued Stay, One:**
    - **Responder**, medical and rehab potential maximized and discharge expected, **All:** [29]
      - Hemodynamic and neurologically stable ≥ 3d, **All:** [30, 31]
        - Heart rate 50-100/min or within acceptable limits [32]
        - Systolic BP 90-140 mmHg or within acceptable limits [32, 33]
        - Afebrile
      - Oxygenation, **Both:**
        - O_2 sat > 91%(0.91) or within acceptable limits, **One:** [32]
          - Post mechanical ventilation or NIPPV, **One:** [20, 21]
            - Oxygen discontinued
            - Oxygen requirement established, **One:**

- Home oxygen therapy arranged
- Post acute facility arrangements completed

⛔ Permanently ventilator or NIPPV dependent (partial or full support), **Both:** [20, 21, 34, 35]
- No change in settings last 3d and oxygen ≤ 40%(0.40) [12]
- PEEP not required or ≤ 5 cm H_2O [13]

- Patent airway and secretions manageable within last 2d
- Lab values within acceptable limits [32]
- Medication regimen stabilized and tolerated
- Nutritional status stable or improving

⛔ Functional status, **One:**

⛔ Home discharge planned, ≥ **One:**
- Modified or fully independent with transfers, ambulation, or mobility [36]
- Modified or fully independent or minimum assist with ADLs [36, 37]
- Caregiver demonstrates independence with transfers or ambulation and ADLs or IADLs [36, 37]
- Prior level of function achieved [38]

- Rehab therapy services arranged for ALOC
- Rehab therapy services not required

⛔ **Partial responder**, potential for clinical and/or functional improvement, **Both:**

⛔ Multidisciplinary care coordination and psychosocial management, **Both:** [16, 17]
- Medical practitioner assessment or evaluation daily
- Discharge plan initiated or in process [16]

⛔ Mechanical ventilation or NIPPV, **One:** [20, 21]

⛔ Active weaning and medical stability maintained, ≥ **One:** [22, 23]
- Reduction in ventilator support or FiO_2
- Increased length of spontaneous breathing trial

⛔ Failed weaning trial requiring non-fatiguing ventilatory support, **Both:** [24, 25]
- Further weaning anticipated and plan established within 24h to address weaning failure [26]

⛔ Management of pulmonary or comorbid condition to improve weaning potential, ≥ **One:** [27]
- Respiratory assessment and intervention every 4h
- PT for strengthening and endurance 1-3h/d [28]

⛔ Post mechanical ventilation or NIPPV weaning, ≥ **One:**
- Breathing spontaneously without mechanical ventilation ≤ 3d [39]

⛔ Rehab therapy (PT, OT, or SLP), **All:** [40]
- Participating 1-3h/d
- ≥ 5d/wk
- Duration ≤ 2wk

⛔ Tracheostomy weaning, **One:** [41]

⛔ Tracheostomy decannulation trial ≤ 5d, **Both:**
- Medical stability maintained without respiratory compromise or sleep apnea
- Absence of upper airway obstruction

- Post decannulation ≤ 2d [42]
- Unable to decannulate and patient or caregiver home management education ≤ 1wk [43, 44]

⛔ Unable to liberate from mechanical ventilation or NIPPV, **One:** [34]

⛔ Discharge planning, **One:** [35]

⛔ Home mechanical ventilation with patient and caregiver education required ≤ 2wks, **All:** [45]
- Home assessment and home modification planned or completed [46]
- Home exercise program or activity guidelines
- Education on disease process, symptom management, and airway management
- Home ventilator equipment education (e.g., management, troubleshooting)
- Emergency preparedness
- Medication management teaching

- Evaluation for post acute long-term ventilator management ≤ 24h
- Withdrawal of life-sustaining treatment with comfort measures only ≤ 2d [47]

- Medical instability and not able to participate in weaning process ≤ 1wk, ≥ **One:**
  - Anti-infective and temperature ≥ 100.4°F(38.0°C) (48)
  - Blood product transfusion and, ≥ **One:** (49)
    - Hct < 30%(0.30) or Hb < 10.0 g/dL(100 *g/L*)
    - Platelets < 20,000/cu.mm($20x10^9$/L)
  - Chest tube (50)
  - Continuous cardiac monitoring (excludes Holter) ≤ 1wk, ≥ **One:**
    - Arrhythmia (51)
    - Hypo or hyperkalemia
    - Post pacemaker insertion (permanent or temporary)
    - Acute kidney injury
    - Syncope (52)
  - Complex wound care, ≥ **One:** (53)
    - ≥ 1h/24h (54)
    - Wound debridement (55)
  - Dialysis or ultrafiltration, **One:** (56)
    - Acute kidney injury
    - End stage renal disease, ≥ **One:**
      - Permanent access not clinically appropriate and temporary catheter functioning ≤ 5d
      - Unable to tolerate at least 3h due to posterior wound location
      - Unstable dialysis regimen requiring modification at least weekly
  - Medication or interventions, ≥ **Three:**
    - Analgesic ≥ 3x/24h or continuous
    - Antiarrhythmic
    - Anticoagulant, therapeutic (57)
    - Anticonvulsant
    - Anti-infective
    - Blood product transfusion at least every 3d (49)
    - Beta blockers
    - Calcium and hypocalcemia
    - Calcium channel blocker
    - Complex wound care ≥ 2x/24h (53)
    - Corticosteroid (includes PO)
    - Diuretic ≥ 2x/24h (58)
    - GI suction
    - Glucose 50%(0.50) with insulin (59)
    - H_2 blocker or PPI
    - Prokinetic agent
    - Immunosuppressant (includes PO) (60)
    - Insulin adjustment ≥ 3x/24h (61)
    - IV fluid, **One:**
      - ≥ 50 mL/h
      - Replacement based on losses ≥ 3x/24h, ≥ **One:** (62)
        - Diarrhea
        - Oliguria (63)
        - HF
    - Magnesium and hypomagnesemia
    - Neurologic assessment at least 3x/24h (64)
    - Oxygen ≥ 28%(0.28) and oximetry or ABG (12)
    - Phosphate and hypophosphatemia
    - Polystyrene (Kayexalate) (PO or PR)
    - Parenteral or enteral feeding
    - Vasoactive agent (65)

- Volume expanders [66]
- Wound debridement or I&D ≤ 1wk [55]

- Oxygen ≥ 40%(0.40) [12]

Discharge Screens

- **Discharge, One:** [67]

Clinical,

- **Home, All:**
  - Home environment safe and accessible [68]
  - Patient or caregiver, **Both:**
    - Demonstrates ability to manage transfers or functional mobility (e.g., ambulation, wheelchair), ADLs or IADLs
    - Demonstrates ability to manage care
  - Complete prior to discharge, **All:**
    - Follow-up care planned [69]
    - Comprehensive written discharge and teaching instructions reviewed [70]
    - Medication reconciliation [71]
    - Patient or caregiver understands when and where to seek help
    - Identify and address transportation needs
- **Home Care, All:**
  - Home environment safe and accessible [68]
  - Patient and/or caregiver able to learn care [72]
  - Treatment regimen established
  - Skilled services, ≥ **One:**
    - Chest physiotherapy, nebulizer, or tracheostomy management [73]
    - Clinical assessment [74]
    - Home mechanical ventilation or NIPPV and regimen established [75]
    - Medication management [76]
    - Oxygen > 28%(0.28) [12]
    - Patient or caregiver education [77]
    - Rehab therapy (PT, OT, SLP)
  - Complete prior to discharge, **All:** [35]
    - Follow-up care planned and home care services arranged [69]
    - Comprehensive written discharge and teaching instructions reviewed [70]
    - Medication reconciliation [71]
    - Patient or caregiver understands when and where to seek help
    - Identify and address transportation needs
- **Skilled Medical or Therapy, All:**
  - Medical practitioner, NP, or PA assessment or oversight ≥ 1x/wk
  - Treatment precluded at a lower level [78]
  - Skilled services, ≥ **One:**
    - Able to tolerate 1-2h/d of skilled therapy ≥ 5d/wk, **All:**
      - Functional impairment requiring at least supervision [36]
      - Goal directed therapy and at least 1 therapy discipline required
      - Rehab potential with expectation for clinical and functional improvement [79]
    - Skilled service required daily, ≥ **One:** [80]
      - Nursing intervention or assessment 1-2x/24h
      - Respiratory intervention ≥ 2x/24h 7d/wk
  - Complete prior to facility transfer, **All:**
    - Comprehensive written discharge and teaching instructions reviewed [70]
    - Medication reconciliation [71]
    - Obtain and complete forms for facility
    - Obtain discharge summary and transmit to facility and medical practitioner

- Arrange transportation

- **Subacute Medical or Therapy**, **All:**
  - Medical practitioner, NP, or PA assessment or oversight ≥ 2x/wk
  - Treatment precluded at a lower level [78]
  - Skilled services, ≥ **One:**
    - Able to tolerate 2-3h/d of skilled therapy ≥ 5d/wk, **All:**
      - ≥ 2 functional impairments requiring at least minimum assistance [36]
      - Goal directed therapy and ≥ 2 therapy disciplines required
      - Rehab potential with expectation for clinical and functional improvement [79]
    - Skilled nursing services ≥ 4h/24h, ≥ **One:** [81]
      - Nursing intervention or assessment ≥ 3x/24h
      - Respiratory intervention ≥ 3x/24h 7d/wk
      - Ventilator management
  - Complete prior to facility transfer, **All:**
    - Comprehensive written discharge and teaching instructions reviewed [70]
    - Medication reconciliation [71]
    - Obtain and complete forms for facility
    - Obtain discharge summary and transmit to facility and medical practitioner
    - Arrange transportation
- **Other ALOC** [82]

Notes:

1:
Ventilation includes invasive ventilation and noninvasive positive pressure ventilation (NIPPV), including continuous positive airway pressure (CPAP) and bilevel positive airway pressure (BiPAP).

2:
Notable causes for prolonged mechanical ventilation include:

- Ventilator-acquired pneumonia
- Renal failure
- Heart failure
- Exacerbation of chronic obstructive pulmonary disease (COPD)
- Chest wall disorder
- Neuromuscular diseases
- Traumatic brain injury
- Sepsis
- Complications following cardiac surgical procedures

Major contributing factors for failure to wean include (Ambrosino and Vitacca, Multidiscip Respir Med 2018, 13: 6; Davies et al., Br J Anaesth 2017, 118: 563-9):

- Increased work of breathing
- Impaired respiratory drive
- Inspiratory muscle weakness

3:
Optimal timing for tracheostomy placement for a ventilated patient is controversial within the literature. Per the Lung-Safe study, patients that required prolonged ventilation had a median time of about 14 days to tracheostomy placement (Abe et al., Crit Care 2018, 22: 195). Although early tracheostomy may help prevent ventilator associated pneumonia, it was not associated with reduced ventilator time or overall mortality (Chorath et al., JAMA Otolaryngol Head Neck Surg 2021, 147: 450-9). Patients that are at risk for failing to wean from the ventilator are older, have at least 1 comorbid, and those with severe acute conditions (Torrini et al., Crit Care 2021, 25: 391).

4:
Instruction: This line of criteria refers to ventilator weaning attempted during the acute hospital stay.

5:
Patients that present with chest trauma, spinal cord injury, or have neuromuscular diseases usually require prolonged ventilation to allow for healing of wounds/organs if traumatic, awaiting spinal cord adaptive changes or have muscle weakness leading to prolonged recovery time. Most often, it is quickly evident that these patients will require a prolonged vent weaning and commonly have a tracheostomy placed within 14 days of injury or illness. Patients with traumatic brain or spinal cord injuries may benefit from early tracheostomy placement. Studies have shown that early tracheostomy resulted in substantially less time in the ICU (Ding et al., J Integr Neurosci 2020, 19: 437-42; Flanagan et al., Spine (Phila Pa 1976) 2018, 43: 1110-6).

6:
Flail chest is a paradoxical movement of the ribs (in with inspiration and out with expiration), resulting from multiple rib fractures that occur at 2 locations on the same rib or several ribs leaving a "floating" segment. This often results in respiratory failure and may require aggressive pain control and possible mechanical ventilatory support (Majercik and Pieracci, Thorac Surg Clin 2017, 27: 113-21).

7:
Examples of neuromuscular disease include: Muscular dystrophy, Parkinson's, multiple sclerosis (MS) and amyotrophic lateral sclerosis (ALS).

8:

Tracheostomy placement is preferred over long term endotracheal tube because of the benefits of improved pulmonary hygiene, easier feeding, and may facilitate accelerated removal of the ventilator (McCredie et al., Neurocrit Care 2017, 26: 14-25). When a tracheostomy is placed for prolonged mechanical ventilation, it may reduce the occurrence of respiratory complications leading to a shorter hospital length of stay (Foran et al., J Trauma Acute Care Surg 2022, 92: 223-31).

9:

Instruction: A patient should be medically stable and ventilating well with the tracheostomy prior to transfer to LTAC. The stability of a patient and their medical requirements should reflect a comprehensive clinical assessment and align with legislative, geographical variances, and organizational policy before transfer from an acute facility to LTAC (Demiralp et al., BMC Pulm Med 2021, 21: 104; Sansone et al., J Intensive Care Med 2017, 32: 283-91).

10:

Patients who have weaning potential should have a formal assessment of their clinical appropriateness prior to commencement of a weaning trial. A patient that is ready to wean has all of the following (Zein et al., Emerg (Tehran) 2016, 4: 65-71; McConville and Kress, N Engl J Med 2012, 367: 2233-9):

- Stable or improving Chest X-ray (CXR)
- Stable airway
- FiO2 less than 50%
- PEEP less than 10 cm H2O and tolerating pressure support (Zein et al., Emerg (Tehran) 2016, 4: 65-71; McConville and Kress, N Engl J Med 2013, 368: 1068-9)
- Spontaneous breathing with adequate inspiratory effort
- Paralytic agent discontinued
- Underlying disease process stabilized

11:

A patient may be ready to transfer from the Acute facility to LTAC once they are deemed medically stable and accepted by the LTAC facility physician. Some factors of clinical stability may include:

- Hemodynamic stability (blood pressure and heart rate within acceptable limits and no active cardiac symptoms)
- Neurologic stability (improvement, or no deterioration in the mental status exam or level of consciousness, seizures controlled, and no new neurologic deficits such as aphasia, ataxia, dysarthria, paresis, visual field loss)
- Hematocrit within acceptable limits or above transfusion threshold
- Hemoglobin within acceptable limits or above transfusion threshold
- Afebrile or temperature within acceptable limits

12:

Oxygen therapy is the administration of oxygen at concentrations greater than ambient air (room air: 21%(0.21)) with the intent of treating and/or preventing the symptoms and manifestations of hypoxia. The oxygen concentration or percentage (FiO_2) delivered varies with the manufacturer's design, oxygen flow rate, the patient's respiratory rate, and tidal volume. Actual inspired FiO_2 with nasal cannula varies significantly with the patient's minute ventilation and pattern of breathing. For patients at risk for CO_2 retention, where a precise inspired FiO_2 is required, the Venturi mask is the preferred method. In general, patients who are very ill or have respiratory disease may require considerably higher flow rates to achieve the desired FiO_2. The following are estimates of O_2 delivered at the associated flow rates:

LOW-FLOW SYSTEMS
Nasal cannula
Room air 21%(*0.21*)
1L 24%(*0.24*) **4L** 36%(*0.36*)
2L 28%(*0.28*) **5L** 40%(*0.40*)
3L 32%(*0.32*) **6L** 44%(*0.44*)
Simple oxygen masks

- 35-50%(*0.35-0.50*) FiO_2 (5-10 L/min)
- Flow rates are usually maintained at 5 L/min or more to avoid accumulation of CO_2 in the mask

Venturi masks
- 24-50%(*0.24-0.50*) FiO_2 (4-12 L/min)

Partial rebreathing masks
- 40-70%(*0.40-0.70*) FiO_2 (6-10 L/min)

Non-rebreathing masks
- 60-80%(*0.60-0.80*) FiO_2 (minimum flow of 10 L/min)

HIGH-FLOW SYSTEMS
Air-entrainment masks/nebulizers
- 24-40%(0.24-0.40) FiO_2

Heated, humidified high-flow concentrating nasal cannula (HFNC)
- 24-100%(0.24-1.0) FiO_2

13:
Positive end-expiratory pressure (PEEP) is a method of ventilation. Positive pressure is maintained above atmospheric pressure expiration to increase the volume of gas remaining in the lungs at the end of expiration, thus reducing the shunting of blood through the lungs. This contributes to improved oxygenation and increased functional residual capacity. A weaning trial can be considered when PEEP is ≤ 5-10 *cmH_2O*(*0.49-0.98* k*Pa*), while some studies refer to a PEEP ≤ 5 *cmH_2O*(*0.49 kPa*) with adequate oxygenation as being sufficient. The goal is to maintain an adequate FiO_2 with just enough PEEP, to achieve a PaO_2 > 60 *mmHg*(*8.0 kPa*) (Zein et al., Emerg (Tehran) 2016, 4: 65-71; McConville and Kress, N Engl J Med 2013, 368: 1068-9).

14:
Adequate inspiratory effort refers to the patient's ability to take a deep breath. The patient must be able to take a deep breath and generate the force required for an effective cough.

15:
The patient's underlying disease process should be stabilized and/or corrected prior to initiation of ventilator weaning. This includes: acid-base abnormalities, anemia, arrhythmia, electrolyte abnormalities, decreased cardiac output, fever, fluid imbalance, hyperglycemia, infection, protein loss, renal failure, sleep deprivation, and poorly controlled pain. For patients requiring stabilization of an underlying process prior to weaning, see the LTAC, Respiratory Complex subset.

16:
Discharge planning is a component of care coordination and should be initiated on admission and re-evaluated throughout the patient's stay. The discharge plan may include an estimated length of stay, projected discharge destination, and a plan for post-discharge care. It may also include the following:
- Durable medical equipment needs
- Home environment assessment
- Identification of community resources
- Patient and/or caregiver education and instruction
- Patient's support system assessed, and level of care options identified

17:
Psychosocial issues, which include coping skills or adjustment to functional loss, can impede medical and functional progress. Ongoing assessment, active treatment, and management must be addressed during the course of hospitalization.

18:
Instruction: The medical practitioner's daily assessment manages the conditions and comorbid illnesses that impact the patient's primary reason for admission and continued stay.
Selection of a comorbid condition is appropriate when:

- It is not the primary reason for admission. For example, persistent dyspnea and continued hypoxia is the primary reason for admission, selection of respiratory insufficiency as a comorbid condition is not allowed.
- The condition affects the patient's current medical status and skilled assessment, active medical treatment (including psychiatric consultation, if appropriate), and intervention is required during this episode of care. Treatment of a comorbid condition with maintenance therapy would not meet criteria.

19:

Medically complex patients in long-term acute care (LTAC) require daily medical and physical assessment and management provided by a licensed medical practitioner. Although practitioners specialized in rehabilitation medicine, also known as physiatrists, may be common practitioners in the LTAC setting, legislative and geographical variances, as well as organizational policy, govern the specific practitioner requirements.

20:

Noninvasive positive pressure ventilation (NIPPV), also known as NIV, provides respiratory support by application of a tightly fitting facial mask, nasal mask, or helmet rather than an endotracheal tube or tracheostomy. In some cases, the use of NIPPV can avoid the need for endotracheal intubation and decreases the risk of barotrauma, lung injury, and/or infection. NIPPV is commonly delivered by a bilevel positive airway pressure ventilator (BiPAP), a continuous positive airway pressure device (CPAP), or a mechanical ventilator. Supplemental oxygen can be delivered at concentrations approximating 100%(1.0).
The decision to provide respiratory support via NIPPV, and the modality to provide NIPPV, is based upon the patient's specific clinical findings (e.g., medical condition leading to respiratory failure, underlying comorbidities, clinical progression, improvement). Examples of NIPPV devices are volumetric (i.e., deliver a defined volume), barometric (i.e., deliver a defined pressure), and combined (i.e., deliver defined volumes and pressure). The terminology for NIPPV delivery systems may differ between equipment manufacturers and provider organizations. InterQual® criteria do not differentiate between the different NIPPV modalities.
Whether or not high-flow nasal cannula (HFNC) should be classified as a component of NIPPV is unclear, and there is conflicting evidence in the medical literature. Where HFNC is an appropriate modality, InterQual® defines this in a specific criteria point. As such, NIPPV does not include HFNC (Hackett, A., PulmCCM 2018; Nardi et al., F1000Res 2017, 6: 290; Osadnik et al., Cochrane Database Syst Rev 2017, 7: CD004104; Allison and Winters, Emerg Med Clin North Am 2016, 34: 51-62; Gregoretti et al., Crit Care Clin 2015, 31: 435-57).

21:

Noninvasive positive pressure ventilation (NIPPV) may be used as a weaning strategy for patients who may be difficult to wean. The American College of Chest Physicians and the American Thoracic Society Clinical Practice Guideline recommend preventative use of NIPPV in hospitalized critically ill patients at high risk (e.g., hypercapnia, chronic obstructive pulmonary disease (COPD), congestive heart failure (CHF), or other serious comorbidities) for extubation failure who have been receiving mechanical ventilation for more than 24 hours and who have passed an spontaneous breathing trial (SBT) (Ouellette et al., Chest 2017, 151: 166-80). In patients with COPD, NIPPV is a viable strategy in weaning from mechanical ventilation and, when compared to ongoing ventilation, reduces hospital mortality and ventilator-associated pneumonia (Yeung et al., Intensive Care Med 2018, 44: 2192-204). Patients with neuromuscular disease who failed SBTs have been successfully extubated to full volume-cycled noninvasive support (Kim et al., Ann Rehabil Med 2017, 41: 450-5).

22:

When weaning is appropriate, patients should be evaluated at least daily for the potential to wean. There is no universal standard for ventilator weaning and practice can vary due to the patient's needs and practitioner strategy (Burns et al., Jama 2021, 325: 1173-84).
Ventilator modes during the weaning process may include:

- Intermittent mandatory ventilation (IMV)
- Synchronized intermittent mandatory ventilation (SIMV)
- Pressure support
- Continuous positive airway pressure (CPAP)
- T-piece with breathing spontaneously for increasing lengths of time
- Noninvasive positive pressure ventilation (NIPPV)
- Consensus guidelines recommend the use of NIPPV in patients at high risk for reintubation and who have passed an SBT (Girard et al., Am J Respir Crit Care Med 2017, 195: 120-33)

23:
Maintaining medical stability (e.g., hemodynamically stable with no new arrhythmias, respiratory compromise, paradoxical respiratory pattern, or accessory muscle use) is critical during active weaning and following discontinuation of ventilator support.

24:
The patient's ability to tolerate the weaning process is measured by the adequacy of gas exchange, hemodynamic stability, and subjective clinical assessment of the patient's mental status, respiratory pattern, and comfort level. Consensus-based indicators of failed spontaneous breathing trials (SBT) include: arterial oxygen saturation ≤ 90% or PaO2 ≤ 60 mmHg, heart rate ≥ 140 /minute, systolic blood pressure ≥ 180 mmHg or > 20% change from baseline, respiratory rate greater than 35/min or less than 8/min, and two or more signs of increased work of breathing or distress (e.g., accessory muscle use, paradoxical or asynchronous rib cage-abdominal movements, intercostal retractions, nasal flaring, profuse diaphoresis, agitation) (Zein et al., Emerg (Tehran) 2016, 4: 65-71; Penuelas et al., Curr Opin Crit Care 2015, 21: 74-81; MacIntyre, Respir Care 2013, 58: 1074-86).

25:
Weaning failure may indicate inadequate resolution of the underlying reason for ventilation or development of a new problematic condition. It is recommended that patients who fail a spontaneous breathing trial (SBT), receive a stable, non-fatiguing form of ventilator support. Once the cause for a failed SBT is identified and addressed, patients should be evaluated against a standard set of criteria to assess their readiness for SBTs; subsequent SBTs can then be performed every 24 hours (Zein et al., Emerg (Tehran) 2016, 4: 65-71).

26:
A time frame of twenty-four hours is required to establish a revised plan of care that includes interventions to address weaning failure and goals to resume active weaning.

27:
Patients who are on prolonged mechanical ventilation typically have concurrent medical conditions that require treatment. Patients with chronic respiratory and/or cardiac diseases have been identified as high risk for extubation failure. Pneumonia as a cause of respiratory failure, chronic heart failure and more than one coexisting condition (other than heart failure) have been identified as the leading causes for prolonged ventilation (Zein et al., Emerg (Tehran) 2016, 4: 65-71). With advanced age and a diagnosis of chronic respiratory and/or cardiac disease, the re-intubation rate is as high as 34% compared to 9% in younger patients without these risk factors (Jeganathan et al., Respir Care 2015, 60: 290-6).

28:
Physiotherapy is recommended in patients with prolonged mechanical ventilation and is associated with improved rates of successful liberation from mechanical ventilation (Schreiber et al., Respir Care 2019, 64: 17-25).

29:
Selection of this criteria point indicates that the patient is responding to treatment and is clinically stable for transfer or discharge. To determine the most appropriate post-acute level of care, see discharge criteria.

30:
Hemodynamic stability is determined by blood pressure and heart rate, and occurs in the absence of active cardiac symptoms or clinically significant blood pressure changes.

31:
A finding of neurologic stability includes:
- Improvement, or no deterioration in the mental status exam or level of consciousness
- Seizures controlled
- No new neurologic deficits (e.g., aphasia, ataxia, dysarthria, paresis, visual field loss)

32:

When a criteria point states "within acceptable limits," it refers to either the patient's normal baseline, a newly established baseline, or parameters that the medical practitioner determines are acceptable.

33:

Hypertension is defined as a systolic blood pressure (SBP) of greater than 130 mmHg or a diastolic blood pressure (DBP) of 80 mmHg or greater. Recommendations for initial management may include a conservative approach with diet and lifestyle modification with or without medications. The goal of antihypertensive therapy is to reduce morbidity and mortality. In non-urgent situations, blood pressure (BP) control is achieved in the outpatient setting. Goals for target BP level should be individualized, but a SBP less than 130 mmHg and a DBP less than 80 mmHg are desirable. Populations at high risk include patients with the following conditions (Whelton et al., Hypertension 2018, 71: 1269-324):

- Clinical cardiovascular disease or 10-year atherosclerotic cardiovascular disease (ASCVD) risk 10%(0.1)
- Heart failure
- Stable ischemic heart disease
- Chronic kidney disease
- Chronic kidney disease after renal transplantation

34:

There are no guidelines to define which patient will be unsuccessful at weaning and become permanently ventilator dependent. This decision is based on whether the condition(s) that originally led to prolonged ventilator management can be reversed or stabilized in association with repeated failed weaning trials.

35:

Patients who require continuous or partial support may be candidates for home management when there is evidence of hemodynamic stability and documentation that the patient and family are able and willing to participate in self-care. Furthermore, planned caregiver or agency assistance is required to adequately meet the patient's medical needs. The largest growth in home ventilation has been in the use of noninvasive ventilation (NIV). The most common conditions for home mechanical ventilation include: neuromuscular disease (e.g., amyotrophic lateral sclerosis, Duchenne muscular dystrophy), chest wall deformity, central hypoventilation or obesity hypoventilation, obstructive sleep apnea with failure to improve with nasal CPAP, and COPD (Sahetya et al., Clin Chest Med 2016, 37: 753-63; Simonds, Ann Am Thorac Soc 2016, 13: 2035-44). Guidelines recommend long term home NIV to improve health outcomes in COPD patients with persistent hypercapnic respiratory failure (Duiverman et al., Thorax 2019:; Ergan et al., Eur Respir J 2019, 54:).

36:

Functional assistance levels are based upon the patient's function during tasks and activities necessary to return to household mobility or ambulation. The functional assistance level required for each individual task or activity (e.g., mobility, activities of daily living (ADLs)) may vary.
The following terms are commonly used in the post-acute setting:

- Independent - Patient can safely and within a reasonable amount of time perform a task (or developmentally appropriate task) without physical or cognitive assistance or supervision
- Modified Independent - Patient performs an activity with a supportive device, adaptive equipment, and/or prosthetic or orthotic device. Additional time may be required to complete the activity and/or there are safety (risk) considerations
- Supervision - Patient performs an activity with standby or distant supervision or setup. Verbal cueing or coaxing, without physical contact or setup of items and application of orthoses may be required when patient's safety awareness is impaired
- Minimum or limited Assistance - Patient performs at least 75%(0.75) of an activity and requires some physical contact to steady, guide, or move
- Moderate or extensive Assistance - Patient performs at least 50%(0.50) of an activity and requires physical assistance for functional mobility or ADLs
- Maximum Assistance - Patient performs 25%(0.25) to 50%(0.50) of an activity and requires physical assistance for functional mobility or ADLs
- Total Assistance or dependence - Patient performs less than 25%(0.25) of an activity and may require total assistance for functional mobility or ADLs

37:
Activities of daily living (ADLs) are defined as basic self-care activities. Examples of ADLs include eating, dressing, bathing, grooming, toileting, and walking or transferring. Instrumental activities of daily living (IADLs) are defined as advanced skills or activities requiring more complex interactions with others and the environment, such as household management, financial management, childcare, etc. For younger patients, IADLs may include performing chores and attending school. The ability or inability to perform ADLs can be used as a measure of ability or disability in assessing rehabilitation outcomes.

38:
Prior level of function refers to the patient's level of function prior to the onset of this episode of illness or injury. This must be taken into consideration when discharge goals are identified.

39:
Patients who are breathing spontaneously for 72 consecutive hours (three days) are considered to be successfully weaned.

40:
Instruction: This criterion is intended to cover those patients who have completed ventilator weaning and may require up to two weeks of additional therapy to address their functional limitations. For patients who require more than two weeks, an appropriate therapy criteria subset should be used to validate the continued stay.

41:
There is considerable practice variation and no universally accepted protocol for the optimal timing and approach for tracheostomy decannulation (Singh et al., J Intensive Care 2017, 5: 38). Expert recommendations for predicting successful decannulation indicate the need for a thorough assessment of the following: level of consciousness or cognition, cough effectiveness, swallowing function, and the patient's ability to handle secretions and tolerate tracheostomy tube capping. The most frequent criteria used by clinicians are patient level of consciousness, cough effectiveness and ability to tolerate tracheostomy tube capping (Santus et al., BMC Pulm Med 2014, 14: 201). The process of tracheostomy decannulation may vary depending on patient presentation, clinician preference, or institution-dependent practices. Methods include downsizing the tracheostomy tube, increasing periods of cuff deflation, insertion of fenestrated tubes, use of a tracheal button, and rapid removal of the tube as the patient's condition improves. A successful decannulation occurs when there is no need for reinsertion of the tracheostomy tube. A time frame of 24 hours to 3 to 6 months during which reinsertion of the tube was averted and/or until discharge from the hospital have also been used to define success (Singh et al., J Intensive Care 2017, 5: 38).

42:
Post decannulation monitoring is required to ensure the patient has the ability to maintain a patent airway and the ability to clear or manage secretions. An assessment of oxygenation status and monitoring of the tracheostomy site is also required.

43:
Patient or caregiver home management education refers to training on stoma care, oxygen usage, suctioning procedures, managing secretions, signs and symptoms of infection, and when to seek non-emergency and emergency care.

44:
The inability to decannulate is determined when either an upper airway obstruction has been confirmed or the patient has been unable to tolerate tracheostomy plugging over a period of three consecutive days.

45:
Transition to home mechanical ventilation is a complex process and may require a time frame of 2 to 3 weeks prior to discharge for the following: completion of a home assessment, training of home-care professionals, and patient and caregiver education. Extended training and education training may help reduce stress, caregiver burden, and

improve health-related quality of life (Dale et al., Ann Am Thorac Soc 2017:; MacIntyre et al., Can Respir J 2016, 2016: 6547180). Patient and caregiver education will address the following:

- Primary ventilator and backup systems (e.g., electrical capabilities, local utility company notification, instructions for cleaning, assembly and use, specific times on and off the ventilator, oxygen rate, alarms, and monitors)
- Artificial airway device - noninvasive/invasive (e.g., instructions for care including cuff inflation or deflation, airway care plan, suctioning, speaking tube operation)
- Adjunctive therapies (e.g., medications, aerosols, oxygen therapy, secretion airway devices, chest physiotherapy)
- Emergency procedures that define when to seek medical advice and documented plans for power failure, accidental decannulation, or ventilatory failure, local emergency response systems, etc.
- Medications, supplies, and equipment
- Importance of adhering to schedule of follow-up medical care

46:

A home evaluation is recommended in advance of discharge to ensure the home environment can safely support the technological needs of the patient (e.g., ventilator equipment, appropriate electrical capabilities, availability of backup systems).

47:

The optimal management of withdrawing life support requires informed consent, a plan for performing the procedure, and initiation of adequate sedation and analgesia to ensure patient comfort during the process. Weaning or slowly tapering of treatment is rarely warranted, and may be employed when more time is required to meet the patient's needs for pain relief. The time course leading to withdrawal of mechanical ventilation will vary according to the patient's response to the process. The main goal is to ensure the patient is comfortable and pain-free (Campbell, AACN Adv Crit Care 2015, 26: 110-20; quiz 21-2).

48:

The Centers for Disease Control and Prevention (CDC) define a fever as greater than or equal to 100.4 degrees Fahrenheit (i.e., greater than or equal to 38 degrees Celsius) and do not specify the route of measurement (Centers for Disease Control and Prevention, Definitions of symptoms for reportable illness. 2017). The route utilized may be directed by institutional protocols, equipment availability, patient preference, or other patient-specific factors.

49:

Blood products include packed cells, platelets, albumin, and fresh frozen plasma.

50:

Indications for chest tubes include pneumothorax, pleural effusion, chylothorax, empyema, hemothorax, and hydrothorax. The goal is to evacuate air, fluid, or blood from the pleural space. The removal of fluid or air is accomplished by connection of the chest tube to a drainage device (e.g., water seal drainage system, one-way valve, etc.). There is considerable debate on whether or not water seal or low-pressure suction is the best method to achieve full lung expansion. In the management of chest trauma, there is some evidence suggesting that low-pressure suction may be a better option than water seal by decreasing the duration of chest tube treatment, length of hospital stay, and persistent air leakage (Feenstra et al., Eur J Trauma Emerg Surg 2018, 44: 819-27). Post-insertion monitoring includes vital sign and lung assessment, insertion site inspection, water seal and suction device checks with measurement of drainage, and assessment for complications (bleeding, infection, subcutaneous emphysema, lung trauma, or bronchopleural fistula). Serial chest x-rays may also be performed to ensure that there is no re-accumulation of air or fluid. The decision to remove a chest tube is based on the reason for placement and patient response. Generally, the chest tube is removed when there is no evidence of air leak, minimal drainage (less than or equal to 200 mL/day or less than 2 mL/kg/day whichever is less) and the lung is fully expanded. In some postoperative situations, chest tubes can be safely withdrawn with daily outputs up to 450 mL/day. Following the removal of a chest tube, a routine chest x-ray may be performed within 1 to 4 hours for mechanically ventilated patients to detect a recurrent pneumothorax. In non-mechanically ventilated patients, the decision is dependent upon the patient's signs and symptoms and medical practitioner preference (Porcel, Tuberc Respir Dis (Seoul) 2018, 81: 106-15).

51:

Significant cardiac arrhythmias may include any of the following: Atrioventricular nodal reentry tachycardia (AVNRT), sinus pauses of 3 seconds or more, bradycardia (heart rate less than 60), multifocal atrial tachycardia, 2nd degree atrioventricular (AV) block (Mobitz II), 3rd degree (complete) AV block, AV junctional tachycardia, ventricular tachycardia, ventricular fibrillation, torsade de pointes, and uncontrolled ventricular response with either atrial fibrillation or flutter or Wolff-Parkinson-White (WPW) syndrome (Jang et al., Emerg Med Clin North Am 2014, 32: 79-102).

52:

Syncope is the transient loss of consciousness caused by diminished cerebral blood flow, identified as brief, with spontaneous onset and recovery (Brignole et al., Eur Heart J 2018, 39: 1883-948; Shen et al., Journal of the American College of Cardiology 2017, 70: e39-e110).

53:

In the post-acute setting, management of complex wounds is a multi-step process provided by skilled professionals who are trained in the assessment and treatment strategies for complex wound management. The basic principles of wound care aim to identify the etiologic causes and address underlying systemic and metabolic conditions that contribute to non-healing wounds. Debridement, offloading, management of ischemia, management of infection, wound bed preparation and optimization of medical and nutritional status are pillars of wound healing. Advanced novel therapeutic approaches (e.g., Negative Pressure Wound Therapy (VAC), growth factors, electrical stimulation, ultrasound, hyperbaric oxygen therapy, human skin equivalents) are recommended when standard therapies fail to result in wound healing. Pain management, nutritional support, and the use of support surfaces (e.g., overlay, replacement mattress, specialty beds) may also be part of the treatment plan. Ongoing patient and wound reassessment are required to optimize wound progression and healing. Wounds that are appropriately managed should show measurable progress within two to four weeks. Nonhealing wounds may reflect a wound that is not realistically expected to heal or indicative of an underlying comorbid condition, or in rare cases, may be the result of a poor management plan. If there has been less than a 50% change in wound size in 4 weeks, or the wound has not changed, the wound care plan may need to be altered. An alternate level of care for continued wound treatment should be considered when there is evidence of continued wound healing, stabilization of contributory wound factors, and effective pain control.
Discharge planning to the home setting includes an assessment of the patient and/or caregiver's ability to learn and perform the necessary wound care regimen, complexity of the treatment regimen, and a plan for managing contributory factors. The patient and/or caregiver must be able and willing to participate in self-care, or there is sufficient caregiver or agency assistance planned to adequately meet the patient's needs (Gupta et al., Wounds 2017, 29: S19-S36; Frykberg and Banks, Adv Wound Care (New Rochelle) 2015, 4: 560-82).

54:

Instruction: This criterion refers to a complex wound that requires at least one hour of treatment to complete. This can include orders for dressing changes and wound care once per day, twice per day or three times per day, etc., as long as the one hour time frame is met. The one hour time frame is inclusive of the time required to optimize wound healing including: performance of accurate wound assessments; turning and repositioning for pressure redistribution; dressing changes inclusive of the time to remove the old dressing, cleansing of the wound, removal of any nonviable tissue, application of topical therapy and dressing application, and any secondary dressings to protect the condition of the periwound.

55:

Wound debridement is the gold standard for removing necrotic (devitalized) wound tissue and is indicated for both acute and chronic wounds when necrotic, damaged, or infected tissue matter is present. It is a crucial step in promoting wound healing and reducing the bacterial load. Debridement may be accomplished by sharp surgical removal, enzymatic (chemical) agents, autolysis, biologic agents (maggot or larval therapy), or by mechanical removal with the aid of wet-to-dry dressings, or whirlpool treatment. Recent advances in wound debridement include hydrosurgery, ultrasound therapy, and plasma-mediated radiofrequency ablation therapy. Ultrasound therapy showed a significant reduction in healing time and shorter operating time when compared to the gold standard debridement technique of using a scalpel or curette. Selection of more than one debridement method may be appropriate and will depend on the status of the wound (e.g., type and amount of necrotic wound tissue, vascularity of the wound, absence or presence of infection) and the patient's medical condition and treatment goals.

Autolysis and conservative sharp debridement are usually the methods of choice for wounds with slough. Surgical sharp debridement involves the use of instruments or laser therapy and is the treatment of choice for wounds when there is an urgent need for debridement such as advancing cellulitis, extensive necrosis, crepitus, fluctuance, and/or sepsis secondary to ulcer infection. Sharp surgical debridement is contraindicated in patients with an intact eschar and no clinical evidence of an underlying infection. Risk of bleeding is a concern, especially in those on anticoagulant therapy (Bekara et al., Arch Plast Surg 2018, 45: 102-10; McCallon et al., J Am Coll Clin Wound Spec 2014, 6: 14-23).

56:

Instruction: This criteria refers to an established dialysis regimen. This may consist of hemodialysis, generally performed three times a week, or peritoneal dialysis performed at least daily.

57:

Therapeutic anticoagulation (e.g., heparin drip protocol, fondaparinux, full dose weight-adjusted low molecular weight heparin [LMWH]) is used to treat an underlying thromboembolic event or may be required for certain vascular and cardiovascular problems. Prophylactic anticoagulation (e.g., subcutaneous heparin every eight hours or fixed low dose LMWH daily) is used to prevent thrombosis and is not sufficient to meet this criterion.

58:

Intravenous (IV) loop diuretics (e.g., furosemide, torsemide, bumetanide, ethacrynic acid) are administered to relieve the symptoms of dyspnea and congestion without excessively reducing intravascular volume. Due to their relatively short half-life, diuretic effectiveness can be enhanced by continuous administration or multiple boluses daily. Careful monitoring of daily weights, orthostatic vital signs, intake and output, electrolytes, and renal function are key components of diuretic therapy. If a patient does not initially respond to IV diuretics, other options may be considered, including increasing the dose to ensure adequate drug levels reach the kidneys and adding a second diuretic, typically a thiazide, to the loop diuretic in order to improve diuretic responsiveness (Heidenreich et al., Circulation 2022, 145: e895-e1032; Maddox et al., J Am Coll Cardiol 2021, 77: 772-810; Rosendorff et al., Circulation 2015).

59:

Dextrose 50%(0.50) with insulin is used for the treatment of hyperkalemia. This treatment shifts potassium intracellularly, and repeated doses can be given if the hyperkalemia persists. Other treatments that may be used simultaneously include potassium binding agents, diuretics, nebulized albuterol, calcium, sodium bicarbonate, and dialysis (Depret et al., Ann Intensive Care 2019, 9: 32).

60:

Immunosuppressant medications are used to treat conditions such as graft-versus-host disease (GVHD), hemolytic anemia, organ transplant, graft failure, rejection, inflammatory bowel disease, acute glomerulonephritis, and inflammatory cellulitis. Medications used for immunosuppression include prednisone, prednisolone, cyclosporine, azathioprine, mycophenolate mofetil, tacrolimus, sirolimus, everolimus, belatacept, antithymocyte globulin (ATG), and basiliximab.

61:

This criterion applies to insulin adjustments based on blood glucose values obtained by lab draw or glucose monitor. To meet this criterion, intermittent insulin must be administered at least three times in 24 hours. If the patient is on a continuous insulin infusion, the rate must be adjusted at least three times in 24 hours.

62:

Fluid is replaced based on measured and insensible losses. Examples of measurable fluid loss include:

- Urine
- Nasogastric
- Wound
- Ostomy drainage
- Diarrhea
- Vomiting

- Fluid sequestration

Examples of insensible loss include:
- Perspiration
- Breathing.

The intent of the criteria is to address patients who have excessive fluid loss due to diarrhea and/or inability to take adequate oral fluids to replace fluid loss. If the losses are due to diarrhea, there is no expectation that the order for intravenous fluids will specify measurement of the diarrhea, replacement on a cubic centimeter (cc) for cc basis, or any titration of the fluid rate based on the number of cc's lost. Continuous intravenous fluid should be ordered in a clinically significant amount that indicates a need for replacement along with documentation of excessive diarrhea (to support that there are "losses").

63:
Oliguria is defined as urine output less than 0.5 *mL/kg*/h.

64:
A neurological assessment establishes a baseline so that subtle changes can be monitored. A comprehensive neurological assessment often includes an evaluation of:
- Mental status (e.g., level of consciousness, orientation, insight, calculation ability)
- Cranial nerves (e.g., olfactory, optic, vestibulocochlear)
- Motor system (e.g., muscle tone, strength, reflexes)
- Sensory system (e.g., light touch, pain, temperature)
- Coordination (e.g., orchestration and fluidity of movement)
- Gait (e.g., heel-to-toe straight-line walking)

65:
Instruction: Vasoactive agents, which can safely be administered in the long-term acute care (LTAC) setting include low-dose dobutamine, intravenous nitroglycerin, and dopamine (≤ 5µg/kg/min). This criteria excludes the administration of vasopressors. Higher dosage levels of vasoactive agents should only be administered by LTAC facilities with appropriate monitoring capabilities and nursing care.

66:
Volume expanders are fluids administered intravenously to increase circulatory volume. Studies have demonstrated that a balanced crystalloid solution (e.g., Lactated Ringer's) is preferable to colloids in restoration of intravascular volume in sepsis and septic shock (Evans et al., Crit Care Med 2021, 49: e1063-e143; Rhodes et al., Crit Care Med 2017, 45: 486-552; Winters et al., J Emerg Med 2017, 53: 928-39). However, crystalloids have been found to be less effective than colloids at stabilizing hemodynamic endpoints in critically ill patients (Martin and Bassett, J Crit Care 2019, 50: 144-54). The type of fluid selected for administration should be based on the indication for its use and other patient-specific factors.
Instruction: In order to apply criteria for volume expanders, there should be documentation of a volume deficit supported by clinical findings. The volume of infusion is patient-specific and varies based on the cause of volume depletion, comorbid condition, and patient response. Criteria for volume expander should not be applied for maintenance intravenous fluids or electrolyte replacement.

67:
The discharge screen is a resource tool and not criteria. Referring to the discharge screen at the initiation of discharge planning is recommended.

68:
The home environment and safety assessment will normally include an evaluation of the patient's pre- and post-hospitalization functional level, physical layout of the home (e.g., entrances and exits, stairs, access to the community), identification of unsafe conditions (e.g., scatter rugs, missing handrails, oxygen use and smoking, lack of fire safety devices, inadequate lighting, heating, and cooling), factors that may trigger symptoms (e.g., secondhand smoke, poor food choices, dysfunctional family dynamics), sanitation hazards (e.g., lack of electricity,

running water, refrigeration, inadequate toilet facilities, presence of insects or rodents), and the need for adaptive equipment (e.g., walker, handrails for the tub or shower, elevated toilet seat).

69:

Follow-up care can be provided by the medical practitioner at the office, by other healthcare providers, and through outpatient visits, including laboratory testing.

70:

Ensuring the patient and/or caregiver understands all aspects of the condition and can assume responsibility for self-care is crucial in preventing readmission. Assessing a patient and/or caregiver's level of understanding after education has been provided can be difficult. The teach-back method is an effective way of providing education at the appropriate level and can also be used to assess the learner's comprehension. To use the teach-back method, discuss key points in common terms and avoid using medical jargon or unfamiliar terms. After the education has been delivered, ask the learner to repeat what was learned. Gaps or misinterpretations in the learner's explanation will pinpoint areas where communication may have failed and provide opportunity for clarification.

71:

Medication reconciliation is a formal process or technique used by health care providers and pharmacists to identify the most complete and accurate list of all medications a patient is taking at times of transitions in care (e.g., upon hospital admission, transfer from one unit to another during hospitalization, or discharge from the hospital to home or another facility). The goals of this process are to ensure medication and dosages are appropriate for the patient, resolve discrepancies in drug regimens, and ultimately prevent medication errors and reduce adverse drug events. Medication reconciliation is a Joint Commission National Patient Safety goal. Coordinating information when a patient is transferred to another setting, service, practitioner, or level of care ensures accurate medications are listed. The process is comprised of the following (Hospital: National Patient Safety Goals. 2020):

- Obtain an external list of medications (e.g., medications taken prior to admission)
- Develop a list of current medications and add them to the medical record
- Compare the medications from the external list to the current list
- Clarify inconsistencies/discrepancies (e.g., omissions, duplications, contraindications, unclear information, and changes)
- Develop a list of medications to be prescribed at discharge or transfer
- Communicate the new list to the patient and/or appropriate caregiver(s)
- Ensure that patient and/or caregiver(s) understand the medication information upon discharge

Specific medication issues identified as being problematic include missing medication information from transfer orders, lack of information on medications provided in the acute setting, incomplete medication records, discrepancies between hospital regimen and discharge summary, and missing information pertaining to the patient's tolerance of a medication regimen. Although medication reconciliation is an important aspect in patient safety, there is a lack of consensus and evidence about the best effective methods of implementing this process. Physician-led and electronic medication reconciliation in hospitals are effective strategies to reduce medication discrepancies, however, the impact of these interventions is uncertain due to the low quality of evidence (Choi and Kim, J Clin Pharm Ther 2019, 44: 932-45; Redmond et al., Cochrane Database Syst Rev 2018, 8: CD010791). Trained pharmacy technicians, under the direction of a licensed pharmacist, may be an option for developing and expanding medication reconciliation processes (Irwin et al., Hosp Pharm 2017, 52: 44-53).

72:

Completion of family training, with the goal of the patient and/or family being able to safely manage care, may include demonstrating knowledge and aptitude in areas such as transfer skills, medication management, application of splints/pressure garments, skin care, and knowledge of community resources.

73:

Ostomy refers to those patients who have an artificial cutaneous opening into the stomach, large or small bowel, bladder, kidney, ureter, and/or trachea, etc. Ostomy management includes assessment, interventions and monitoring of the ostomy site for complications as well as patient or caregiver instruction in proper ostomy management.

74:
The initial clinical assessment is performed by a licensed professional and includes a comprehensive review of the patient's presenting diagnosis and a review of body systems. Identification of current and potential medical needs and health problems can be identified by the clinical assessment. The clinical assessment includes:

- History and physical exam (e.g., vital signs, height, weight)
- Pain assessment includes cause, intensity, quality, onset, duration, and effects on quality of life (e.g., activities of daily living (ADLs), instrumental activities of daily living (IADLs), and interpersonal relationships). Pain relievers should also be included
- Nutritional and hydration status
- Functional ability
- Safety and infection control measures
- Prescribed and over-the-counter (OTC) medications, herbal supplements, and home remedies
- Patient's and/or caregiver's understanding of medication use, dosing, side effects, and adherence to the medication or treatment regimen
- Patient's and/or caregiver's understanding of the illness or disease process and potential long-term complications
- Patient's and/or caregiver's coping strategies to deal with the illness or injury and ability to follow the plan of care

75:
Patients may be eligible for long-term home mechanical ventilation when they have a patent tracheostomy tube for ventilatory support and are medically stable without the need for intensive medical services. Lack of an appropriate discharge plan, an unsafe physical environment, and lack of resources (a minimum of two caregivers is recommended) for care in the home setting are considered contraindications to home ventilation.

76:
Medication management includes an assessment of the patient's tolerance, the effectiveness of the prescribed medications, the patient's adherence with the regimen, and adverse effects of the medications.

77:
Patient and caregiver education may be provided by one-on-one instruction, audiovisual aids, simulations and role-playing, and self-instruction modules. An assessment of the patient's and/or caregiver's understanding of the material provided may be evaluated by a demonstration of the specific skills or by a verbal response indicating comprehension of the material. Topics for teaching may include disease process, medication administration, indications and effects, diet, prescribed exercises, or treatments (e.g., dressing changes, oxygen administration, blood glucose monitoring, enteral feedings), safety precautions, importance of follow-up with health care provider, emergency management, and community services.

78:
Treatment precluded in a lower level (e.g., home care services, outpatient clinic) is dependent upon several factors including:

- The patient's caregiver or family support system
- The availability of qualified alternate levels of care
- The patient's benefit plan

The patient's medical needs should be met at the least intensive level of care that can safely provide the necessary services.

79:
Rehabilitation potential refers to the probability that therapy and medical goals are realistic and attainable based on patient's prior level of function, severity of illness or injury, and the extent of impairments.

80:
Skilled nursing services refers to services that must be provided by a licensed nurse who is qualified to assess and monitor patient condition(s) and provide medical treatment and/or teaching to patients who have skilled nursing

needs. Examples of Skilled Nursing Facility level of care interventions include:

- Parenteral medications ≥ 2x/day
- Assessment of clinical status at least daily
- Management and evaluation of a care plan
- New enteral feeding management and teaching
- Patient and/or caregiver education

81:

Skilled nursing services refers to services that must be provided by a licensed nurse who is qualified to assess and monitor patient condition(s) and provide medical treatment and/or teaching to patients who have skilled nursing needs. Examples of Subacute level of care interventions include:

- Multiple intravenous (IV) medications
- Single IV medication given ≥ 3x/day
- Chronic ventilator management
- Monitoring and assessment of conditions where clinical assessment is required ≥ 3x/24h in combination with multiple parenteral medications and/or therapies
- Daily or every other day blood or albumin transfusions
- Multiple and frequent (3-4x/24h) interventions such as respiratory, wound management, and/or total parenteral nutrition (TPN) or peripheral parenteral nutrition (PPN)

82:

Based on the patient's current medical condition and expected discharge needs, other services, or alternate levels of care (ALOC) may be appropriate to adequately address any medical, psychiatric, or substance-related disorder needs.

2025, Mar. 2025 Release LOC:Long-Term Acute Care
Wound / Skin

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Overview

Level of Care Note
Introduction
Wound management is a complex process that requires an accurate initial diagnosis and implementation of a collaborative multidisciplinary treatment plan to promote wound healing and minimize complications. Acute surgical wounds and chronic recalcitrant wounds that fail to heal can result in life-threatening conditions, including osteomyelitis, lower limb amputation, bacteremia, and sepsis. Serious comorbidities such as diabetes, nutritional disorders, and immunosuppression require close medical management.
Two of the top 20 diagnostic related groupings (DRGs) treated in Long-term Acute care settings (LTACs) are (Top 20 DRGs for Long-term Acute Care Hospitals, 03-31-2021 ed. 2021):

- Skin ulcer with major complications or comorbid conditions (national average length of stay of 24.3 days)
- Skin debridement with major complications or comorbid conditions (national average length of stay of 30.4 days)

Evaluation and Treatment
Complex wound management requires treatment by a medical or surgical practitioner-led multidisciplinary team with advanced knowledge and skills in wound care. This team may include a wound care nurse, plastic or vascular surgeon, nutritionist, pharmacist, social services, respiratory therapy, or rehabilitation therapy. The patient should have a reasonable potential to benefit from an intensive medical or rehabilitative program with wound healing or improvement anticipated. Treatment and medical management include:

- A comprehensive evaluation of the patient's clinical condition and functional status.
- A comprehensive wound assessment which includes identification of the underlying etiology and any comorbidities that require active treatment.
- Development of a plan of care within two days of admission with identified measures and goals for evaluation of progress. Focus is on promotion and management of an optimum wound healing program, including wound bed preparation, infection and inflammation management, moisture balance, and interventions to address pain control, optimal nutrition, and an appropriate tissue load management program (e.g., specific positioning and support surfaces).
- Interdisciplinary team meetings weekly with medical practitioner oversight.
- Assessment of discharge planning needs and establishment of a transition plan.

The CMS Inpatient Prospective Payment System (IPPS) standard LTAC payment rate will be based on patient-level clinical criteria:

- The (patient) stay in the LTAC was immediately preceded by a discharge from an acute care hospital that included at least 3 days in an intensive care unit (ICU)
- The stay in the LTAC was immediately preceded by a discharge from an acute care hospital and the patients LTAC stay is assigned to an MS-LTC-DRG based on the receipt of ventilator services for at least 96h

The above are related to reimbursement, not determination of medical necessity. Patients that do not meet these criteria may be eligible for waivers in some circumstances, and regardless of payment status, may be clinically appropriate for LTAC level services. The InterQual® criteria are used for medical necessity determination.

InterQual® criteria are derived from the systematic, continuous review and critical appraisal of the most current evidence-based literature and include input from our independent panel of clinical experts. The content is based on a variety of references which are cited at specific criteria points throughout the subset.

Program Requirements:
Treatment required at this level of care due to clinical complexity includes the following:

- Acute and comorbid conditions requiring prolonged hospitalization
- On-site wound care specialty services
- Medical practitioner assessment or intervention daily
- Skilled nursing services ≥ 6.5h/24h

Severity of Illness

(In lieu of Acute or continued hospitalization or failed ALOC)

- **Severity of Illness, All:**
  - ADMISSION
  - **Wound or skin condition, ≥ One:** [1, 2]
    - Wound, ≥ **One:**
      - Extensive undermining or tunneling
      - High-output fistula ≥ 200 mL last 24h and at risk for metabolic, fluid, or electrolyte disturbance
      - Non-healing or open surgical wound [3]
      - Pre-op optimization [4]
      - Present on the perineal, ischial, or coccygeal area with urinary or fecal incontinence
    - Lower extremity wound and risk of limb loss, **Both:**
      - Finding, ≥ **One:**
        - Deep ulcer with abscess or osteomyelitis [5]
        - Gangrene [6]
        - Involvement of ligament, tendon, joint capsule, or deep fascia
        - Necrotic tissue
      - Risk factor, ≥ **One:** [7]
        - Age ≥ 65
        - Arterial or venous insufficiency, actual or suspected, **One:**
          - Evaluation planned ≤ 2d
          - Confirmed by history
        - Hx of previous amputation or ulceration
        - Peripheral neuropathy
        - Foot deformity
    - Necrotic wound requiring multiple aggressive sharp (conservative or surgical) wound debridement [8]
    - Post skin flap or graft and risk of non-adherence [9]
    - Post traumatic wound without wound closure ≥ 1wk [10]
    - Recalcitrant wound, **Both:** [11]
      - Failure to progress to next stage of healing ≥ 2wk
      - Failed ALOC [12]
    - Surgical or wound infection, ≥ **One:**
      - Abscess
      - Deep draining fistula
      - ≥ 2 Stage II pressure injuries on ≥ 2 turning surfaces [13]
      - Over a prosthetic or implanted device
      - Following hospitalization for necrotizing fasciitis and open wound
      - Post dehiscence of surgical wound
    - Wound or skin condition ≥ 15%(0.15) BSA [14]
  - **Active management or treatment of comorbid condition, ≥ One:** [15, 16]
    - Acute kidney injury [17]
    - End-stage renal disease (ESRD) on dialysis [18, 19]
    - Altered mental status with behavioral symptom (new onset or worsening) ≤ 30d, ≥ **One:** [20]
      - Change in cognition [21]
      - Impulsive, agitated, or aggressive [22, 23, 24]
      - Perceptual disturbance [25]
      - Withdrawn or uncommunicative [26]
    - Chest tube [27]
    - COPD, ≥ **One:** [28]
      - O_2 sat ≤ 91%(0.91) and < baseline [29]
      - Po_2 ≤ 60 mmHg(8.0 kPa)
      - Arterial or venous Pco_2 > baseline [29, 30]
    - Diabetes and uncontrolled blood sugar, ≥ **One:** [31, 32]

- Fluctuation between hyperglycemia and hypoglycemia within last 24h
- Fluctuation between hyperglycemia and normal blood sugar with no consistent pattern
- Symptomatic hyperglycemia or hypoglycemia

- DVT or pulmonary embolus
- Functional limitation, ≥ **One:** (33)
  - Movement restricted to ≤ 2 turning surfaces
  - BMI ≥ 35 kg/m^2 (34)
  - Quadriplegia, paraplegia, hemiplegia, or triplegia
- Heart failure and dyspnea at rest or minimal exertion (35, 36)
- Hepatic encephalopathy Stage II or III (37)
- Immunocompromised (38)
- Infection with systemic manifestation ≤ 30d (39, 40)
- Malignant or end-stage disease (41)
- Malnutrition requiring nutrition consult and management (42, 43)
- Oxygen ≥ 40%(0.40) (44)
- Ventilator dependent, NIPPV, or respiratory insufficiency (45, 46)

- Clinical status, **All:**
  - Neurologically stable last 24h (47)
  - No active hemorrhage or bleeding controlled or managed
  - Heart rate ≤ 120/min or arrhythmia managed (48)
  - Respiratory rate ≤ 30/min and stable airway
  - Systolic BP ≥ 90 mmHg or within acceptable limits last 24h (49, 50)

Intensity of Service

(At least daily and excludes PO medication unless noted)

- **Intensity of Service, One:**

  Admission Review

  - **Admission, All:**
    - **Multidisciplinary care coordination and psychosocial management, Both:** (51, 52)
      - Medical practitioner assessment or evaluation daily (53, 54)
      - Discharge plan initiated (51)
    - **Comprehensive assessment of wound progress, One:** (55, 56)
      - Partial progress in wound healing and wound expected to heal, ≥ **One:** (57, 58)
        - Absence of eschar or necrotic tissue or reduction ≥ 25%(0.25)
        - Decreased wound size or surface area (e.g., length, width, depth)
        - Decreased erythema or maceration surrounding wound
        - Exudate controlled or reduction in volume and periwound skin intact
        - Granulation tissue present or graft adherence with edges approximated
        - Open, proliferative wound edges and presence of new epithelium at wound rim
        - Wound free of overt signs of infection (e.g., purulence, foul odor)
      - Recalcitrant wound and alternative or adjunct treatment required (11)
    - **Wound treatment or intervention, ≥ One:**
      - Wound care, ≥ **One:**
        - ≥ 3x/24h
        - ≥ 1h/24h in duration
      - Post skin flap or graft assessment ≥ 3x/24h and immobilization required ≤ 5d (59)
      - Specific modalities, ≥ **Two:**
        - Anti-infective ≥ 2x/24h (includes PO)
        - Dressing change ≥ 3x/wk (60, 61)
        - Debridement, sharp (conservative or surgical) ≥ 1x/wk (8)
        - Electrical stimulation and failure of conventional treatment ≥ 30d, ≥ **One:** (62)
          - Arterial, venous stasis, or neuropathic diabetic ulcer
          - Chronic Stage III or IV pressure injuries (13)

- High-compression therapy [63]
- Hydrotherapy or irrigation at least daily and sharp (conservative or surgical) debridement planned within 1wk [64]
- Hyperbaric oxygen therapy and compromised wound [65]
- ⛔ Isolation, ≥ **One:**
  - Active infection with DRSP, MRSA, MDRO, or VRE [66]
  - *C. difficile* infection [67, 68]
  - Immunocompromised [38]
- NPWT and dressing changes at least 3x/wk [69]
- Requiring anesthesia or parenteral analgesic
- ⛔ Specialty bed required for pressure redistribution, ≥ **One:** [70]
  - Pelvic or trunk ulcer
  - Post flap reconstruction for ischial, trochanteric, or sacral ulcer
- Specialized wound dressing (e.g., bioengineered tissue, collagen)

⛔ **Treatment of comorbid condition, ≥ One:** [16]

- ⛔ Altered mental status (change from baseline), ≥ **One:** [71]
  - Neurological assessment at least 3x/24h [72]
  - Medication adjustment (includes PO) ≤ 3d [73]
  - Diagnostic evaluation (includes lab or imaging studies) ≤ 3d
- Blood product transfusion at least every 72h [74]
- ⛔ Continuous cardiac monitoring (excludes Holter) ≤ 1 wk, ≥ **One:**
  - Arrhythmia
  - Hypo or hyperkalemia
  - Post pacemaker insertion (permanent or temporary)
  - Acute kidney injury
  - Syncope [75]
- Chest tube [27]
- ⛔ Dialysis or ultrafiltration, **One:** [18]
  - Acute kidney injury
  - ⛔ End stage renal disease, ≥ **One:**
    - Monitoring ≤ 7d
    - Permanent access not clinically appropriate and temporary catheter functioning ≤ 5d
    - Unable to tolerate at least 3h due to posterior wound location
    - Unstable dialysis regimen requiring modification at least weekly
- *C. difficile* infection and anti-infective (includes PO) [67, 68]
- ⛔ Hepatic encephalopathy Stage II or III, ≥ **One:** [37, 76]
  - Branched-chain amino acids (BCAA) (includes PO) [77]
  - Lactulose (includes PO or PR) [78]
  - L-ornithine L-aspartate (LOLA) [79]
  - Neomycin (includes PO) [80]
  - Rifaximin (includes PO) [81]
- ⛔ IV fluid, **One:**
  - ≥ 50 mL/h
  - ⛔ Replacement based on losses at least 3x/24h, ≥ **One:** [82]
    - Diarrhea
    - Oliguria [83]
    - HF
- Laboratory monitoring and medication adjustment at least 2x/24h [73]
- ⛔ Medication administration, ≥ **One:**
  - Analgesic ≥ 3x/24h or continuous
  - Antiarrhythmic
  - Anticoagulant, therapeutic [84]
  - Anticonvulsant

- Antihypertensive
- Anti-infective
- Beta blocker
- Calcium and hypocalcemia
- Calcium channel blocker
- Corticosteroid (includes PO)
- Diuretic ≥ 2x/24h [85]
- Glucose 50%(0.50) with insulin [86]
- H_2 blocker or PPI
- Immunosuppressant (includes PO) [87]
- Insulin adjustment ≥ 3x/24h (includes SC) [88]
- Magnesium and hypomagnesemia
- Phosphate and hypophosphatemia
- Polystyrene (Kayexalate) (PO or PR)
- Prokinetic agent
- Sedative ≥ 3x/24h
- Vasoactive agent [89]

⛔ Pulmonary condition, ≥ **One:**
- Corticosteroid (includes PO) [90]
- Chest physiotherapy at least 3x/24h [91]
- ⛔ Oxygen and oximetry or ABG, **Both:**
  - Adjustments at least 2x/24h
  - ≥ 28%(*0.28*) [44]
- Nebulizer treatment with bronchodilator or mucolytic at least 4x/24h
- Suctioning at least 4x/24h
- Tracheostomy, (new) ≤ 30d since placement and monitoring required
- Ventilator dependent or NIPPV [45, 92]

⛔ Rehab therapy (PT, OT, or SLP), ≥ **One:**
- 1-3h/d ≥ 5d/wk
- ⛔ Fatigue ≤ 1d, ≥ **One:**
  - Chemotherapy or radiation related complication
  - Hemodialysis [93]
  - Medication induced
  - Other invasive procedure [94]

- Shunt or abscess drain management
- Parenteral or enteral feeding
- Volume expander [95]

Continued Stay

⛔ **Continued Stay, One:**

⛔ **Responder**, medical and rehab potential maximized and discharge expected, **One:** [96]

⛔ Wound healing goals met or treatment regimen established and care manageable at ALOC, **All:** [57, 97]

⛔ Hemodynamic and neurologically stable last 2d, **All:** [47, 98]
- Heart rate 50-100/min or within acceptable limits [50]
- Systolic BP 90-140 mmHg or within acceptable limits [49, 50]
- Afebrile

- Clean wound and absence of infection
- Lab values within acceptable limits [50]
- Medication regimen stabilized and tolerated
- Nutritional status stable or improving
- Pain absent or controlled and manageable [99]

⛔ Functional status, **One:**

⛔ Home discharge planned, ≥ **One:**
- Modified or fully independent with transfers, ambulation, or mobility [100]

- Modified or fully independent, or minimum assist with ADLs [100, 101]
- Caregiver demonstrates independence with transfers or ambulation and ADLs or IADLs [100, 101]
- Prior level of function achieved [102]
- Rehab therapy services arranged for ALOC
- Rehab therapy services not required

- Wound not expected to heal with treatment regimen established and care manageable at ALOC [103]

⛔ **Partial responder**, potential for clinical and/or functional improvement, **All:**

⛔ **Multidisciplinary care coordination and psychosocial management, Both:** [51, 52]
- Medical practitioner assessment or evaluation daily
- Discharge plan initiated or in process [51]

⛔ **Comprehensive assessment of wound progress, One:** [55]

⛔ Partial progress in wound healing and wound expected to heal, ≥ **One:** [57, 58]
- Absence of eschar or necrotic tissue or reduction ≥ 25%(0.25)
- Decreased wound size or surface area (e.g., length, width, depth)
- Decreased erythema or maceration surrounding wound
- Exudate controlled or reduction in volume and periwound skin intact
- Granulation tissue present or graft adherence with edges approximated
- Open, proliferative wound edges and presence of new epithelium at wound rim
- Wound free of overt signs of infection (e.g., purulence, foul odor)

- Recalcitrant wound and alternative or adjunct treatment required [11]

⛔ **Wound treatment or intervention, ≥ One:**

⛔ Wound care, ≥ **One:**
- ≥ 3x/24h
- ≥ 1h/24h in duration

- Post skin flap or graft assessment ≥ 3x/24h and immobilization required ≤ 5d [59]

⛔ Specific modalities, ≥ **Two:**
- Anti-infective ≥ 2x/24h (includes PO)
- Dressing change ≥ 3x/wk [60, 61]
- Debridement, sharp (conservative or surgical) ≥ 1x/wk [8]

⛔ Electrical stimulation and failure of conventional treatment ≥ 30d, ≥ **One:** [62]
- Arterial, venous stasis, or neuropathic diabetic ulcer
- Chronic Stage III or IV pressure injuries [13]

- High-compression therapy [63]
- Hydrotherapy or irrigation at least daily and sharp (conservative or surgical) debridement planned within 1wk [64]
- Hyperbaric oxygen therapy and compromised wound [65]

⛔ Isolation, ≥ **One:**
- Active infection with MRSA, MDRO, or VRE [66]
- *C. difficile* infection [68]
- Immunocompromised [38]

- NPWT and dressing changes at least 3x/wk [69]
- Requiring anesthesia or parenteral analgesic

⛔ Specialty bed required for pressure redistribution, ≥ **One:** [70]
- Pelvic or trunk ulcer
- Post flap reconstruction for ischial, trochanteric, or sacral ulcer

- Specialized wound dressing (e.g., bioengineered tissue, collagen)

⛔ Discharge planning, ≥ **One:**

⛔ Patient or caregiver instruction for home management ≤ 2d, ≥ **One:** [104]
- Education on disease process
- Community resources
- Equipment use or safety
- Wound care supplies and treatment
- Home exercise program or activity guidelines

- Home modification planned or completed
- Medication management or teaching
- Wound healing or palliative wound care required and evaluation for ALOC ≤ 24h

⛔ **Treatment of comorbid condition, ≥ One:** (16)
- ⛔ Altered mental status (change from baseline), ≥ **One:** (71)
  - Neurological assessment at least 3x/24h (72)
  - Medication adjustment (includes PO) ≤ 3d (73)
  - Diagnostic evaluation (includes lab or imaging studies) ≤ 3d
- Blood product transfusion at least every 72h (74)
- ⛔ Continuous cardiac monitoring (excludes Holter) ≤ 1 wk, ≥ **One:**
  - Arrhythmia
  - Hypo or hyperkalemia
  - Post pacemaker insertion (permanent or temporary)
  - Acute kidney injury
  - Syncope (75)
- Chest tube (27)
- ⛔ Dialysis or ultrafiltration, **One:** (18)
  - Acute kidney injury
  - ⛔ End stage renal disease, ≥ **One:**
    - Permanent access not clinically appropriate and temporary catheter functioning ≤ 5d
    - Unable to tolerate at least 3h due to posterior wound location
    - Unstable dialysis regimen requiring modification at least weekly
- *C. difficile* infection and anti-infective (includes PO) (67, 68)
- ⛔ Hepatic encephalopathy Stage II or III, ≥ **One:** (37, 76)
  - Branched-chain amino acids (BCAA) (includes PO) (77)
  - Lactulose (includes PO or PR) (78)
  - L-ornithine L-aspartate (LOLA) (79)
  - Neomycin (includes PO) (80)
  - Rifaximin (includes PO) (81)
- ⛔ IV fluid, **One:**
  - ≥ 50 mL/h
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  - Anticoagulant, therapeutic (84)
  - Anticonvulsant
  - Antihypertensive
  - Anti-infective
  - Beta blocker
  - Calcium and hypocalcemia
  - Calcium channel blocker
  - Corticosteroid (includes PO)
  - Diuretic ≥ 2x/24h (85)
  - Glucose 50%(0.50) with insulin (86)
  - H_2 blocker or PPI
  - Immunosuppressant (includes PO) (87)
  - Insulin adjustment ≥ 3x/24h (includes SC) (88)
  - Magnesium and hypomagnesemia

- Phosphate and hypophosphatemia
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⛔ Rehab therapy (PT, OT, or SLP), ≥ **One:**
- 1-3h/d ≥ 5d/wk
- ⛔ Fatigue ≤ 1d, ≥ **One:**
  - Chemotherapy or radiation related complication
  - Hemodialysis [93]
  - Medication induced
  - Other invasive procedure [94]

- Shunt or abscess drain management
- Parenteral or enteral feeding
- Volume expander [95]

Discharge Screens

⛔ **Discharge, One:** [105]

Clinical,

⛔ **Home, All:**
- Home environment safe and accessible [106]
- ⛔ Patient or caregiver, **Both:**
  - Demonstrates ability to manage transfers or functional mobility (e.g., ambulation, wheelchair), ADLs or IADLs
  - Demonstrates ability to manage care
- ⛔ Complete prior to discharge, **All:**
  - Follow-up care planned [107]
  - Comprehensive written discharge and teaching instructions reviewed [108]
  - Medication reconciliation [109]
  - Patient or caregiver understands when and where to seek help
  - Identify and address transportation needs

⛔ **Home Care, All:**
- Home environment safe and accessible [106]
- Patient or caregiver able to learn care [110]
- Treatment regimen established
- ⛔ Skilled services, ≥ **One:**
  - Clinical assessment [111]
  - Education for self-management of TPN or PPN
  - IV medication or access device management [112]
  - Pain management or analgesic
  - PT or OT
  - Skilled wound care or dressing changes
- ⛔ Complete prior to discharge, **All:**

- Follow-up care planned and home care services arranged [107]
- Comprehensive written discharge and teaching instructions reviewed [108]
- Medication reconciliation [109]
- Patient or caregiver understands when and where to seek help
- Identify and address transportation needs

⛔ **LTC**, **All:** [113]

⛔ Level of care appropriateness, **All:**
- Patient or caregiver unable or unwilling to meet care needs
- Custodial care required or patient unsafe at home [114]
- Patient or legal guardian agrees to long-term placement

⛔ Clinical stability, **Both:**
- Hemodynamic and neurologic stability ≥ 24h [47, 98]
- PO fluids tolerated or nutritional route established [115]

⛔ Complete prior to facility transfer, **All:**
- Comprehensive written discharge and teaching instructions reviewed [108]
- Medication reconciliation [109]
- Obtain and complete forms for facility
- Obtain discharge summary and transmit to facility and medical practitioner
- Arrange transportation

⛔ **Skilled Medical or Therapy**, **All:**
- Medical practitioner, NP, or PA assessment or oversight ≥ 1x/wk
- Treatment precluded at a lower level [116]

⛔ Skilled services, ≥ **One:**

⛔ Able to tolerate 1-2h/d of skilled therapy ≥ 5d/wk, **All:**
- Functional impairment requiring at least supervision [100]
- Goal directed therapy and at least 1 therapy discipline required
- Rehab potential with expectation for clinical and functional improvement [117]

⛔ Skilled services required daily, ≥ **One:** [118]
- Anti-infective ≥ 2x/24h
- Wound or skin care at least daily
- Nursing intervention or assessment 1-2x/24h

⛔ Complete prior to facility transfer, **All:**
- Comprehensive written discharge and teaching instructions reviewed [108]
- Medication reconciliation [109]
- Obtain and complete forms for facility
- Obtain discharge summary and transmit to facility and medical practitioner
- Arrange transportation

⛔ **Subacute Medical or Therapy**, **All:**
- Medical practitioner, NP, or PA assessment or oversight ≥ 2x/wk
- Treatment precluded at a lower level [116]

⛔ Skilled services, ≥ **One:**

⛔ Able to tolerate 2-3h/d of skilled therapy ≥ 5d/wk, **All:**
- ≥ 2 functional impairments requiring at least minimum assistance [100]
- Goal directed therapy and ≥ 2 therapy disciplines required
- Rehab potential with expectation for clinical and functional improvement [117]

⛔ Skilled nursing services ≥ 4h/24h, ≥ **One:** [119]
- Anti-infective ≥ 3x/24h
- Wound care ≥ 3x/24h
- Nursing intervention or assessment ≥ 3x/24h

⛔ Complete prior to facility transfer, **All:**
- Comprehensive written discharge and teaching instructions reviewed [108]
- Medication reconciliation [109]
- Obtain and complete forms for facility

- Obtain discharge summary and transmit to facility and medical practitioner
- Arrange transportation

– **Other ALOC** (120)

Notes:

1:
Instruction: These criteria refer to non-healing wounds (e.g., pressure ulcers, diabetic ulcers, ischemic ulcers, venous ulcers), post-surgical dehiscence, open abdominal wound, evacuated hematoma, open amputation, pre- or post-operative flap or graft, avulsions, gunshot wounds, or any wound where primary closure is not possible.

2:
On-site wound care specialty services refers to the management of a complex wound by a multitude of disciplines, (e.g., advance practice and specialty nurses such as the Wound, Ostomy, and Continence Nurse [WOCN], plastic and vascular surgeons, dermatologists, infection control specialists, dietitians, pharmacologists, physical and occupational therapists, orthotists), and patient access to specialty therapeutic treatments (e.g., debridement, topical treatments, hyperbaric oxygen).

3:
Examples of surgical wounds include open abdominal wound, open amputation, and any large wound dehiscence.

4:
Pre-op optimization refers to those patients who may require an aggressive medical management program prior to a surgical procedure. Pre-operative goals may include:

- Stabilization of cardiac condition
- Optimization of nutritional status (e.g., Total Parenteral Nutrition (TPN))
- Maximization of oxygen delivery
- Control or elimination of infection or sepsis
- Increased granulation tissue prior to skin flap surgery
- Anticoagulation management

5:
Osteomyelitis, a debilitating invasive infection of the bone, may develop following an open fracture, a puncture wound, diabetic foot infection, surgical treatment of a closed injury, or hematogenous seeding bacteremia. Treatment recommendations generally suggest antibiotic therapy long term (generally four to six weeks) with surgical debridement, dead space management, and wound protection. These recommendations are dependent on the location and pattern of the disease. Treatment also includes optimizing the nutritional status of the patient and appropriate medical management of comorbid conditions, such as glycemic control in diabetics (Ford and Cassat, Expert Rev Anti Infect Ther 2017, 15: 851-60; Schmitt, Infect Dis Clin North Am 2017, 31: 325-38).

6:
Gangrene is the necrosis of tissue or bone secondary to bacterial infection or as the result of decreased blood supply due to peripheral artery disease or crush-type injuries (Howard et al., Wound Repair Regen 2013, 21: 503-11). Different types of gangrene include:

- Dry: Develops slowly and is commonly caused by atherosclerosis or similar blood vessel disease. Signs and symptoms include dry, desiccated skin of brown, purplish-blue, or black color. Treatment involves removal of necrotic tissue and addressing the underlying cause.
- Wet: Caused by bacterial infection that develops after burn, frostbite, or other injury, especially in diabetics who may unknowingly injure themselves. Tissues are edematous, blister, and appear moist. Urgent treatment with anti-infectives and debridement is recommended due to rapid spread which can be fatal.
- Gas: Deep muscle and subcutaneous tissues become filled with gas and serosanguineous exudate produced by exotoxins secondary to muscle invading bacteria. Gas gangrene is acutely painful. Hyperbaric oxygen therapy has not been proven effective as a standalone treatment but rather as an adjuvant therapy when given with anti-infectives.

7:
The presence of risk factors increases the risk for further ulceration, infection, and subsequent amputation. Risk factors include poor glycemic control, infection, arterial disease, and neuropathy. Management of risk factors and

comorbid conditions in conjunction with wound care provided in a multidisciplinary team environment may lower amputation risk (Boyko et al., Diabetes Care 2018, 41: 891-8; Patel, Tech Vasc Interv Radiol 2016, 19: 101-3; Yazdanpanah et al., World J Diabetes 2015, 6: 37-53).

8:

Wound debridement is the gold standard for removing necrotic (devitalized) wound tissue and is indicated for both acute and chronic wounds when necrotic, damaged, or infected tissue matter is present. It is a crucial step in promoting wound healing and reducing the bacterial load. Debridement may be accomplished by sharp surgical removal, enzymatic (chemical) agents, autolysis, biologic agents (maggot or larval therapy), or by mechanical removal with the aid of wet-to-dry dressings, or whirlpool treatment. Recent advances in wound debridement include hydrosurgery, ultrasound therapy, and plasma-mediated radiofrequency ablation therapy. Ultrasound therapy showed a significant reduction in healing time and shorter operating time when compared to the gold standard debridement technique of using a scalpel or curette. Selection of more than one debridement method may be appropriate and will depend on the status of the wound (e.g., type and amount of necrotic wound tissue, vascularity of the wound, absence or presence of infection) and the patient's medical condition and treatment goals. Autolysis and conservative sharp debridement are usually the methods of choice for wounds with slough. Surgical sharp debridement involves the use of instruments or laser therapy and is the treatment of choice for wounds when there is an urgent need for debridement such as advancing cellulitis, extensive necrosis, crepitus, fluctuance, and/or sepsis secondary to ulcer infection. Sharp surgical debridement is contraindicated in patients with an intact eschar and no clinical evidence of an underlying infection. Risk of bleeding is a concern, especially in those on anticoagulant therapy (Bekara et al., Arch Plast Surg 2018, 45: 102-10; McCallon et al., J Am Coll Clin Wound Spec 2014, 6: 14-23).

9:

Instruction: Risk of graft non-adherence refers to those patients with a diminished vascular supply necessary for healing and the graft is showing signs of failing or evidence of infection, or when there has been prior failure of graft adherence at the same site. Failure to adequately immobilize the graft, which is necessary for appropriate revascularization, is a factor most commonly associated with graft failure.

10:

Instruction: Traumatic wounds may include avulsions, gunshot wounds, or any wound where closure is not possible.

11:

Instruction: A recalcitrant wound refers to a wound that fails to progress or worsens despite appropriate wound care. When there has been no change in actual wound size and/or percentage reduction in wound surface area, or lack of wound progression to the next wound healing phase for 2 to 4 weeks, this may be attributed to patient condition(s) and/or ineffective interventions. Therefore, an adjustment in wound treatment goals and interventions is required. This is especially important when there is less than a 50% change in wound size in 4 weeks or the wound has stalled or not changed in a 2-week time frame (Gupta et al., Wounds 2017, 29: S19-S36). Indicators of a non-healing wound (pressure ulcer, stasis ulcer, surgical wound) as defined by the Wound, Ostomy, and Continence Nurses Society (WOCN) include one or more of the following:

- ≥ 25%(*0.25*) avascular tissue (eschar and/or slough)
- Signs or Symptoms of infection present (excess exudate, odor)
- Clean, non-granulating wound bed
- Closed or hyperkeratotic wound edges
- Persistent failure to improve despite an appropriate and comprehensive wound management plan

(Wound Ostomy Continence Nurses Society, WOCN Guidance on OASIS-D integumentary items: Best practice for clinicians. 2019 [cited December 2, 2021]).

12:

Failed management at a lower level of care refers to patients who have tried home management, Subacute or SNF management, and/or Acute care for wound management in the past and have had a high rate of recidivism.

13:

The National Pressure Ulcer Advisory Panel (NPUAP) provides a method for classifying wounds according to the type of tissue layers involved and uses the term pressure injury to include soft tissue injuries without ulceration. These injuries usually occur over bony prominences or under medical or nonmedical devices. The NPUAP staging system does not imply linear progression of pressure injuries from Stage 1 through Stage 4, nor does it imply healing from Stage 4 through Stage 1. This system is supported by the Wound Ostomy Continence Nurses Society (WOCN) and the Academy of Nutrition and Dietetics (DiPlacido and Cox-Vance, Am Fam Physician 2017, 95: 757). The classifications are (National Pressure Ulcer Advisory Panel, NPUAP Pressure Injury Stages. 2016 [cited December 2, 2021]):

- **Stage 1 Pressure Injury - Non-blanchable erythema of intact skin:** Intact skin with a localized area of non-blanchable erythema, which may appear differently in darkly pigmented skin. Presence of erythema or changes in sensation, temperature, or firmness may precede visual changes. Purple or maroon discoloration is not indicative of Stage 1 and may indicate deep tissue pressure injury.
- **Stage 2 Pressure Injury - Partial-thickness skin loss with exposed dermis:** Partial-thickness skin loss with exposed dermis. Viable wound bed that is pink or red and moist; may also present as an intact or ruptured serum-filled blister. Granulation tissue, slough, eschar, adipose tissue, and deeper tissues are not present.
- **Stage 3 Pressure Injury - Full-thickness skin loss:** Full-thickness skin loss with visible adipose in the ulcer; granulation tissue and rolled wound edges may be present. Undermining and tunneling may occur. Fascia, muscle, tendon, ligament, cartilage, and/or bone are not exposed. If the extent of tissue loss is obscured by slough or eschar, this is considered an unstageable pressure injury.
- **Stage 4 Pressure Injury - Full-thickness skin loss and tissue loss**: Full-thickness skin and tissue loss. Exposed or palpable fascia, muscle, tendon, ligament, cartilage, or bone in the ulcer. Slough and/or eschar may be visible and rolled tissues, undermining and/or tunneling often occur. If the extent of tissue loss is obscured by slough or eschar, this is considered an unstageable pressure injury.
- **Unstageable Pressure Injury - Obscured full-thickness skin and tissue loss:** Unstageable pressure injury refers to obscured full-thickness skin and tissue loss where the extent of tissue cannot be determined because it is obscured due to slough or eschar. When slough or eschar is removed, a Stage 3 or Stage 4 pressure injury will be visible.
- **Deep Tissue Injury Pressure Injury - Persistent non-blanchable deep red, maroon, or purple discoloration:** Intact or non-intact skin with persistent non-blanchable deep red, maroon or purple discoloration or epidermal separation that reveals a dark wound bed or blood-filled blister. Pain and temperature change may occur prior to skin color changes. This stage should not be used to describe vascular, traumatic, neuropathic, or dermatologic conditions.

14:

This refers to those wounds or skin conditions with greater than 15%(0.15) of body surface area affected. This may include: large draining wounds with extensive undermining and/or tunneling, large draining wounds in perineal, ischial, or coccyx area in the presence of fecal and/or urinary incontinence, or other large wounds (e.g., infected or necrotic skin conditions, surgical wounds, burns, or stage III or stage IV pressure injuries).

15:

General conditions that impact wound healing include systemic disease, organ failure, cardiopulmonary disease, diabetes, autoimmune disease, smoking, and medical treatment (immunosuppressive therapy, chemotherapeutic agents, systemic steroids). Proper glycemic control is critical and can have a major impact on the rate of wound healing in diabetic patients. Local conditions that impede healing include peripheral vascular disease, venous stasis, diabetic peripheral neuropathy, radiation therapy, pressure, and infection. These conditions need to be addressed to maximize healing potential (Han and Ceilley, Adv Ther 2017, 34: 599-610; Jones et al., Plast Reconstr Surg 2017, 140: 201e-16e).

16:

Instruction: These criteria require the reviewer to select the comorbid conditions that impact the patient's primary reason for admission and continued stay. Selection of a comorbid condition is appropriate when:

- It is not the primary reason for admission. For example, persistent dyspnea and continued hypoxia is the primary reason for admission, selection of respiratory insufficiency as a comorbid condition is not allowed.
- The condition affects the patient's current medical status and skilled assessment, active medical

treatment (including psychiatric consultation, if appropriate), and intervention is required during this episode of care. Treatment of a comorbid condition with maintenance therapy would not meet criteria.

17:

Acute kidney injury (AKI) is a term used to describe the broad spectrum of kidney function impairment, including insufficiency, oliguria, and failure. The spectrum ranges from minor changes in renal function markers (e.g., increase in serum creatinine, decreased urine output) to failure requiring renal replacement therapy.
AKI is defined as a sudden decrease in renal function resulting from multiple etiologies, including intrinsic kidney disease, ischemia, nephrotoxicity, and extrarenal pathology.
AKI encompasses patients with chronic kidney disease who experience an acute deterioration. AKI is associated with significant morbidity and mortality in hospitalized patients (Ostermann et al., Kidney Int 2020, 98: 294-309; Guideline Updates, In: Acute kidney injury: prevention, detection and management. 2019; Kidney Disease: Improving Global Outcomes (KDIGO), Kidney International Supplements 2012, 2: ii.-138; Wang et al., Am J Nephrol 2012, 35: 349-55).

18:

Instruction: This criteria refers to an established dialysis regimen. This may consist of hemodialysis, generally performed three times a week, or peritoneal dialysis performed at least daily.

19:

Patients with end-stage renal disease on chronic dialysis are at increased risk for altered mental status, muscle weakness, and infection, which can lead to interrupted physical therapy and prolonged clinical and physical improvement (Vijayan et al., Clin J Am Soc Nephrol 2021, 16: 1601-9).

20:

Behavioral symptoms may be attributed to underlying toxic, metabolic, pharmacological, cardiopulmonary, or neurological causes. In a patient with behavioral symptoms, issues that require consideration include:

- New medical event and/or recent hospitalization (e.g., myocardial infarction, pulmonary edema, heart failure, trauma, stroke, surgical procedure with anesthesia)
- Medications or non-adherence with regimen (e.g., anticholinergics, cardiovascular agents, opiates, benzodiazepines, lithium, antidepressants, antipsychotics, anti-inflammatory agents [steroids], antibiotics, oral hypoglycemics)
- Medical complications (e.g., infections, electrolyte imbalance, metabolic disorders, metastatic disease)
- Alcohol or drug withdrawal
- Sensory impairment, sleep deprivation or environmental changes

21:

Change in cognition may include the following:

- Memory impairment, most commonly in recent memory
- Disorientation, usually manifests as delirium, and is related to time (e.g., thinking that it is morning when it is the middle of the night) or place (e.g., thinking that the hospital is home)
- Language disturbance evidenced as dysnomia, the impaired ability to name an object, or dysgraphia, the impaired ability to write

22:

Impulsive refers to the lack of control or inability of the patient to refrain from acting on wishes, fantasies, thoughts, and feelings, often resulting in negative consequences.

23:

Agitation refers to excessive motor or verbal activity that requires psychiatric intervention to control.

24:

Aggression is manifested by behaviors that range from mild to severe and include the following:

- Mild - verbal profanities

- Moderate - physical action using inanimate objects (e.g., throwing a chair, hitting or kicking a wall, smashing a dish) or verbal threats
- Severe - physical altercation with a person (e.g., twisting an arm, hitting, punching)

25:

This criteria refers to those patients who may experience perceptual disturbances in the form of misinterpretation (e.g., a door slamming is interpreted as a gunshot), an illusion (e.g., the folds of bed sheet become animated), or a hallucination (e.g., "seeing" a group of people hovering over the bed when no one is there) (American Psychiatric Association, Diagnostic and Statistical Manual of Mental Disorders, fifth edition. 2013).

26:

Social withdrawal is evident when the patient stops interacting with others and may be due to delusions, paranoia, hallucinations, or severe anxiety. A socially withdrawn patient may not respond to questions or maintain eye contact, or may act in a bizarre manner.

27:

Indications for chest tubes include pneumothorax, pleural effusion, chylothorax, empyema, hemothorax, and hydrothorax. The goal is to evacuate air, fluid, or blood from the pleural space. The removal of fluid or air is accomplished by connection of the chest tube to a drainage device (e.g., water seal drainage system, one-way valve, etc.). There is considerable debate on whether or not water seal or low-pressure suction is the best method to achieve full lung expansion. In the management of chest trauma, there is some evidence suggesting that low-pressure suction may be a better option than water seal by decreasing the duration of chest tube treatment, length of hospital stay, and persistent air leakage (Feenstra et al., Eur J Trauma Emerg Surg 2018, 44: 819-27). Post-insertion monitoring includes vital sign and lung assessment, insertion site inspection, water seal and suction device checks with measurement of drainage, and assessment for complications (bleeding, infection, subcutaneous emphysema, lung trauma, or bronchopleural fistula). Serial chest x-rays may also be performed to ensure that there is no re-accumulation of air or fluid. The decision to remove a chest tube is based on the reason for placement and patient response. Generally, the chest tube is removed when there is no evidence of air leak, minimal drainage (less than or equal to 200 mL/day or less than 2 mL/kg/day whichever is less) and the lung is fully expanded. In some postoperative situations, chest tubes can be safely withdrawn with daily outputs up to 450 mL/day. Following the removal of a chest tube, a routine chest x-ray may be performed within 1 to 4 hours for mechanically ventilated patients to detect a recurrent pneumothorax. In non-mechanically ventilated patients, the decision is dependent upon the patient's signs and symptoms and medical practitioner preference (Porcel, Tuberc Respir Dis (Seoul) 2018, 81: 106-15).

28:

Transition Plan: InterQual® Transition Plan identifies patients at high risk for readmission who may benefit from a comprehensive discharge plan. Chronic obstructive pulmonary disease (COPD) patients at high risk for readmission include those with a prior history of exacerbation of COPD requiring hospital admission. Prior emergency room visits and hospitalized exacerbations in the past 12 months are strong predictors for future admissions. Evidence also demonstrates a marked increase in the risk of readmission with each new exacerbation requiring hospitalization (Global Initiative for Chronic Obstructive Lung Disease (GOLD). Global Strategy for the Diagnosis, Management and Prevention of COPD. 2025 Press et al., Chest 2021, 159: 996-1006 Njoku et al., Respir Med 2020, 173: 105988). Readmission rates have been found to be high among patients of African American race, males, 65 years of age or less, lower-income households, and those with multiple comorbidities. The following conditions are also associated with increased risk of early readmission: congestive heart failure (CHF), chronic renal insufficiency, diabetes, psychiatric conditions (anxiety, depression, psychosis, alcohol and illicit drug use), frailty, poor health-related quality of life, low body mass index (BMI), lack of routine physical activity, oral corticosteroid use, long-term oxygen therapy, elevated serum arterial blood carbon dioxide level, and forced expiratory volume in 1 second (FEV_1) values below 50%(0.50) of predicted value (Chow et al., Int J Chron Obstruct Pulmon Dis 2023, 18: 2581-617 Kong and Wilkinson, ERJ Open Res 2020, 6: epub Njoku et al., Respir Med 2020, 173: 105988 Tsui et al., Int J Tuberc Lung Dis 2016, 20: 396-401). Interventions that may reduce early readmissions after COPD exacerbation include inhaler device training, early physician outpatient follow-up within 30 days after hospitalization, and self-management interventions that include a COPD exacerbation action plan (Miravitlles et al., Adv Ther 2023, 40: 4236-63 Kong and Wilkinson, ERJ Open Res 2020, 6: epub Lenferink et al., Cochrane Database Syst Rev 2017, 8: CD011682 Ospina et al., Thorax 2017, 72: 31-9). Additional recommendations to reduce early readmissions include influenza and pneumococcal vaccination, pulmonary rehabilitation program that is at least 6-8 weeks in duration for COPD

exacerbation, and access to education and case management that includes direct access to a healthcare specialist at least monthly (Global Initiative for Chronic Obstructive Lung Disease (GOLD). Global Strategy for the Diagnosis, Management and Prevention of COPD. 2025 Halpin et al., Int J Chron Obstruct Pulmon Dis 2017, 12: 2891-908 Whittaker Brown and Braman, Med Clin North Am 2020, 104: 615-30).

29:

Baseline refers to either the patient's normal baseline or a newly established baseline. In the absence of documentation, a patient's baseline status may be presumed to be normal.

30:

Venous blood gases (VBG) may be used to assess a patient's ventilation or metabolic status. Venous pH or HCO_3 values closely approximate corresponding values derived from arterial blood gases (ABG) in conditions such as chronic obstructive pulmonary disease (COPD), respiratory distress syndrome, neonatal sepsis, renal failure, pneumonia, diabetic ketoacidosis, and status epilepticus. VBG should not be used to determine oxygenation. Patients with chronic CO_2 retention hospitalized for acute respiratory illness will exhibit increased PCO_2 levels. PCO_2 values should be compared with baseline values when available and other signs and symptoms of respiratory distress should be considered when determining the appropriate level of care (e.g., worsening dyspnea, high respiratory rate, decreased oxygen saturation, confusion, drowsiness) (Global Initiative for Chronic Obstructive Lung Disease (GOLD). Global Strategy for the Diagnosis, Management and Prevention of COPD. 2025; McKeever et al., Thorax 2016, 71: 210-5).

31:

Diabetes mellitus (DM) is a chronic glucose metabolism disorder resulting from deficient insulin production, insulin resistance, or both. According to the American Diabetes Association, DM can be classified into the following general categories: (American Diabetes Association Professional Practice Committee, Diabetes Care 2025, 48: S1-S352):

- Type 1 DM: Occurs when the body produces little or no insulin. This is primarily due to pancreatic islet beta-cell destruction. Patients are insulin-dependent and are at risk for ketoacidosis.
- Type 2 DM: the most common form of diabetes that results from a progressive insulin secretory defect combined with insulin resistance (the body fails to respond appropriately to insulin)
- Gestational DM: first detected during pregnancy and is not clearly overt DM
- Other causes of DM: genetic defects of beta-cell function or insulin action, disease of the exocrine pancreas (e.g., cystic fibrosis and pancreatitis), and drug- or chemical-induced diabetes (e.g., glucocorticoid use)

Complications of diabetes can include organ damage, dysfunction, and failure, primarily of the eyes, kidneys, nerves, heart, brain, and blood vessels. Effective management includes self-monitoring of blood glucose and an appropriate combination of diet, exercise, and medication (American Diabetes Association Professional Practice Committee, Diabetes Care 2025, 48: S1-S352; Agiostratidou et al., Diabetes Care 2017, 40: 1622-30).

32:

Uncontrolled blood sugars frequently occur in diabetics who have recently experienced trauma, stress, surgery, infection, prolonged episodes of vomiting or diarrhea, changing insulin requirements, or have drug-induced blood sugar instability.

33:

Functional limitation refers to the patient who is unable to change position or has difficulty turning side to side, moving from supine to seated position, or raising his or her hips off the bed to distribute pressure and periodically expose the skin to air. These patients are at high risk for wound deterioration and/or the development of additional ulcers over bony prominences and skin maceration from heat occlusion.

34:

Body Mass Index (BMI) is the most widely used indicator to measure the degree of obesity. A BMI ≥ 30 kg/m2 defines obesity and clinically severe obesity correlates with a BMI ≥ 40 kg/m2 (Centers for Disease Control and Prevention (CDC). Defining Overweight and Obesity [cited Feb 2020]). For purposes of this criterion, a BMI ≥ 35 kg/m2 can adversely impact wound healing and functional capacity by impacting activities of daily living. BMI is calculated by

dividing a person's weight in kilograms by height in meters squared. To calculate BMI: Weight (kg)/height $(m)^2$.

35:

Transition Plan: InterQual's® Transition Plan identifies patients at high risk for readmission who may benefit from a comprehensive discharge plan. Heart failure (HF) ranks in the top 20 diagnoses with the highest 7-day and 30-day readmission rates. The 30-day all-cause readmission rate is as high as 23%(0.23) (Fingar et al., In: Healthcare Cost and Utilization Project (HCUP) Statistical Briefs. 2017). HF is a common condition in skilled nursing facilities (SNFs), with cardiovascular diagnoses as the largest diagnostic category for this setting. HF patients account for up to 27% (0.27) to 43%(0.43) of SNF 30-day rehospitalization rates (Jurgens et al., J Card Fail 2015, 21: 263-99). HF patients, in general, identified to be at highest risk for readmission include those with:

- Moderate to severe HF and age 65 or older (Iyngkaran et al., Clinical Medicine Insights: Cardiology 2018, 12: 1179546818809358)
- Age less than 65 at the time of initial HF admission (Iyngkaran et al., Clinical Medicine Insights: Cardiology 2018, 12: 1179546818809358)
- Age 65 or older and post major noncardiac surgery (Turrentine et al., J Am Coll Surg 2016, 222: 1220-9)
- Patients with preexisting atrial fibrillation (Tripathi et al., J Am Heart Assoc 2019, 8: e013026)
- Existence of a comorbid condition including diabetes, renal failure, chronic pulmonary disease, anemia, depression, and fluid and electrolyte disorder (Chamberlain et al., Int J Gen Med 2018, 11: 127-41; Arora et al., Am J Cardiol 2017, 120: 616-24)
- High pre-discharge B-type natriuretic peptide (BNP) level and less than 50%(0.50) decrease from admission level
- Poor comprehension of discharge instruction related to limited educational background or primary language other than English (Iyngkaran et al., Clinical Medicine Insights: Cardiology 2018, 12: 1179546818809358)
- Poor medication adherence (Ruppar et al., J Am Heart Assoc 2016, 5:)
- Medicaid coverage (Iyngkaran et al., Clinical Medicine Insights: Cardiology 2018, 12: 1179546818809358)
- Longer initial hospital stays (Arora et al., Am J Cardiol 2017, 120: 616-24; Albert et al., Circ Heart Fail 2015, 8: 384-409)
- Multiple emergency department visits within 6 months of hospitalization (Albert et al., Circ Heart Fail 2015, 8: 384-409)

A BNP level of greater than 350 pg/mL or less than a 50%(0.50) reduction in N-terminal prohormone BNP (NT-proBNP) during the hospital stay is also associated with an increased risk for rehospitalization or death, as is the development of hypotension during hospitalization (Patel et al., Circ Heart Fail 2014, 7: 918-25). Patients with a discharge BNP ≥ 1000 pg/mL had an unadjusted 30-day HF-specific readmission rate over 3 times as high as patients whose discharge BNP was ≤ 200 pg/mL (Flint et al., J Am Heart Assoc 2014, 3: e000806).

36:

New York Heart Association (NYHA) classification for heart failure is defined as follows (Yap et al., Clinical cardiology 2015, 38: 621-8; New York Heart Association, Diseases of the Heart and Blood Vessels. Nomenclature and Criteria for diagnosis. 1964):

- Class I - No limitation of physical activity. Ordinary physical activity does not cause undue fatigue, palpitation, dyspnea, or anginal pain.
- Class II - Slight limitation of physical activity. Comfortable at rest. Ordinary physical activity results in fatigue, palpitation, dyspnea, or anginal pain.
- Class III - Marked limitation of physical activity. Comfortable at rest. Less than ordinary physical activity causes fatigue, palpitation, dyspnea, or anginal pain.
- Class IV - Inability to carry on any physical activity without discomfort. Symptoms of cardiac insufficiency or of anginal syndrome may be present even at rest. If any physical activity is undertaken, discomfort is increased.

37:

Hepatic encephalopathy (HE) is a complication of acute or chronic liver disease that is primarily characterized by changes in personality, consciousness, cognition, and motor function. West Haven criteria for grading HE includes (Montrief et al., Am J Emerg Med 2019, 37: 329-37; Weissenborn, Drugs 2019, 79: 5-9; Ferenci, Gastroenterol Rep (Oxf) 2017, 5: 138-47):

- Grade I - Lack of awareness, anxiety, short attention span, euphoria, inability to add/subtract

- Grade II - Disorientation for time, inappropriate behavior, lethargy/apathy, obvious personality change, dyspraxia, or asterixis
- Grade III - Confusion, bizarre behavior, gross disorientation, responsive to verbal stimuli, somnolence to semi-stupor
- Grade IV - Coma

38:

Immunocompromised individuals, those with a diminished ability to fend off invading organisms due to an impaired immune system, are particularly vulnerable. This can be a result of various comorbidities or certain immunosuppressive medications or therapies. The most significant complication of immunodeficiency or immunosuppression is the heightened susceptibility to infections, which are often severe in nature, frequent, and prolonged. This is in stark contrast to immunocompetent individuals who may be exposed to the same pathogen. Moreover, immunocompromised or suppressed individuals are also at an increased risk of opportunistic infections. Overall, this can lead to more severe in-hospital complications, longer lengths of stay, and/or mortality.
It is essential to distinguish between primary and secondary immunodeficiency. Primary immunodeficiency is congenital, caused by inherited disorders of the immune system. On the other hand, secondary immunodeficiency is acquired, caused by a disease process or by treatment of other chronic diseases. This distinction is essential for healthcare professionals as it helps to identify the patient who is at higher risk.
Primary causes of immunodeficiency account for more than 450 genetic disorders that impact immune system function at various immune pathways from antibody deficiency to phagocytic dysfunction to adversely affecting cellular and humoral immunity (Quinn et al., Allergy Asthma Clin Immunol 2022, 18: 19Tangye et al., J Clin Immunol 2022, 42: 1473-507). Some examples of primary immunodeficiency include (but are not limited to):

- Common Variable Immunodeficiency (CVID)
- IgA deficiency
- Chronic granulomatous disease
- DiGeorge syndrome
- X-linked agammaglobulinemia (XLA)
- Ataxia - Telangiectasia
- Severe combined immunodeficiency (SCID)
- Isolated IgG subclass deficiency
- Wiskott syndrome
- Transient hypogammaglobinemia of infancy

Secondary immune deficiencies are caused by extrinsic or environmental factors that adversely affect the immune response and consequently increase the risk of infections. These factors could be transient or persistent. Similarly, components of the immune response that are affected could be impaired skin and mucosal barriers, phagocytic activity, antibody production, or T-cell activity.
Examples of secondary immune deficiency include (Czapka et al., Transpl Infect Dis 2023, 25 Suppl 1: e14148Mustafa, Ann Allergy Asthma Immunol 2023, 130: 713-7Centers for Disease Control and Prevention, National Diabetes Statistics Report. 2022Swanson et al., Annals of Blood 2022, 8: Malpica and Moll, Hematology Am Soc Hematol Educ Program 2020, 2020: 319-27Youssef et al., Rheum Dis Clin North Am 2016, 42: 157-76, ix-xBonilla et al., J Allergy Clin Immunol 2015, 136: 1186-205 e78Lipska et al., Diabetes Care 2013, 36: 3535-42):

- Poorly controlled diabetes mellitus defined as HbA1c greater than or equal to 9%(0.09) (drawn on admission or within the past three months)
- End-stage liver disease (ESLD)
- Active hematopoietic malignancies
- Allogeneic hematopoietic stem cell transplantation (HSCT) with Graft-versus-Host Disease (GVHD)
- Autologous HSCT within the last 6 months or patient who develop GVHD
- Patients undergoing Car T-cell therapy
- Immunosuppressive therapy (active or within the last 3 months): Chemotherapy, Radiation, Anti-rejection medications, TNF-alpha inhibitors, JAK inhibitors, IL-1 or IL-6 inhibitors, Immunotherapy, and/or prolonged high-dose steroid use (Prednisone or equivalent greater than or equal to 20mg daily for 4 weeks or more)
- Patients with severe neutropenia with absolute neutrophil count (ANC) less than 500/cu.mm($500x10^6$/L)
- Human immunodeficiency virus (HIV) or Acquired Immune Deficiency Syndrome (AIDS) with CD_4 count less than 200/cu.mm($200x10^6$/L)
- History of splenectomy
- Splenic dysfunction due to sickle cell disease

39:
This criterion refers to any patient with an infection that requires active treatment with intravenous medication. The requirement is for parenteral anti-infective with the exception of *Clostridioides difficile*, which can be treated with oral medication.

40:
Systemic manifestations of infection may include fever, rigors, nausea, or vomiting.

41:
End-stage disease is an irreversible, chronic state from which the patient is incapable of recovery.

42:
An adult malnutrition diagnosis cannot be achieved with a single characteristic. Patients that are undernourished, or are not absorbing nutrients, need nutritional intervention. The American Society for Parenteral and Enteral Nutrition defines malnutrition by at least 2 of the following (Quartarolo et al., Nutr Clin Pract 2021, 36: 1068-71; White et al., JPEN J Parenter Enteral Nutr 2012, 36: 275-83):

- Unable to take in enough calories
- Documented weight loss (greater than 2%(0.02) weight loss from baseline within the last week or greater than 5%(0.05) weight loss from baseline within the last 30 days)
- Decreased muscle mass or wasting (subcutaneous fat loss)
- Decreased hand grip strength (documented loss of functional status)
- Localized or generalized fluid accumulation that masks weight loss

43:
The American Society for Parenteral and Enteral Nutrition defines malnutrition by at least 2 of the following:

- Unable to take in enough calories
- Documented weight loss (greater than 2%(0.02) weight loss from baseline within the last week or greater than 5%(0.05) weight loss from baseline within the last 30 days)
- Decreased muscle mass or wasting (subcutaneous fat loss)
- Decreased hand grip strength (documented loss of functional status)
- Localized or generalized fluid accumulation that masks weight loss

44:
Oxygen therapy is the administration of oxygen at concentrations greater than ambient air (room air: 21%(0.21)) with the intent of treating and/or preventing the symptoms and manifestations of hypoxia. The oxygen concentration or percentage (FiO_2) delivered varies with the manufacturer's design, oxygen flow rate, the patient's respiratory rate, and tidal volume. Actual inspired FiO_2 with nasal cannula varies significantly with the patient's minute ventilation and pattern of breathing. For patients at risk for CO_2 retention, where a precise inspired FiO_2 is required, the Venturi mask is the preferred method. In general, patients who are very ill or have respiratory disease may require considerably higher flow rates to achieve the desired FiO_2. The following are estimates of O_2 delivered at the associated flow rates:
LOW-FLOW SYSTEMS
Nasal cannula
Room air 21%(*0.21*)
1L 24%(*0.24*) **4L** 36%(*0.36*)
2L 28%(*0.28*) **5L** 40%(*0.40*)
3L 32%(*0.32*) **6L** 44%(*0.44*)
Simple oxygen masks

- 35-50%(*0.35-0.50*) FiO_2 (5-10 L/min)
- Flow rates are usually maintained at 5 L/min or more to avoid accumulation of CO_2 in the mask

Venturi masks

- 24-50%(*0.24-0.50*) FiO_2 (4-12 L/min)

Partial rebreathing masks

- 40-70%(*0.40-0.70*) FiO_2 (6-10 L/min)

Non-rebreathing masks

- 60-80%(*0.60-0.80*) FiO_2 (minimum flow of 10 L/min)

HIGH-FLOW SYSTEMS
Air-entrainment masks/nebulizers

- 24-40%(0.24-0.40) FiO_2

Heated, humidified high-flow concentrating nasal cannula (HFNC)

- 24-100%(0.24-1.0) FiO_2

45:

Noninvasive positive pressure ventilation (NIPPV), also known as NIV, provides respiratory support by application of a tightly fitting facial mask, nasal mask, or helmet rather than an endotracheal tube or tracheostomy. In some cases, the use of NIPPV can avoid the need for endotracheal intubation and decreases the risk of barotrauma, lung injury, and/or infection. NIPPV is commonly delivered by a bilevel positive airway pressure ventilator (BiPAP), a continuous positive airway pressure device (CPAP), or a mechanical ventilator. Supplemental oxygen can be delivered at concentrations approximating 100%(1.0).
The decision to provide respiratory support via NIPPV, and the modality to provide NIPPV, is based upon the patient's specific clinical findings (e.g., medical condition leading to respiratory failure, underlying comorbidities, clinical progression, improvement). Examples of NIPPV devices are volumetric (i.e., deliver a defined volume), barometric (i.e., deliver a defined pressure), and combined (i.e., deliver defined volumes and pressure). The terminology for NIPPV delivery systems may differ between equipment manufacturers and provider organizations. InterQual® criteria do not differentiate between the different NIPPV modalities.
Whether or not high-flow nasal cannula (HFNC) should be classified as a component of NIPPV is unclear, and there is conflicting evidence in the medical literature. Where HFNC is an appropriate modality, InterQual® defines this in a specific criteria point. As such, NIPPV does not include HFNC (Hackett, A., PulmCCM 2018; Nardi et al., F1000Res 2017, 6: 290; Osadnik et al., Cochrane Database Syst Rev 2017, 7: CD004104; Allison and Winters, Emerg Med Clin North Am 2016, 34: 51-62; Gregoretti et al., Crit Care Clin 2015, 31: 435-57).

46:

Ventilator dependent refers to those patients who require continued management of ventilator needs and are not actively weaning.

47:

Neurological stability is a clinical state characterized by:

- Lack of deterioration or return to baseline in mental status or level of consciousness
- Seizures absent or controlled
- Absence of neurological deficit
- Stabilization of neurological deficit that develops during current hospitalization

48:

Arrhythmias may require treatment with PO or IV antiarrhythmics, and when necessary, cardiac monitoring.

49:

Hypertension is defined as a systolic blood pressure (SBP) of greater than 130 mmHg or a diastolic blood pressure (DBP) of 80 mmHg or greater. Recommendations for initial management may include a conservative approach with diet and lifestyle modification with or without medications. The goal of antihypertensive therapy is to reduce morbidity and mortality. In non-urgent situations, blood pressure (BP) control is achieved in the outpatient setting. Goals for target BP level should be individualized, but a SBP less than 130 mmHg and a DBP less than 80 mmHg are desirable. Populations at high risk include patients with the following conditions (Whelton et al., Hypertension 2018, 71: 1269-324):

- Clinical cardiovascular disease or 10-year atherosclerotic cardiovascular disease (ASCVD) risk 10%(0.1)
- Heart failure
- Stable ischemic heart disease

- Chronic kidney disease
- Chronic kidney disease after renal transplantation

50:

When a criteria point states "within acceptable limits," it refers to either the patient's normal baseline, a newly established baseline, or parameters that the medical practitioner determines are acceptable.

51:

Discharge planning is a component of care coordination and should be initiated on admission and re-evaluated throughout the patient's stay. The discharge plan may include an estimated length of stay, projected discharge destination, and a plan for post-discharge care. It may also include the following:

- Durable medical equipment needs
- Home environment assessment
- Identification of community resources
- Patient and/or caregiver education and instruction
- Patient's support system assessed, and level of care options identified

52:

Psychosocial issues, which include coping skills or adjustment to functional loss, can impede medical and functional progress. Ongoing assessment, active treatment, and management must be addressed during the course of hospitalization.

53:

Instruction: The medical practitioner's daily assessment manages the conditions and comorbid illnesses that impact the patient's primary reason for admission and continued stay.
Selection of a comorbid condition is appropriate when:

- It is not the primary reason for admission. For example, persistent dyspnea and continued hypoxia is the primary reason for admission, selection of respiratory insufficiency as a comorbid condition is not allowed.
- The condition affects the patient's current medical status and skilled assessment, active medical treatment (including psychiatric consultation, if appropriate), and intervention is required during this episode of care. Treatment of a comorbid condition with maintenance therapy would not meet criteria.

54:

Medically complex patients in long-term acute care (LTAC) require daily medical and physical assessment and management provided by a licensed medical practitioner. Although practitioners specialized in rehabilitation medicine, also known as physiatrists, may be common practitioners in the LTAC setting, legislative and geographical variances, as well as organizational policy, govern the specific practitioner requirements.

55:

Comprehensive assessment of wound progress involves a thorough evaluation of the patient's medical status and a review of causative and systemic factors that have affected wound repair. Assessment of the wound includes documentation of the wound bed, wound edge and periwound skin condition (Br J Community Nurs 2016, 21: S54). Specific wound measures include: wound classification, wound location and size (length, width, depth), color, exudate type and amount, presence of odor, and evidence of healing (granulation tissue). The presence of a sinus tract or tunneling, increased exudate, poor vascular assessment findings (color, edema, induration), and uncontrolled pain should be documented with a plan to address these areas. In addition to the wound assessment, the patient's nutritional status, functional mobility capabilities, and their ability and/or willingness to comply with treatment interventions should be documented (European Pressure Ulcer Advisory Panel and National Pressure Ulcer Advisory Panel. Washington DC. 2014).

56:

A comprehensive nutritional assessment of patients at risk for non-healing wounds should be a part of the wound care program. Protein-energy malnutrition and micronutrient deficiencies contribute to impaired wound healing and are common risk factors, especially in older patients. The National Pressure Ulcer Advisory Panel (NPUAP)

recommends nutrition screening occur at admission to a health care setting, with a significant change in clinical conditions, and when progress is not being made. Additionally, increasing the caloric intake to 35-40 kcal/kg of body weight is advised (National Pressure Ulcer Advisory Panel, NPUAP Pressure Injury Stages. 2016 [cited December 2, 2021]).

57:

Wounds that are appropriately managed should exhibit progress in healing within 2-4 weeks as measured by actual wound size or percentage reduction in wound size and/or progression to the next phase of wound healing (e.g., inflammation, proliferation, epithelialization, remodeling). A non-healing wound may reflect a wound that is not realistically expected to heal as a result of an underlying comorbid condition, or in rare cases, may be indicative of a poor management plan. Indicators of wound healing do exist, however, they are not standardized and are based primarily on expert opinion. They include:

- A healing (granulating) wound will present with a reduction in wound depth, wound dimensions, and volume of exudate. In contrast, a healing necrotic and infected wound will exhibit a reduction in the volume of necrotic tissue and eradication of infection, even if the wound dimensions have increased.
- Wound free of overt signs of infection (e.g., purulence, foul odor)
- Wound free of eschar or necrotic tissues, or a 25% reduction in the amount of necrotic tissue or eschar in 1 week
- Decrease in the size of a clean wound (length, width, depth)
- Clean wound covered with granulation tissue or increase in amount of granulation tissue
- Peri wound skin intact; resolution of erythema or maceration surrounding wound
- Exudate control or reduction in volume of exudate
- Dressing changes required 2 to 3 times per week instead of daily
- Open proliferative wound edges, presence of new epithelium at rim
- Pain free or decrease in pain intensity during dressing changes and/or debridement
- Surgical wounds healing by primary intention within 5 to 9 days with wound edges approximated and no signs of inflammation or drainage

The Wound, Ostomy and Continence Nurses Society (WOCN) guideline for home care clinicians classifies a healing wound as having early or partial granulation tissue when the wound bed is covered with ≥ 25% of granulation tissue and covered with < 25% avascular tissue (eschar and/or slough), no signs of infection, and the wound edges are open (Wound Ostomy Continence Nurses Society, WOCN Guidance on OASIS-D integumentary items: Best practice for clinicians. 2019 [cited December 2, 2021]). For lower extremity ulcers, a 50% reduction in wound area within 4 weeks is a good indicator for predicting healing at 3 months (Frykberg and Banks, Adv Wound Care (New Rochelle) 2015, 4: 560-82).

58:

For diabetic foot ulcers, the use of a stratification system, such as the Wound Healing Index (WHI), may be useful in predicting the likelihood of healing for patients with diabetic foot ulcers. It incorporates patient and wound specific variables including wound age (duration in days), wound size, number of concurrent wounds of any etiology, evidence of bioburden and infection, patient age, Wagner grade, being nonambulatory, renal dialysis, renal transplant, peripheral vascular disease, and patient hospitalization for any reason (Fife et al., Adv Wound Care (New Rochelle) 2016, 5: 279-87).

59:

To ensure revascularization of split-thickness and full-thickness grafts, elimination of pooled fluid and vigilance in maintaining proper positioning of the recipient site is required. Revascularization usually occurs at day three but may require five days. Complete healing can take up to 21 days or longer for full-thickness grafts and 10 days for split-thickness healing.

60:

No specific dressing material has been found to be superior to others when evaluating treatment options for pressure and venous ulcers (Walker et al., Cochrane Database Syst Rev 2017, 10: CD011332; Westby et al., Cochrane Database Syst Rev 2017, 6: CD011947; O'Meara et al., Cochrane Database Syst Rev 2015: CD010182).

61:

Systematic reviews of topical antimicrobials suggest there are few proven indications for its use. A systematic review to determine the effects of systemic and topical antibiotics found no difference in healing rates between pressure ulcers that received antimicrobial treatment and those treated with alternative interventions (Westby et al., Cochrane Database Syst Rev 2017, 6: CD011947; Norman et al., Cochrane Database Syst Rev 2016, 4: CD011586). Additionally, no evidence was found for topical antibiotics in the treatment of surgical wound healing by secondary intention (Norman et al., Cochrane Database Syst Rev 2016, 3: CD011712). There is some evidence that indicates cadexomer iodines may improve wound healing. Other topical agents such as povidone iodine, peroxide-based products and other topical antibiotics or antiseptics require further research to determine their effectiveness in the healing of venous leg ulcers (O'Meara et al., Cochrane Database Syst Rev 2014, 1: CD003557).

62:

Electrical stimulation (ES) is an adjunct therapy that is used for a variety of applications, including pain management, fracture repair and treatment to promote wound healing. There is a substantive body of literature to support ES use in the treatment of acute and chronic or recalcitrant wounds that fail to respond to standard treatment. More clinical studies are needed to prove effectiveness for specific uses and to guide treatment decisions for dosing, timing, and type of electrical stimulation to be used (Health Quality, Ont Health Technol Assess Ser 2017, 17: 1-106; European Pressure Ulcer Advisory Panel and National Pressure Ulcer Advisory Panel. Washington DC. 2014; Ud-Din and Bayat, Healthcare (Basel) 2014, 2: 445-67).

63:

Compression therapy refers to the use of Class 3 high compression systems (e.g., 3-layer, 4-layer, short stretch, Unna's boot). High compression (35-40 mmHg) treatment enhances venous ulcer healing when compared with no compression. Intermittent pneumatic pressure may be used to stimulate venous return in those patients who cannot tolerate constant compression (Nelson and Bell-Syer, Cochrane Database Syst Rev 2014, 9: CD002303; Nelson et al., Cochrane Database Syst Rev 2014, 5: CD001899). The Society for Vascular Surgery and the American Venous Forum guidelines recommend against compression bandages to treat venous leg ulcers when there is underlying arterial disease and the ankle-brachial index is 0.5 or less or if absolute ankle pressure is less than 60 mmHg (O'Donnell et al, J Vasc Surg 2014, 60: 1S-2S).

64:

Hydrotherapy is a type of mechanical debridement that includes the use of high or pulsatile pressure to soften hardened eschar in preparation for conservative sharp debridement. It may be useful in shortening healing time for infected, fibrinous wounds and intermediate-depth and large burns. However, this approach is without specific scientific evidence (Bekara et al., Arch Plast Surg 2018, 45: 102-10).

65:

Hyperbaric oxygen therapy (HBO) is used as an adjunct treatment for chronic wound care by increasing cellular oxygen. There is evidence in support of HBO therapy in the treatment of diabetic foot lesions and in the presence of chronic limb-threatening ischemia (CLTI) in diabetic patients (Conte et al., Eur J Vasc Endovasc Surg 2019, 58: S1-S109.e33). Specifically, hyperbaric treatment may be beneficial in preventing amputation and promoting complete healing in patients with Wagner Grade 3 or greater diabetic foot ulcers who have undergone surgical debridement or have shown no significant improvement after 30 or more days of conservative care. For Wagner ulcers Grade 2 or lower, there is insufficient evidence to support HBO treatment. There is also insufficient evidence to support this treatment for arterial wounds and pressure ulcers (Mathieu et al., Diving Hyperb Med 2017, 47: 24-32; Kranke et al., Cochrane Database Syst Rev 2015: CD004123). There is some evidence that HBO therapy improves outcomes in late radiation tissue injury of soft tissue and bones of the head, neck, anus, and rectum (Bennett et al., Cochrane Database Syst Rev 2016, 4: CD005005). The Undersea and Hyperbaric Medical Society (UHMS) recommends treatment with HBO for the following wounds: delayed radiation injury (osteoradionecrosis), necrotizing soft tissue infections, thermal burns, compromised skin grafts and flaps, crush injury, clostridial myositis, myonecrosis (gas gangrene), and refractory osteomyelitis (Undersea Hyperb Med 2018, 45: 379-80). Hyperbaric oxygen may help reduce infection and the need for drainage in crush injuries (Yamada et al., Undersea Hyperb Med 2014, 41: 283-9). Overall, the evidence supporting hyperbaric oxygen for traumatic injuries (including burns) and surgical injuries is limited, and more study is needed (Eskes et al., Cochrane Database Syst Rev 2013, 12: CD008059).

66:

Instruction: Isolation would be appropriate for patients actively infected with the following organisms (Garcia et

al., Am J Infect Control 2022 May 4: 1-15; Marra et al., Am J Infect Control 2018, 46: 333-40):

- Methicillin-resistant *Staphylococcus aureus* (MRSA)
- Drug-resistant *S. pneumoniae* (DRSP)
- Multiple drug-resistant gram-negative bacteria: *Acinetobacter sp*, *Pseudomonas sp*, extended-spectrum beta-lactamase (ESBL)-producing *Enterobacteriaceae*
- Vancomycin-resistant enterococci (VRE)

67:

Clostridioides difficile is the most common cause of nosocomial infectious diarrhea, particularly in patients receiving antibiotics. Guidelines describe multiple acceptable regimens but do indicate a preference for oral fidamoxicin for patients with mild to moderate disease. Alternative regimens are driven by disease severity and the number of episodes the patient has experienced. Treatment guidelines recommend discontinuation of the inciting antibiotic as soon as possible to prevent recurrence. Other interventions include IV fluids, electrolytes, or oral fluids to maintain hydration. Use of opiates and antidiarrheal medications should be avoided because decreased intestinal motility will exacerbate the infection (Johnson et al., Clin Infect Dis 2021, 73: e1029-e44).

68:

Patients with symptomatic *Clostridioides difficile* require a private room with a dedicated toilet and contact precautions to prevent transmission. Contact precautions should be maintained for the duration of diarrhea and may be discontinued when the patient is asymptomatic or for at least 48 hours after diarrhea has resolved. Extending precautions for the duration of hospitalization is recommended for those hospitals with elevated rates of incidence (Marra et al., Am J Infect Control 2018, 46: 333-40). Follow-up testing of stool for the *Clostridioides difficile* toxin from asymptomatic patients is not useful as a test of cure and therefore, it is not recommended (McDonald et al., Clin Infect Dis 2018, 66: 987-94).

69:

Continuous or intermittent topical negative pressure wound therapy (NPWT) is used to remove fluids or infectious material from the wound, thereby stimulating growth of healthy granulation tissue. The major forms of NPWT include a vacuum-assisted closure device and a portable non-electric device that has specialized springs to deliver the negative pressure. NPWT is employed when standard wound care has failed to promote healing of acute and traumatic wounds, chronic wounds, diabetic foot wounds, dehisced surgical wounds, partial-thickness burns, and pre- or post-operative flaps and grafts. Comparative effectiveness reviews of mechanical- and electric-powered NPWT have shown there is some evidence of improvement in granulated tissue formation, reduced time to heal, and decreased cost of treatment when compared with standard dressings. NPWT may be beneficial in preventing surgical site infection for surgical wound healing by primary closure, but the evidence is low (Webster et al., Cochrane Database Syst Rev 2019, 3: CD009261). In general, systematic reviews of NPWT highlight the lack of high-level studies showing NPWT efficacy, particularly in terms of its different indications and modalities. Treatment contraindications include when necrotic tissue or malignancy is present in the wound, untreated osteomyelitis, non-enteric and unexplored fistulas in an organ or body cavity, and in the presence of exposed vasculature, nerves, anastomotic sites, or organs. Cautious use is recommended in those patients with actively bleeding wounds, patients at high risk for bleeding and hemorrhage, patients receiving chronic anticoagulation or antiplatelet therapy, wounds with difficult hemostasis, and when placing a NPWT dressing in close proximity to organs or blood vessels. Discontinuation of NPWT should be considered when there is no change in wound size within 2-4 weeks, or the wound has healed as evidenced by a thin area of new epidermis, or adequate healing has occurred (Webster et al., Cochrane Database Syst Rev 2019, 3: CD009261; Iheozor-Ejiofor et al., Cochrane Database Syst Rev 2018, 7: CD012522; Johal and Kreder, Clin Orthop Relat Res 2018, 476: 463-5; Liu et al., Cochrane Database Syst Rev 2018, 10: CD010318).

70:

Class II (sustained pressure relieving to less than 32 mmHg) and Class III air fluidized beds may be appropriate for patients with trunk or pelvis ulcers that do not improve despite comprehensive treatment for at least one month. They may also be used in the post-operative treatment of flap reconstruction for ischial, trochanteric, and sacral ulcers. These support surfaces allow the patient to lie in a supine position, without compromising the pressure ulcer and/or the skin flap following reconstructive surgery. Evidence to support the use of specialty beds is limited. Based on systematic review, it is not clear whether any particular type of low- or high-tech support surface is more effective at healing pressure ulcers than standard support surfaces (McInnes et al., Cochrane Database Syst Rev 2018, 10: CD009490). To guide support surface selection, the Braden mobility and moisture subscale scores may

prove useful (McNichol et al., J Wound Ostomy Continence Nurs 2015, 42: 19-37).

71:
Mental status change may include confusion, disorientation, delirium, or increasing lethargy (Lacey et al., Ann Med 2019, 51: 232-51).
Instruction: Patients with acute coma, stupor, or obtundation should be reviewed at a higher level of care due to the need for more frequent neurological monitoring. These criteria exclude chronic coma, stupor, or obtundation (Shenvi et al., Ann Emerg Med 2020, 75: 136-45).

72:
A neurological assessment establishes a baseline so that subtle changes can be monitored. A comprehensive neurological assessment often includes an evaluation of:

- Mental status (e.g., level of consciousness, orientation, insight, calculation ability)
- Cranial nerves (e.g., olfactory, optic, vestibulocochlear)
- Motor system (e.g., muscle tone, strength, reflexes)
- Sensory system (e.g., light touch, pain, temperature)
- Coordination (e.g., orchestration and fluidity of movement)
- Gait (e.g., heel-to-toe straight-line walking)

73:
Instruction: For these criteria, medication adjustment refers to a change in dose, frequency of administration, or change in medication.

74:
Blood products include packed cells, platelets, albumin, and fresh frozen plasma.

75:
Syncope is the transient loss of consciousness caused by diminished cerebral blood flow, identified as brief, with spontaneous onset and recovery (Brignole et al., Eur Heart J 2018, 39: 1883-948; Shen et al., Journal of the American College of Cardiology 2017, 70: e39-e110).

76:
While an elevated ammonia level is the classic laboratory finding used to diagnose hepatic encephalopathy, serial ammonia measurements are inferior to clinical assessment in gauging improvement or deterioration in a patient receiving treatment (Ferenci, Gastroenterol Rep (Oxf) 2017, 5: 138-47).

77:
Oral branched-chain amino acid (BCAA) enriched formulations may improve the manifestations of occult or minimal episodic hepatic encephalopathy (HE). Intravenous administration is ineffective (Ferenci, Gastroenterol Rep (Oxf) 2017, 5: 138-47; J Hepatol 2014, 61: 642-59). Although BCAA has a beneficial effect on HE, there is no evidence regarding an effect on mortality, quality of life, or nutritional parameters (Gluud et al., Cochrane Database Syst Rev 2017, 5: CD001939).

78:
Lactulose is recommended by the American Association for the Study of Liver Diseases/European Association for the Study of the Liver guidelines as the first-line treatment for episodes of hepatic encephalopathy. It is a nonabsorbable substance used to treat an elevation in blood ammonia (NH_3) and reduces plasma ammonia concentration by converting soluble ammonia into insoluble ammonia in the colon. The laxative effect of lactulose results in the expulsion of trapped ammonium in the form of diarrhea. Lactulose can be administered orally, via a nasogastric tube, or as a retention enema (Swaminathan et al., Hepat Med 2018, 10: 1-11; J Hepatol 2014, 61: 642-59).

79:
Evidence has shown that L-ornithine L-aspartate (LOLA) is effective in lowering ammonia and improving mental

status in patients with cirrhosis and hepatic encephalopathy (HE), with the oral form of LOLA being especially beneficial (Butterworth et al., J Clin Exp Hepatol 2018, 8: 301-13). In a 2017 randomized, controlled trial, patients with persistent HE showed improvement from intravenous LOLA administration, whereas oral supplementation was determined to be ineffective (Ferenci, Gastroenterol Rep (Oxf) 2017, 5: 138-47). A recent systematic review reassessed both oral and intravenous (IV) LOLA for the treatment of low-grade or minimal hepatic encephalopathy (MHE) and high grade or overt hepatic encephalopathy (OHE). The relative efficacy of LOLA depended on the type of HE as well as the route of administration. Patients with MHE, defined as patients with cirrhosis and alterations in mental status diagnosed by psychometric testing, appear to benefit more from the oral administration of LOLA than patients with high grade overt HE (Weissenborn, Drugs 2019, 79: 5-9; Butterworth et al., J Clin Exp Hepatol 2018, 8: 301-13).

80:

The renal and ototoxicity of neomycin have rendered this medication nearly obsolete in the treatment of hepatic encephalopathy (Tabbers et al., J Pediatr Gastroenterol Nutr 2014, 58: 258-74).

81:

Rifaximin is an anti-infective recommended by evidence-based clinical guidelines as an effective add-on therapy to lactulose for the treatment of overt hepatic encephalopathy (OHE). It has been shown to reduce healthcare resource utilization over the long term by lessening OHE recurrences and rehospitalization (Hudson and Schuchmann, European journal of gastroenterology & hepatology 2019, 31: 434). In a systematic review comparing the effectiveness and safety of interventions in patients with OHE, Rifaximin showed the greatest reduction in blood ammonia concentration (Zhu et al., Aliment Pharmacol Ther 2015, 41: 624-35).

82:

Fluid is replaced based on measured and insensible losses. Examples of measurable fluid loss include:

- Urine
- Nasogastric
- Wound
- Ostomy drainage
- Diarrhea
- Vomiting
- Fluid sequestration

Examples of insensible loss include:

- Perspiration
- Breathing.

The intent of the criteria is to address patients who have excessive fluid loss due to diarrhea and/or inability to take adequate oral fluids to replace fluid loss. If the losses are due to diarrhea, there is no expectation that the order for intravenous fluids will specify measurement of the diarrhea, replacement on a cubic centimeter (cc) for cc basis, or any titration of the fluid rate based on the number of cc's lost. Continuous intravenous fluid should be ordered in a clinically significant amount that indicates a need for replacement along with documentation of excessive diarrhea (to support that there are "losses").

83:

Oliguria is defined as urine output less than 0.5 *mL/kg*/h.

84:

Therapeutic anticoagulation (e.g., heparin drip protocol, fondaparinux, full dose weight-adjusted low molecular weight heparin [LMWH]) is used to treat an underlying thromboembolic event or may be required for certain vascular and cardiovascular problems. Prophylactic anticoagulation (e.g., subcutaneous heparin every eight hours or fixed low dose LMWH daily) is used to prevent thrombosis and is not sufficient to meet this criterion.

85:

Intravenous (IV) loop diuretics (e.g., furosemide, torsemide, bumetanide, ethacrynic acid) are administered to

relieve the symptoms of dyspnea and congestion without excessively reducing intravascular volume. Due to their relatively short half-life, diuretic effectiveness can be enhanced by continuous administration or multiple boluses daily. Careful monitoring of daily weights, orthostatic vital signs, intake and output, electrolytes, and renal function are key components of diuretic therapy. If a patient does not initially respond to IV diuretics, other options may be considered, including increasing the dose to ensure adequate drug levels reach the kidneys and adding a second diuretic, typically a thiazide, to the loop diuretic in order to improve diuretic responsiveness (Heidenreich et al., Circulation 2022, 145: e895-e1032; Maddox et al., J Am Coll Cardiol 2021, 77: 772-810; Rosendorff et al., Circulation 2015).

86:

Dextrose 50%(0.50) with insulin is used for the treatment of hyperkalemia. This treatment shifts potassium intracellularly, and repeated doses can be given if the hyperkalemia persists. Other treatments that may be used simultaneously include potassium binding agents, diuretics, nebulized albuterol, calcium, sodium bicarbonate, and dialysis (Depret et al., Ann Intensive Care 2019, 9: 32).

87:

Immunosuppressant medications are used to treat conditions such as graft-versus-host disease (GVHD), hemolytic anemia, organ transplant, graft failure, rejection, inflammatory bowel disease, acute glomerulonephritis, and inflammatory cellulitis. Medications used for immunosuppression include prednisone, prednisolone, cyclosporine, azathioprine, mycophenolate mofetil, tacrolimus, sirolimus, everolimus, belatacept, antithymocyte globulin (ATG), and basiliximab.

88:

This criterion applies to insulin adjustments based on blood glucose values obtained by lab draw or glucose monitor. To meet this criterion, intermittent insulin must be administered at least three times in 24 hours. If the patient is on a continuous insulin infusion, the rate must be adjusted at least three times in 24 hours.

89:

Instruction: Vasoactive agents, which can safely be administered in the long-term acute care (LTAC) setting include low-dose dobutamine, intravenous nitroglycerin, and dopamine (≤ 5µg/kg/min). This criteria excludes the administration of vasopressors. Higher dosage levels of vasoactive agents should only be administered by LTAC facilities with appropriate monitoring capabilities and nursing care.

90:

Systemic corticosteroids can improve lung function, oxygenation and shorten recovery time and hospitalization duration in individuals with chronic obstructive pulmonary disease (COPD) (Global Initiative for Chronic Obstructive Lung Disease (GOLD). Global Strategy for the Diagnosis, Management and Prevention of COPD. 2025). The administration of low-dose oral steroids demonstrates equivalent outcomes when compared to high-dose intravenous therapy for the treatment of COPD (Lindenauer et al., JAMA 2010; 303(23): 2359-2367). Duration of therapy should not be more than 5-7 days in acute COPD exacerbation (Walters et al., Cochrane Database Syst Rev 2018, 3: CD006897; Leuppi et al., JAMA 2013, 309: 2223-31).

91:

Chest physiotherapy can improve bronchial hygiene and includes chest percussion and vibration, postural drainage, suctioning, turning, and directed cough. These techniques can be performed with or without the administration of bronchodilators or mucolytics. The goal of physiotherapy is to promote clearance of secretions and improve ventilation.

92:

Notable causes for prolonged mechanical ventilation include:

- Ventilator-acquired pneumonia
- Renal failure
- Heart failure
- Exacerbation of chronic obstructive pulmonary disease (COPD)
- Chest wall disorder

- Neuromuscular diseases
- Traumatic brain injury
- Sepsis
- Complications following cardiac surgical procedures

Major contributing factors for failure to wean include (Ambrosino and Vitacca, Multidiscip Respir Med 2018, 13: 6; Davies et al., Br J Anaesth 2017, 118: 563-9):

- Increased work of breathing
- Impaired respiratory drive
- Inspiratory muscle weakness

93:

Established hemodialysis is generally performed 3 times per week and some fatigue prior to or post-dialysis treatment is expected. Therapy schedules should be adjusted around planned or established invasive procedures or treatments. Unexpected fatigue may occur if the patient is new to the dialysis regimen or if other invasive procedures are scheduled (e.g., endoscopic retrograde cholangiopancreatography (ERCP), computerized tomography (CT) with contrast or central line change). In these instances, therapies may need to be delayed or reduced accordingly.

94:

Minimally invasive procedures may include arthroscopy, endoscopy, interventional radiology, or interventional cardiology.

95:

Volume expanders are fluids administered intravenously to increase circulatory volume. Studies have demonstrated that a balanced crystalloid solution (e.g., Lactated Ringer's) is preferable to colloids in restoration of intravascular volume in sepsis and septic shock (Evans et al., Crit Care Med 2021, 49: e1063-e143; Rhodes et al., Crit Care Med 2017, 45: 486-552; Winters et al., J Emerg Med 2017, 53: 928-39). However, crystalloids have been found to be less effective than colloids at stabilizing hemodynamic endpoints in critically ill patients (Martin and Bassett, J Crit Care 2019, 50: 144-54). The type of fluid selected for administration should be based on the indication for its use and other patient-specific factors.
Instruction: In order to apply criteria for volume expanders, there should be documentation of a volume deficit supported by clinical findings. The volume of infusion is patient-specific and varies based on the cause of volume depletion, comorbid condition, and patient response. Criteria for volume expander should not be applied for maintenance intravenous fluids or electrolyte replacement.

96:

Selection of this criteria point indicates that the patient is responding to treatment and is clinically stable for transfer or discharge. To determine the most appropriate post-acute level of care, see discharge criteria.

97:

An alternate level of care for continued wound treatment should be considered when there is evidence of continued wound healing, stabilization of contributory wound factors, and effective pain control.

98:

Hemodynamic stability is determined by blood pressure and heart rate, and occurs in the absence of active cardiac symptoms or clinically significant blood pressure changes.

99:

Pain is considered to be adequately controlled when a stable medication regimen and/or adjunct therapy provides sufficient, symptomatic relief without causing significant adverse side effects. Studies have shown epidural analgesia to be very effective in the initial post-operative period (McNicol et al., Cochrane Database Syst Rev 2015: CD003348; Popping et al., Ann Surg 2014, 259: 1056-67). For acute pain, the Center for Disease Control (CDC) recommends prescribing the lowest effective dose of immediate-release opioids, with careful attention paid to the quantity and duration of the prescription. Three days or less will often work; more than 7 days is rare. For chronic

pain unrelated to active cancer, palliative or end-of-life care, the CDC recommends the following guidelines for clinicians (Dowell et al., Jama 2016, 315: 1624-45; Dowell et al., MMWR Recomm Rep 2016, 65: 1-49):

- Consider nonpharmacologic therapy and nonopioid pharmacologic therapy first
- Know the patient's history of controlled substance prescriptions, using the state prescription drug monitoring program (DMP) data when initiating opioid therapy and then every 3 months thereafter on every prescription
- Weigh the risks and benefits of opioid therapy before starting or continuing opioids
- Establish realistic treatment goals, discuss risks and benefits of opioid therapy, and go over the plan for discontinuing opioids if the harm outweighs the benefits
- Discuss patient and clinician responsibilities for managing this therapy. If a patient has an opioid use disorder, offer evidence-based, medication-assisted treatment in combination with behavioral therapies

When prescribing opioids for chronic pain:

- Combine them with nonpharmacologic therapy/nonopioid therapy
- Prescribe immediate-release opioids versus extended-release or long-acting opioids
- Start at the lowest dose
- Evaluate the benefits and the harm with patients within 1 to 4 weeks of starting opioid therapy, and then at least every 3 months thereafter
- Consider annual urine testing to assess for prescribed medications as well as other controlled prescription and/or illicit drugs
- Avoid prescribing opioid pain medication and benzodiazepines concurrently

For patients in the early post-surgical phase, a large retrospective cohort study found that the duration of the opioid prescription, rather than its dosage, was more strongly associated with opioid misuse (Brat et al., BMJ 2018, 360: j5790).

100:

Functional assistance levels are based upon the patient's function during tasks and activities necessary to return to household mobility or ambulation. The functional assistance level required for each individual task or activity (e.g., mobility, activities of daily living (ADLs)) may vary.
The following terms are commonly used in the post-acute setting:

- Independent - Patient can safely and within a reasonable amount of time perform a task (or developmentally appropriate task) without physical or cognitive assistance or supervision
- Modified Independent - Patient performs an activity with a supportive device, adaptive equipment, and/or prosthetic or orthotic device. Additional time may be required to complete the activity and/or there are safety (risk) considerations
- Supervision - Patient performs an activity with standby or distant supervision or setup. Verbal cueing or coaxing, without physical contact or setup of items and application of orthoses may be required when patient's safety awareness is impaired
- Minimum or limited Assistance - Patient performs at least 75%(0.75) of an activity and requires some physical contact to steady, guide, or move
- Moderate or extensive Assistance - Patient performs at least 50%(0.50) of an activity and requires physical assistance for functional mobility or ADLs
- Maximum Assistance - Patient performs 25%(0.25) to 50%(0.50) of an activity and requires physical assistance for functional mobility or ADLs
- Total Assistance or dependence - Patient performs less than 25%(0.25) of an activity and may require total assistance for functional mobility or ADLs

101:

Activities of daily living (ADLs) are defined as basic self-care activities. Examples of ADLs include eating, dressing, bathing, grooming, toileting, and walking or transferring. Instrumental activities of daily living (IADLs) are defined as advanced skills or activities requiring more complex interactions with others and the environment, such as household management, financial management, childcare, etc (Centers for Medicare & Medicaid Services. Title 42 441.505. 2024). For younger patients, IADLs may include performing chores and attending school. The ability or inability to perform ADLs can be used as a measure of ability or disability in assessing rehabilitation outcomes.

102:

Prior level of function refers to the patient's level of function prior to the onset of this episode of illness or injury. This must be taken into consideration when discharge goals are identified.

103:

Aggressive wound measures may not be appropriate in those wounds which fail to progress despite adequate treatment (rather than under treatment) or when the patient's condition deteriorates despite appropriate measures. Palliative care and wound stabilization should be considered to optimize quality of life.

104:

Patient-related instruction is an integral part of a rehabilitation program and should promote self-management, independence, and optimal health. Instructional goals should meet the needs of the patient, family members and their caregivers.

105:

The discharge screen is a resource tool and not criteria. Referring to the discharge screen at the initiation of discharge planning is recommended.

106:

The home environment and safety assessment will normally include an evaluation of the patient's pre- and post-hospitalization functional level, physical layout of the home (e.g., entrances and exits, stairs, access to the community), identification of unsafe conditions (e.g., scatter rugs, missing handrails, oxygen use and smoking, lack of fire safety devices, inadequate lighting, heating, and cooling), factors that may trigger symptoms (e.g., secondhand smoke, poor food choices, dysfunctional family dynamics), sanitation hazards (e.g., lack of electricity, running water, refrigeration, inadequate toilet facilities, presence of insects or rodents), and the need for adaptive equipment (e.g., walker, handrails for the tub or shower, elevated toilet seat).

107:

Follow-up care can be provided by the medical practitioner at the office, by other healthcare providers, and through outpatient visits, including laboratory testing.

108:

Ensuring the patient and/or caregiver understands all aspects of the condition and can assume responsibility for self-care is crucial in preventing readmission. Assessing a patient and/or caregiver's level of understanding after education has been provided can be difficult. The teach-back method is an effective way of providing education at the appropriate level and can also be used to assess the learner's comprehension. To use the teach-back method, discuss key points in common terms and avoid using medical jargon or unfamiliar terms. After the education has been delivered, ask the learner to repeat what was learned. Gaps or misinterpretations in the learner's explanation will pinpoint areas where communication may have failed and provide opportunity for clarification.

109:

Medication reconciliation is a formal process or technique used by health care providers and pharmacists to identify the most complete and accurate list of all medications a patient is taking at times of transitions in care (e.g., upon hospital admission, transfer from one unit to another during hospitalization, or discharge from the hospital to home or another facility). The goals of this process are to ensure medication and dosages are appropriate for the patient, resolve discrepancies in drug regimens, and ultimately prevent medication errors and reduce adverse drug events. Medication reconciliation is a Joint Commission National Patient Safety goal. Coordinating information when a patient is transferred to another setting, service, practitioner, or level of care ensures accurate medications are listed. The process is comprised of the following (Hospital: National Patient Safety Goals. 2020):

- Obtain an external list of medications (e.g., medications taken prior to admission)
- Develop a list of current medications and add them to the medical record
- Compare the medications from the external list to the current list
- Clarify inconsistencies/discrepancies (e.g., omissions, duplications, contraindications, unclear information, and changes)
- Develop a list of medications to be prescribed at discharge or transfer
- Communicate the new list to the patient and/or appropriate caregiver(s)

- Ensure that patient and/or caregiver(s) understand the medication information upon discharge

Specific medication issues identified as being problematic include missing medication information from transfer orders, lack of information on medications provided in the acute setting, incomplete medication records, discrepancies between hospital regimen and discharge summary, and missing information pertaining to the patient's tolerance of a medication regimen. Although medication reconciliation is an important aspect in patient safety, there is a lack of consensus and evidence about the best effective methods of implementing this process. Physician-led and electronic medication reconciliation in hospitals are effective strategies to reduce medication discrepancies, however, the impact of these interventions is uncertain due to the low quality of evidence (Choi and Kim, J Clin Pharm Ther 2019, 44: 932-45; Redmond et al., Cochrane Database Syst Rev 2018, 8: CD010791). Trained pharmacy technicians, under the direction of a licensed pharmacist, may be an option for developing and expanding medication reconciliation processes (Irwin et al., Hosp Pharm 2017, 52: 44-53).

110:

Completion of family training, with the goal of the patient and/or family being able to safely manage care, may include demonstrating knowledge and aptitude in areas such as transfer skills, medication management, application of splints/pressure garments, skin care, and knowledge of community resources.

111:

The initial clinical assessment is performed by a licensed professional and includes a comprehensive review of the patient's presenting diagnosis and a review of body systems. Identification of current and potential medical needs and health problems can be identified by the clinical assessment. The clinical assessment includes:

- History and physical exam (e.g., vital signs, height, weight)
- Pain assessment includes cause, intensity, quality, onset, duration, and effects on quality of life (e.g., activities of daily living (ADLs), instrumental activities of daily living (IADLs), and interpersonal relationships). Pain relievers should also be included
- Nutritional and hydration status
- Functional ability
- Safety and infection control measures
- Prescribed and over-the-counter (OTC) medications, herbal supplements, and home remedies
- Patient's and/or caregiver's understanding of medication use, dosing, side effects, and adherence to the medication or treatment regimen
- Patient's and/or caregiver's understanding of the illness or disease process and potential long-term complications
- Patient's and/or caregiver's coping strategies to deal with the illness or injury and ability to follow the plan of care

112:

Infusion access devices include:

- Intravenous catheters: central catheters (tunneled, short-term non-tunneled, implanted ports, peripherally inserted central catheter (PICCs)), midlines, and peripheral lines
- Intra-arterial ports
- Intraspinal catheters
- Peritoneal catheters
- Reservoirs
- Subcutaneous catheters

113:

Long-term care (LTC) refers to care provided in a nursing home, assisted living facility, retirement residence with support services, or an extended care facility designed for individuals with chronic conditions such as Alzheimer's or long-term ventilator management (National Institute of Health's National Institute on Aging. What Is Long-Term Care? 2023).

114:

Custodial care is defined as care designed to assist an individual to meet his/her activities of daily living (ADLs), such as assistance in bathing, dressing, toilet use, walking and getting in out of bed, and/or supervision of

medication. Custodial care does not require the services of a trained medical or paramedical professional (Center for Medicare & Medicaid Services. Medicare Benefit Policy Manual. Chapter 16 - General Exclusions From Coverage 2014).

115:

Routes for nutrition may be by mouth (PO), intravenously (IV), jejunostomy tube (J-tube), or gastrostomy tube (G-tube).

116:

Treatment precluded in a lower level (e.g., home care services, outpatient clinic) is dependent upon several factors including:

- The patient's caregiver or family support system
- The availability of qualified alternate levels of care
- The patient's benefit plan

The patient's medical needs should be met at the least intensive level of care that can safely provide the necessary services.

117:

Rehabilitation potential refers to the probability that therapy and medical goals are realistic and attainable based on patient's prior level of function, severity of illness or injury, and the extent of impairments.

118:

Skilled nursing services refers to services that must be provided by a licensed nurse who is qualified to assess and monitor patient condition(s) and provide medical treatment and/or teaching to patients who have skilled nursing needs. Examples of Skilled Nursing Facility level of care interventions include:

- Parenteral medications ≥ 2x/day
- Assessment of clinical status at least daily
- Management and evaluation of a care plan
- New enteral feeding management and teaching
- Patient and/or caregiver education

119:

Skilled nursing services refers to services that must be provided by a licensed nurse who is qualified to assess and monitor patient condition(s) and provide medical treatment and/or teaching to patients who have skilled nursing needs. Examples of Subacute level of care interventions include:

- Multiple intravenous (IV) medications
- Single IV medication given ≥ 3x/day
- Chronic ventilator management
- Monitoring and assessment of conditions where clinical assessment is required ≥ 3x/24h in combination with multiple parenteral medications and/or therapies
- Daily or every other day blood or albumin transfusions
- Multiple and frequent (3-4x/24h) interventions such as respiratory, wound management, and/or total parenteral nutrition (TPN) or peripheral parenteral nutrition (PPN)

120:

Based on the patient's current medical condition and expected discharge needs, other services, or alternate levels of care (ALOC) may be appropriate to adequately address any medical, psychiatric, or substance-related disorder needs.