BlueCross BlueShield of Alabama

Name of Blue Advantage Policy:

Risk-Reducing Mastectomy

Policy #: 174
Latest Review Date: July 2022
Category: Surgery

BACKGROUND:

Blue Advantage *medical policy does not conflict with Local Coverage Determinations (LCDs), Local Medical Review Policies (LMRPs) or National Coverage Determinations (NCDs) or with coverage provisions in Medicare manuals, instructions or operational policy letters. In order to be covered by Blue Advantage the service shall be reasonable and necessary under Title XVIII of the Social Security Act, Section 1862(a)(1)(A). The service is considered reasonable and necessary if it is determined that the service is:*

1. *Safe and effective;*
2. *Not experimental or investigational*;*
3. *Appropriate, including duration and frequency that is considered appropriate for the service, in terms of whether it is:*
   - *Furnished in accordance with accepted standards of medical practice for the diagnosis or treatment of the patient's condition or to improve the function of a malformed body member;*
   - *Furnished in a setting appropriate to the patient's medical needs and condition;*
   - *Ordered and furnished by qualified personnel;*
   - *One that meets, but does not exceed, the patient's medical need; and*
   - *At least as beneficial as an existing and available medically appropriate alternative.*

Routine costs of qualifying clinical trial services with dates of service on or after September 19, 2000 which meet the requirements of the Clinical Trials NCD are considered reasonable and necessary by Medicare. Providers should bill* ***Original Medicare* *for covered services that are related to* ***clinical trials*** *that meet Medicare requirements (Refer to Medicare National Coverage Determinations Manual, Chapter 1, Section 310 and Medicare Claims Processing Manual Chapter 32, Sections 69.0-69.11).*

POLICY:

Note: *It is strongly recommended that all candidates for risk-reducing mastectomy undergo counseling regarding cancer risks from a health professional skilled in assessing cancer risk other than the operating surgeon. Cancer risk should be assessed by performing a complete family history, use of the Gail or Claus model to estimate the risk of cancer, and discussion of the various treatment options, including increased surveillance or chemoprevention with tamoxifen or raloxifene.*

Blue Advantage will treat **risk-reducing mastectomy** as a **covered benefit** in individuals with **such extensive mammographic abnormalities (i.e., calcifications) that adequate biopsy is impossible.**

Blue Advantage will treat **risk-reducing mastectomy** as a **covered benefit** in individuals at **high risk** or **moderately increased risk of breast cancer** as defined below.

High risk of breast cancer may be defined as **one or more** of the following:

- Two or more first-degree relatives with breast cancer or ovarian cancer;
- One first-degree relative and two or more second-degree or third-degree relatives with breast cancer;
- One first-degree relative with breast cancer before the age of 45 years and one other relative with breast cancer;
- One first-degree relative with breast cancer and one or more relatives with ovarian cancer;
- Two second-degree or third-degree relatives with breast cancer and one or more with ovarian cancer;
- One second-degree or third-degree relative with breast cancer and two or more with ovarian cancer;
- Three or more second-degree or third-degree relatives with breast cancer;
- One first-degree relative with bilateral breast cancer;
- Lobular carcinoma in situ;
- Presence of a *BRCA*1 or *BRCA*2 mutation in the individual;
- At high risk of a *BRCA*1 or *BRCA*2 mutation due to a known *BRCA*1 or 2 mutation in a family member with breast or ovarian cancer;
- Presence of gene mutation associated with increased risk (e.g., PTEN, TPS3, CDH1, STK11)
- High risk (lifetime risk about 20% or greater) of developing breast cancer as identified by models that are largely defined by family history;
- Received radiation therapy to the chest between the ages of 10 and 30 years.

Moderate risk of breast cancer may be defined as follows:

- Those who do not meet the definition of high risk, but nonetheless are considered at moderately increased risk based on family history with or without breast lesions along with any one of these risk factors may be indicative of moderate risk, including, but not limited to:

    - atypical hyperplasia
    - breast cancer diagnosed in the opposite breast

Blue Advantage will treat **risk-reducing mastectomy** as an **uncovered benefit** and as **investigational** for all other indications, including but not limited to contralateral prophylactic mastectomy in individuals with breast cancer who do not meet the above criteria

Blue Advantage does not approve or deny procedures, services, testing, or equipment for our members. Our decisions concern coverage only. The decision of whether or not to have a certain test, treatment or procedure is one made between the physician and his/her patient. Blue Advantage administers benefits based on the members' contract and medical policies. Physicians should always exercise their best medical judgment in providing the care they feel is most appropriate for their patients. Needed care should not be delayed or refused because of a coverage determination.

DESCRIPTION OF PROCEDURE OR SERVICE:

Risk-reducing mastectomy is defined as the removal of the breast in the absence of malignant disease to reduce the risk of breast cancer occurrence.

Risk-reducing mastectomy may be considered in women thought to be at high-risk of developing breast cancer, either due to family history, presence of genetic variants (e.g., BRCA1, BRCA2), having received radiotherapy to the chest, or the presence of lesions associated with an increased cancer risk such as lobular carcinoma in situ. Therefore, bilateral risk-reducing mastectomy may be performed to eliminate the risk of cancer arising elsewhere; chemoprevention and close surveillance are alternative risk-reduction strategies. Risk-reducing mastectomies are typically bilateral but can also describe a unilateral mastectomy in a patient who has previously undergone or is currently undergoing a mastectomy in the opposite breast for invasive cancer (i.e., contralateral risk-reducing mastectomy). Use of contralateral risk-reducing mastectomy has increased in the United States. An analysis of data from the National Cancer Database found that the rate of contralateral risk-reducing mastectomy in women diagnosed with unilateral stage I, II, or III breast cancer increased from approximately 4% in 1998 to 9.4% in 2002.

The appropriateness of a risk-reducing mastectomy is a complicated risk-benefit analysis that requires estimates of a patient's risk of breast cancer, typically based on the patient's family history of breast cancer and other factors. Several models are available to assess risk of breast cancer. The specific risk factors included in the models vary, but all incorporate characteristics related to age, reproductive history and family history. In addition to the patient's risk

assessment, the choice of a risk-reducing mastectomy is based on patient tolerance for risk, consideration of changes to appearance and need for additional cosmetic surgery, and the risk-reduction offered by mastectomy vs other options.

KEY POINTS:

The policy has been updated regularly with searches of the MEDLINE database. The most recent literature review was performed through June 6, 2022. The following is a summary of the key literature.

Summary of Evidence

For individuals who have a high risk of breast cancer or extensive mammographic abnormalities precluding excision or biopsy who receive a risk-reducing mastectomy, the evidence includes systematic reviews and observational studies. Relevant outcomes are overall survival, disease-specific survival, functional outcomes, and treatment-related morbidity. Studies have found that a risk-reducing mastectomy lowers subsequent breast cancer incidence and increases survival in select high-risk patients. The evidence is sufficient to determine that the technology results in a meaningful improvement in the net health outcome.

For individuals who have unilateral breast cancer but are not otherwise at high risk who receive a contralateral risk-reducing mastectomy, the evidence includes systematic reviews and observational studies. Relevant outcomes are overall survival, disease-specific survival, functional outcomes, and treatment-related morbidity. Available studies do not demonstrate a consistent survival benefit in women without high-risk criteria. Moreover, there are risks associated with a contralateral risk-reducing mastectomy for both the primary surgical and reconstruction procedures. The evidence is insufficient to determine the effects of the technology on health outcomes.

Practice Guidelines and Position Statements

American Society for Clinical Oncology, American Society for Radiation Oncology, and Society of Surgical Oncology

In 2020, the American Society for Clinical Oncology, American Society for Radiation Oncology, and Society of Surgical Oncology published joint guidelines on management of hereditary breast cancer. The guideline discusses management of patients with breast cancer with germline mutations in breast cancer susceptibility genes (e.g., BRCA1/2, ATM, TP53) and makes the following recommendations regarding risk-reducing mastectomy:

"Surgical management of the index malignancy (... contralateral risk-reducing mastectomy [CRRM]) in BRCA1/2 mutation carriers should be discussed, considering the increased risk of CBC and possible increased risk of an ipsilateral new primary breast cancer compared with noncarriers (Type: formal consensus; Evidence quality: intermediate; Strength of recommendation: strong)."

"For women with breast cancer who have a BRCA1/2 mutation and who have been treated or are being treated with unilateral mastectomy, CRRM should be offered. CRRM is associated with a decreased risk of CBC; there is insufficient evidence for improved survival."

"Decisions regarding risk-reducing mastectomy (bilateral or contralateral) are highly personal and must be individualized for every patient. Studies show that women who opt for prophylactic mastectomy report positive outcomes, including decreased concern about developing breast cancer. This benefit must be weighed against possible problems with implants or reconstructive therapy and potential adverse feelings related to body image, femininity, and sexuality. Most patients who opt for prophylactic mastectomy demonstrate satisfaction with their decision."

"For women with breast cancer who have a mutation in a moderate-penetrance breast cancer predisposition gene and who have been treated or are being treated with unilateral mastectomy, the decision regarding [contralateral risk-reducing mastectomy] CRRM should not be based predominantly on mutation status. Additional factors that predict CBC such as age at diagnosis and family history should be considered, as they are in all cases. The impact of CRRM on decreasing risk of CBC is dependent on the risk of CBC for each individual gene. Data regarding the risk of CBC resulting from moderate-penetrance genes are limited (Type: formal consensus; Evidence quality: low; Strength of recommendation: moderate)."

The guideline also provides recommendations for assessing the risk of CBC and role of risk-reducing mastectomy in BRCA1/2mutation carriers (Evidence quality: low; Strength of recommendation: moderate) and in women with breast cancer who have aBRCA1/2 mutation who have been treated or are being treated with unilateral mastectomy when considering contralateral risk-reducing mastectomy (Evidence quality: intermediate; Strength of recommendation: moderate). The guideline recommends consideration of the following:

- Age at diagnosis (the strongest predictor of future CBC)
- Family history of breast cancer
- Overall prognosis from this or other cancers (e.g., ovarian)
- Ability of patient to undergo appropriate breast surveillance (magnetic resonance imaging [MRI])
- Comorbidities
- Life expectancy.

Society of Surgical Oncology
The Society of Surgical Oncology published an updated position statement on prophylactic mastectomy in 2017. The position statement concluded the following about risk-reducing mastectomy:

“There is no single-risk threshold above which risk-reducing mastectomy is clearly indicated, and it is important for treating physicians and surgeons to explain to individuals not only the risk assessment but also all available treatment strategies to facilitate a shared decision-making process.”

"The available data suggest that BMP [bilateral prophylactic mastectomy] confers a survival advantage in women with the highest risk who undergo the procedure at a relatively early age … the impact of CPM [contralateral prophylactic mastectomy] in women with invasive breast cancer is more difficult to assess … however, CPM does not appear to confer a survival advantage."

National Cancer Institute
The National Cancer Institute updated its fact sheet in 2013 on risk-reducing surgery for breast cancer. The fact sheet stated women with the following characteristics may consider bilateral prophylactic mastectomy:

- Deleterious variant in BRCA1 or BRCA2
- Strong family history of breast cancer
- Lobular carcinoma in situ and family history of breast cancer
- Radiotherapy to the chest before the age of 50 years.

Considering contralateral risk-reducing mastectomy, the Institute stated: "Given that women with breast cancer have a low risk of developing the disease in their contralateral breast, women who are not known to be at a very high risk but who remain concerned about cancer development in their other breast may want to consider options other than surgery to further their risk of a contralateral breast cancer."

American Society of Breast Surgeons
A 2016 consensus statement from the American Society of Breast Surgeons made the following recommendations on contralateral risk-reducing mastectomy:

CPM should be considered for the following individuals at significant risk of contralateral breast cancer:

- Documented BRCA1 or BRCA2 carrier
- Strong family history in the absence of genetic testing
- History of chest radiation before age 30

CPM can be considered for the following individuals at lower risk of contralateral breast cancer:

- Carrier of CHEK2, PALB3, TP53, or CDHI
- Strong family history in BRCA-negative patients without known BRCA family member

CPM may be considered for other reasons:

- "To limit contralateral breast surveillance (dense breasts, failed surveillance, recall fatigue).
- To improve breast symmetry in reconstruction.
- To manage risk aversion … [or] extreme anxiety." (Note: anxiety may better be measured through psychological support.)

CPM should be discouraged in the following situations:

- "Average-risk women with unilateral breast cancer
- Women with advanced stage index cancer….
- Women at high risk of surgical complications (e.g., … comorbidities, obesity, smoking, diabetes)"
- BRCA-negative, with BRCA-positive family members
- "Males with breast cancer, including BRCA carriers."

National Comprehensive Cancer Network

NCCN has made recommendations on several cancers relevant to this evidence review. On breast cancer risk-reduction (v.1.2022), NCCN recommends:

"Risk-reducing mastectomy should generally be considered only in women with a genetic mutation conferring a high risk for breast cancer..., compelling family history, or possibly with LCIS [lobular carcinoma in situs] or prior thoracic radiation therapy at <30 years of age. The value of risk-reducing mastectomy in in individuals with pathogenic/likely pathogenic mutations in other genes associated with a 2-fold or greater risk for breast cancer in the absence of a compelling family history of breast cancer is unknown."

For invasive breast cancer (v.3.2022) NCCN has discouraged contralateral risk-reducing mastectomy, except for certain high-risk situations (noted in the risk-reduction guideline previously discussed). The guidelines state:

"risk reduction mastectomy of a breast contralateral to a known unilateral breast cancer treated with mastectomy is discouraged by the panel. The use of a prophylactic mastectomy contralateral to a breast treated with lumpectomy is very strongly discouraged."

As part of genetic/familial high-risk assessment for breast and ovarian cancer (v.2.2022), NCCN recommends that the option of risk-reduction mastectomy be discussed in women with BRCA-related breast and/or ovarian syndrome, Li-Fraumeni syndrome, and Cowden syndrome or PTEN hamartoma tumor syndrome. In addition, NCCN guidelines recommend that risk-reducing mastectomy be considered based on family history in women with certain genetic variants including CHEK2, and CDH1.

American College of Genetics and Genomics

In 2021, the American College of Genetics and Genomics published a guideline on management of individuals with PALB2 variants, which recommends that risk-reducing mastectomy be considered as an option based on personal risk.

U.S. Preventive Services Task Force Recommendations

The U.S. Preventive Services Task Force published recommendations for breast cancer screening, entitled BRCA-Related Cancer Risk Assessment, Genetic Counseling and Genetic Testing, in December 2013. They have also issued a recommendation stating that women at increased risk for breast cancer and at low risk for adverse medication effects, clinicians should

offer to prescribe risk-reducing medications such as tamoxifen or raloxifene. Prophylactic mastectomy was not addressed.

KEY WORDS:

Female Mastectomy as a Prophylaxis, Mastectomy, Prophylaxis for Breast Cancer, Prophylactic Mastectomy (PM), Contralateral Prophylactic Mastectomy (CPM), risk-reducing mastectomy

APPROVED BY GOVERNING BODIES:

Mastectomy is a surgical procedure and, as such, is not subject to regulation by the U.S Food and Drug Administration.

BENEFIT APPLICATION:

Coverage is subject to member's specific benefits. Group specific policy will supersede this policy when applicable.

CURRENT CODING:

CPT Codes:

19303	Mastectomy, simple, complete

Previous Coding:

19304	Mastectomy, subcutaneous

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POLICY HISTORY:

Adopted for Blue Advantage, July 6, 2011
Available for comment July 6 through August 22, 2011
Medical Policy Group, February 2012
Medical Policy Group, September 2013
Medical Policy Group, April 2015
Medical Policy Group, July 2015
Medical Policy Group, March 2016
Medical Policy Group, August 2017

Medical Policy Group, August 2018 **(7)**: Update to Description, Key Points, and References. Added Key Words- "risk-reducing mastectomy". Title changed to "Risk-Reducing Mastectomy". "Prophylactic" mastectomy changed to "Risk-Reducing" mastectomy throughout policy statement to reflect preferred terminology in the literature and by NCCN; intent of Policy statements remain unchanged.
Medical Policy Group, July 2019
Medical Policy Group, December 2019: Annual Coding Update
Medical Policy Group, July 2020
Medical Policy Group, August 2021
Medical Policy Group, July 2022
