



Kansas City

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Reduction Mammoplasty for Breast-Related Symptoms

Policy Number: 7.01.21
Origination: 7/2005

Last Review: 7/2014
Next Review: 7/2015

Policy

Blue Cross and Blue Shield of Kansas City (Blue KC) will provide coverage for reduction mammoplasty when the criteria shown below are met.

When Policy Topic is covered

Reduction mammoplasty may be considered **medically necessary** for the treatment of macromastia when well-documented clinical symptoms are present. One bullet from criteria #1 and one bullet from criteria #2 must be present to indicate medical necessity:

Criteria #1

- Removal of at least 500 grams *per breast*; **OR**
- The average grams of tissue removed per breast falls above the 22nd percentile, relative to the patient's body surface area

Body Surface Calculator (Haycock Formula):

<http://medicalpolicy.bluekc.com?Calculator=BS>

AND one of the following:

Criteria #2

- Documentation of a minimum 6-week history of shoulder, neck, or back pain related to macromastia that is not responsive to conservative therapy, such as an appropriate support bra, exercises, heat/cold treatment, and appropriate non-steroidal anti-inflammatory agents/muscle relaxants; **OR**
- Intertrigo between the pendulous breast and the chest wall

When Policy Topic is not covered

Requests not meeting the criteria above will be considered **cosmetic**.

It should be noted that the emotional and psychosocial distress associated with body appearance does not constitute a medical rationale for reduction mammoplasty, and thus these indications would be considered **cosmetic** in nature.

Considerations

Body surface area and cutoff weight
of average breast tissue removed

$$BSA (m^2) = 0.024265 \times \text{Height(cm)}^{0.3964} \times \text{Weight(kg)}^{0.5378}$$

Schnur Sliding Scale

Body Surface Area (m²)	<u>Average grams of tissue per breast to be removed</u>
1.35	199
1.40	218
1.45	238
1.50	260
1.55	284
1.60	310
1.65	338
1.70	370
1.75	404
1.80	441
1.85	482
1.90	527
1.95	575
2.00	628
2.05	687
2.10	750
2.15	819
2.20	895
2.25	978
2.30	1068
2.35	1167
2.40	1275
2.45	1393
2.50	1522
2.55	1662

2.60	1806
2.65	1972
2.70	2154
2.75	2352
2.80	2568
2.85	2804
2.90	3061
2.95	3343
3.00	3650
3.05	3985
3.10	4351
3.15	4750
3.20	5186
3.25	5663
3.30	6182
3.35	6750
3.40	7369
3.45	8045
3.50	8783
3.55	9589
3.60	10468
3.65	11428
3.70	12476
3.75	13619
3.80	14867
3.85	16230
3.90	17717

3.95	19340
4.00	21112
4.05	23045
4.10	25156
4.15	27459
4.20	29972
4.25	32716
4.30	35710
4.35	38977
4.40	42543
4.45	46435
4.50	50682
4.55	55316
4.60	60374
4.65	65893
4.70	71915
4.75	78487
4.80	85658

Description of Procedure or Service

Reduction mammoplasty is a surgical procedure designed to remove a variable proportion of breast tissue.

Macromastia, or gigantomastia, is an ill-defined term that describes breast hyperplasia or hypertrophy. Macromastia may result in clinical symptoms such as shoulder, neck, or back pain, or recurrent intertrigo in the mammary folds. In addition, macromastia may be associated with psychosocial or emotional disturbances related to the large breast size. Reduction mammoplasty is a surgical procedure designed to remove a variable proportion of breast tissue to address emotional and psychosocial issues and/or relieve the associated clinical symptoms.

Rationale

This policy was originally created in 1995 and was updated with searches of the MEDLINE database. The most recent literature search was performed for the period of September 2012 through September 2013. The following is a summary of the key findings to date.

While the literature search identified many articles that discuss the surgical technique of reduction mammoplasty and document that reduction mammoplasty is associated with a relief of physical and psychosocial symptoms,(1-9) the medical policy has always focused on the distinction of whether the proposed reduction mammoplasty is medically necessary or cosmetic in nature. For some patients the presence of medical indications is clear-cut, ie, a clear documentation of recurrent intertrigo, or ulceration secondary to shoulder grooving. However, for the majority of patients, the documentation between a cosmetic and medically necessary procedure will be unclear and subjective in nature. Criteria for medically necessary reduction mammoplasty are not well-addressed in the published medical literature, and thus the optimal patient selection criteria cannot rely on an evidence-based approach. Therefore, the policy guidelines do not endorse a particular set of patient selection criteria, ie, the use of photographs, amount of breast tissue removed, or a combination of approaches.

Breast Weight

The following discussion focuses the published literature addressing the use of weight of excised breast as coverage criteria. In 2001, Krieger and Lesavoy reported on a survey of managed care policies regarding reduction mammoplasty.(10) Most of the respondents to the survey stated that they use weight of excised tissue as the main criterion for allowing the procedure. The average cutoff value for this determination was 472 g. While 500 g appears to be a commonly cited cutoff weight of excised tissue, there appears to be no documentation in the literature as to the sensitivity and specificity of this value in distinguishing cosmetic from medically necessary procedures.(11) Also, the use of a single weight cutoff does not address the issue of the relationship between body surface area and weight of excised tissue. In 1991, Schnur et al., at the request of third-party payers, developed a sliding scale.(11) This sliding scale was based on survey responses of 92 of 200 solicited plastic surgeons, who reported the height, weight, and amount of breast tissue removed from each breast from the last 15 to 20 reduction mammoplasties that had been performed. The surgeons were also asked if the procedures were performed for cosmetic or medically necessary reasons. The data were then used to create a chart relating the body surface area and the cutoff weight of breast tissue removed according to the 5th percentile and 22nd percentile lines. Based on their estimates, those with breast weight above the 22nd percentile line likely had the procedure performed for medical reasons, while those below the 5th percentile line likely had the procedure performed for cosmetic reasons, and those falling between the lines had the procedure formed for mixed reasons. (See Appendix for the Schnur Sliding Scale.)

In 1999, Schnur reviewed the experience of the sliding scale as a coverage criterion and reported that while many payers had adopted this scale, many had also misused it.(12) The author pointed out that if a payer uses weight of resected tissue as a coverage criterion, then if the weight falls below the 5th percentile line, the reduction mammoplasty would be considered cosmetic, above the 22nd percentile line would be considered medically necessary, and those that fell between these lines would be considered on a case-by-case basis. The author also questions the frequent requirement that a woman be within 20% of her ideal body weight. While weight loss might indeed relieve symptoms, durable weight loss is notoriously difficult and may be unrealistic in many cases. However, in 2003, Platt et al. reported on a prospective study of 30 women which found wound breakdown was significantly greater in women with a body mass index (BMI) of 26.3 or greater (33%) compared to BMI of less than 26.3 (10%).(13) Delayed healing was also associated with high BMI.

In 2012, Gonzalez et al. reported on 178 patients who had breast reduction surgery primarily for symptomatic macromastia. Patients completed the Breast Q questionnaire once after surgery, and retrospective chart reviews were completed to assess patient outcomes and determine whether any correlation exists between outcomes and patient size or amount of breast tissue removed.(14) Most patients responded to the surgery with satisfaction with a mean response on the Breast Q questionnaire of 2.8 (2, somewhat agree; 3, definitely agree). The mean BMI of patients was 28.3 kg/m and correlated significantly with the amount of breast tissue removed ($p < 0.0001$). The mean amount of breast tissue removed was 1220.9 g but did not correlate significantly with patient quality-of-life responses ($p = 0.57$).

Functional Impairment

Singh and Losken, in 2012, reported on a systematic review of studies reporting outcomes after reduction mammoplasty.(15) The reviewers found reduction mammoplasty improves functional outcomes including pain, breathing, sleep, and headaches. Additional psychological outcomes noted in the review include improvements in self-esteem, sexual function, and quality of life.

In 2002, Kerrigan et al. published the results of the BRAVO (Breast Reduction: Assessment of Value and Outcomes) study, a registry of 179 women undergoing reduction mammoplasty.(16) Women were asked to complete quality-of-life questionnaires and a physical symptom count both before and after surgery. The physical symptom count focused on the number of symptoms present that were specific to breast hypertrophy and included upper back pain, rashes, bra strap grooves, neck pain, shoulder pain, numbness, and arm pain. In addition, the weight and volume of resected tissue were recorded. Results were compared to a control group of patients with breast hypertrophy, defined as size DD bra cup, and normal-sized breasts, who were recruited from the general population. The authors propose that the presence of 2 physical symptoms might be an appropriate cutoff for determining medical necessity for breast reduction. For example, while 71.6% of the hypertrophic controls reported none or 1 symptom, only 12.4% of those considered surgical candidates reported none or one symptom. This observation is difficult to evaluate because the study does not report how surgical candidacy was determined. The authors also reported that none of the traditional criteria for determining medical necessity for breast reduction surgery (height, weight, body mass index, bra cup size, or weight of resected breast tissue) had a statistically significant relationship with outcome improvement. The authors conclude that the determination of medical necessity should be based on patients' self-reported symptoms rather than more objectively measured criteria, such as weight of excised breast tissue.

In 2008, Sabino Neto et al. reported on a study to assess functional capacity in which 100 patients, ages 18-55 years, were randomized to receive reduction mammoplasty or be placed on a waiting list to serve as a control group.(7) Patient exclusion criteria included body mass index greater than 30 kg/m², asymmetry in mammary hypertrophy, chronic disease, smoking, or daily medication use. Forty-six patients from each group completed the study. At the onset of the study and 6 months later, patients were assessed for functional capacity using the Roland-Morris instrument (0=best performance, 24=worst performance) and for pain using a visual analog scale (VAS). The reduction mammoplasty group showed improvement in functional status with an average score of 5.9 preoperatively to 1.2 within 6 months postoperatively ($p < 0.001$ for pre-/postcomparison within the mammoplasty group) versus an unchanged average score of 6.2 in the control group on the first and second evaluations. Additionally, pain in the lower back region decreased on VAS from an average of 5.7 preoperatively to 1.3 postoperatively ($p < 0.001$ for pre-/postcomparison within the mammoplasty group) versus VAS average scores in the control group of 6.0 and 5.3 on the first and second evaluations, respectively (no significant change). Three patients did not report any improvement in low back pain after surgery. The authors noted a need for exercise programs after surgery to improve posture malpositions developed after years of mammary hypertrophy.

Also in 2008, Saariniemi et al. reported on a study to assess quality of life and pain in which 82 patients were randomized to reduction mammoplasty or a nonoperative group in which patients were evaluated at the onset of the study and 6 months later.(9) The authors reported the mammoplasty group had significant improvements in quality of life, as measured by the physical summary score of the Short-Form (SF)-36 quality-of-life questionnaire (change of +9.7 vs +0.7, $p < 0.0001$), the utility index score (SF-6D) (+17.5 vs +0.6), the index score of quality of life (SF-15D) (+8.6 vs +0.06, $p < 0.0001$), and the SF-36 mental summary score (+7.8 vs -1.0, $p < 0.002$). There were also improvements in breast-related symptoms, as measured by the Finnish Breast-Associated Symptoms questionnaire score (-47.9 vs -3.5, $p < 0.0001$), and the Finnish Pain Questionnaire score (-21.5 vs -1.0, $p < 0.0001$).

Iwuagwu et al. reported on 73 patients randomized to receive reduction mammoplasty within 6 weeks or after a 6-month waiting period to assess lung function.(8) All patients had symptoms related to macromastia. Postoperative lung function correlated with the weight of breast tissue removed, but there

were no significant improvements in any lung function parameters for the mammoplasty group compared to control. This is in contrast to previous studies, such as Cunha et al. who reported improvements in lung function after reduction mammoplasty in 12 patients followed prospectively in a cohort study.(17) Arterial blood gases did not differ significantly pre- or postoperatively,

Complications

Thibaudeau et al., in 2010, conducted a systematic review to evaluate breastfeeding after reduction mammoplasty.(18) After a review of literature from 1950 through December 2008, the authors concluded reduction mammoplasty does not reduce the ability to breastfeed. In women who have had reduction mammoplasty, breastfeeding was found to be comparable for the first month postpartum in the general population in North America.

In 2011, Chen et al. reported on a review of claims data to compare complication rates after breast surgery in 2403 obese and 5597 nonobese patients. (19) Of these patients, breast reduction was performed in 1939 (80.7%) in the study group and 3569 (63.8%) in the control group. Obese patients had significantly more claims for complications within 30 days after breast reduction surgery than nonobese patients (14.6% vs 1.7%, respectively, $p < 0.001$). Complications included inflammation, infection, pain, and seroma/hematoma development. Also in 2011, Shermak et al. reported on a review of claims data to compare complication rates in relation to age after breast reduction surgery in 1192 patients.(20) Infection occurred more frequently in patients older than 50 years of age (odds ratio [OR]=2.7; $p = 0.003$). Additionally, women older than 50 years also experienced more wound healing problems (OR=1.6; $p = 0.09$) and reoperative wound debridement (OR=5.1; $p = 0.07$).

Ongoing Clinical Trials

A previously reported ongoing trial (online site ClinicalTrials.gov NCT01297621) randomized 60 patients to evaluate patient satisfaction, sexuality, and physical activity outcomes after reduction mammoplasty was completed in June 2013. As of October 9, 2013 there were no reported results for this study, which was carried out in Brazil, and there were no additional active clinical trials that addressed functional outcomes for reduction mammoplasty.

Summary

Reduction mammoplasty is a surgical procedure designed to remove a variable proportion of breast tissue. The available evidence from randomized controlled and prospective studies indicates that reduction mammoplasty is effective at decreasing breast-related symptoms such as pain and discomfort. There is also evidence that functional limitations related to breast hypertrophy are improved following reduction mammoplasty. Therefore, the available evidence for reduction mammoplasty is sufficient to demonstrate improvements in net health outcome. Reduction mammoplasty may be considered medically necessary in patients with macromastia, who have a minimum 6-week history of shoulder, neck, or back pain that is not responsive to conservative therapy, and not caused by any other identifiable condition. Reduction mammoplasty may also be considered medically necessary in patients with recurrent or chronic intertrigo between the pendulous breast and the chest wall.

Practice Guidelines and Position Statements

The American Society of Plastic Surgeons (ASPS) issued practice guidelines and a companion document on criteria for third-party payers for reduction mammoplasty.(21-23) The ASPS indicates level I evidence has shown reduction mammoplasty is effective in treating symptomatic breast hypertrophy which "is defined as a syndrome of persistent neck and shoulder pain, painful shoulder grooving from brassiere straps, chronic intertriginous rash of the inframammary fold, and frequent episodes of headache, backache, and neuropathies caused by heavy breasts caused by an increase in the volume and weight of breast tissue beyond normal proportions." The ASPS also indicates volume or

weight of breast tissue resection should not be criteria for reduction mammoplasty. If 2 or more symptoms are present all or most of the time, reduction mammoplasty is appropriate.

Medicare National Coverage

There is no national coverage determination (NCD). In the absence of an NCD, coverage decisions are left to the discretion of the local Medicare carriers.

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Billing Coding/Physician Documentation Information

19318 Reduction mammoplasty

Additional Policy Key Words

Reduction mammoplasty
Breast reduction

Policy Implementation/Update Information

7/1/05	New policy added to the Surgery section.
7/1/06	No policy statement changes
10/1/06	Policy statement revised to clarify which criteria are required for determining medical necessity. Removed "impaired function or movement" from the list of criteria. Minimum amount of grams changed from 600 grams total to 500 grams per breast. Added the Schnur Sliding Scale to the list of criteria.
7/1/07	No policy statement changes.
7/1/08	No policy statement changes.
7/1/09	No policy statement changes.
7/1/10	No policy statement changes.
7/1/11	No policy statement changes. Body Surface Area calculator corrected.
7/1/12	No policy statement changes.
7/1/13	No policy statement changes.
7/1/14	No policy statement changes.

State and Federal mandates and health plan contract language, including specific provisions/exclusions, take precedence over Medical Policy and must be considered first in determining eligibility for coverage. The medical policies contained herein are for informational purposes. The medical policies do not constitute medical advice or medical care. Treating health care providers are independent contractors and are neither employees nor agents Blue KC and are solely responsible for diagnosis, treatment and medical advice. No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronic, photocopying, or otherwise, without permission from Blue KC.