Clinical Policy Title: Breast reduction surgery

Clinical Policy Number: 16.03.05

Effective Date: December 1, 2013
Initial Review Date: August 21, 2013
Most Recent Review Date: August 19, 2015
Next Review Date: August, 2016

Related policies:
None.

ABOUT THIS POLICY: Arbor Health Plan has developed clinical policies to assist with making coverage determinations. Arbor Health Plan’s clinical policies are based on guidelines from established industry sources, such as the Centers for Medicare & Medicaid Services (CMS), state regulatory agencies, the American Medical Association (AMA), medical specialty professional societies, and peer-reviewed professional literature. These clinical policies along with other sources, such as plan benefits and state and federal laws and regulatory requirements, including any state- or plan-specific definition of “medically necessary,” and the specific facts of the particular situation are considered by Arbor Health Plan when making coverage determinations. In the event of conflict between this clinical policy and plan benefits and/or state or federal laws and/or regulatory requirements, the plan benefits and/or state and federal laws and/or regulatory requirements shall control. Arbor Health Plan’s clinical policies are for informational purposes only and not intended as medical advice or to direct treatment. Physicians and other health care providers are solely responsible for the treatment decisions for their patients. Arbor Health Plan’s clinical policies are reflective of evidence-based medicine at the time of review. As medical science evolves, Arbor Health Plan will update its clinical policies as necessary. Arbor Health Plan’s clinical policies are not guarantees of payment.

Coverage policy

Arbor Health Plan considers the use of breast reduction surgery to be clinically proven and, therefore, medically necessary when the following criteria are met: females who have reached full adult height and legal age of consent to surgery with documented (by any health care provider) symptomatic breast hypertrophy meeting any of the following symptom criteria:

- Neck and shoulder pain.
- Painful shoulder grooving from brassiere straps.
- Chronic intertriginous rash of the inframammary fold.
- Frequent episodes of headache, backache and upper extremity neuropathies.
- Symptoms lasting at least one year.
- Symptoms attributable to an increase in the volume and weight of breast tissue beyond normal proportions.
- Failure to respond to at least three months of optimal medical management with physical therapy.

Limitations:

- Patients 40 years or older must have a mammogram negative for cancer within one year of the planned procedure date.
• The procedure performed for relief of psychosocial distress (including cases of gynecomastia in males) is not covered.

**Alternative covered services:**

Medical management and physical therapy.

**Background**

*Breast reduction surgery or reduction mammoplasty (alternate spelling, *mammaplasty*) is a surgical procedure to reduce the volume and/or weight of the female breasts. Mammaplasty aims to decrease the dimensions to obtain normal breast size. Although this is considered cosmetic in some situations, it may be performed for relief of physical symptoms, functional impairment, and psychosocial distress or for cosmetic reasons. The mass of the breast tissue can cause a change in the body’s center of gravity causing pain and compression of the intervertebral disks. Specific symptoms may include back, neck or shoulder pain, upper extremity paraesthesia (numbness), skin lesions (infection, necrosis, ulceration, and hemorrhage), decreased physical performance, and breathing disorders.

**Searches**

Arbor Health Plan searched PubMed and the databases of:

- UK National Health Services Centre for Reviews and Dissemination.
- Agency for Healthcare Research and Quality’s National Guideline Clearinghouse and other evidence-based practice centers.
- The Centers for Medicare & Medicaid Services (CMS).

We conducted searches on multiple occasions during July and August 2014, using the terms “reduction mammoplasty”. We included:

- **Systematic reviews**, which pool results from multiple studies to achieve larger sample sizes and greater precision of effect estimation than in smaller primary studies. Systematic reviews use predetermined transparent methods to minimize bias, effectively treating the review as a scientific endeavor, and are thus rated highest in evidence-grading hierarchies.
- **Guidelines based on systematic reviews**.
- **Economic analyses**, such as cost-effectiveness, and benefit or utility studies (but not simple cost studies), reporting both costs and outcomes — sometimes referred to as efficiency studies — which also rank near the top of evidence hierarchies.

**Findings**

- Evidence is sufficient to conclude surgery is effective in reducing symptoms of macromastia with relatively few complications.
- Surgery significantly improves health-related quality of life (QoL) and functional measures, as well as reducing pain and other symptoms.
- Definitive criteria for breast size and symptom severity have not been established.

**Summary of clinical evidence:**
<table>
<thead>
<tr>
<th>Citation</th>
<th>Content</th>
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| **Berberoglu, 2015** | **Key Points**  
• Reduction mammoplasty can improve cervical lordosis and thoracic kyphosis, alleviating patient back/neck/lumbar pain  
• Positive correlation identified between amount of breast tissue removed and decreased neck/back/lumbar pain  
Mammoplasty resulted in psychosocial improvements including decreased depression severity and improved QoL. |
| **Kerrigan, 2013** | **Key Points**  
• Inconclusive evidence relating BMI or weight of resected breast tissue to potential risks of surgery, body fat percentage is a better predictor of related complications  
• Widespread data connecting breast reduction surgery with reductions in shoulder and neck pain  
Vast majority of patients and doctors report as satisfied with post-surgical results. |
| **American Society of Plastic Surgeons (2011)** | **Key points:**  
**Reduction mammoplasty**  
• English-language human studies: systematic reviews; randomized controlled trials (RCTs); descriptive reports (treatment or complications).  
• Databases but not dates reported.  
**Recommenations**  
• Resection volume does not correlate with degree of post-op symptom relief: eligibility for surgery should be defined by symptoms rather than breast volume.  
• Increased resection weight may increase complications: patients should be informed of risk.  
• Inconclusive evidence for association of increased BMI with increased complications: discretion of surgeon to operate on patients with increased BMI. |
| **Tykka (2010)** | **Key points:**  
**Cost–utility of breast reduction**  
• Before-and-after study: 80 patients with symptomatic breast hypertrophy at Finnish academic medical center.  
• FU, six months with lifetime utility (health-related QoL) gains and no degradation due to aging.  
• Costs: €3,383/surgery.  
• Incremental cost effectiveness vs. no surgery: €3,638/QALY.  
• No significant changes with sensitivity analyses but CIs overlapped.  
• Breast reduction led to statistically significant improvement in QoL at reasonable cost/QALY. |
| **Hayes, Inc. (2008)** | **Key points:**  
**Reduction mammoplasty**  
• Evidence sufficient from RCTs/CCTs to conclude surgery is effective in reducing symptoms of macromastia with relatively few complications.  
• Surgery significantly improves health-related QoL and functional measures; reduces pain and other symptoms.  
• Definitive criteria for breast size and symptom severity have not been established. |
| **Taylor (2004)** | **Key points:**  
**Cost-effectiveness of reduction mammoplasty**  
• Effectiveness based on Blomqvist (2004) and SF-36.  
• Direct costs from National Health Services for 2003 in £ for first three months after procedure (not discounted), £1,563 – 1,892.  
• Incremental cost/QALY compared to no surgery, £4,733 – 5,729. |

**Policy update:**
Arbor Health Plan found one updated evidence based guideline and one new research study (Kerrigan 2013, Berberoglu 2015). Kerrigan’s systematic review aimed to review evidence related to current gaps in standardized care of mammoplasty. Berberoglu’s paper directly links anatomical changes with breast reduction and improvements in pain. This new information would not change the current policy and reinforces current clinical policy.

**Glossary**

**Body mass index (BMI)** — A measure for human body shape based on height and weight (height in meters/weight in kg squared). It can also be calculated and assigned to categories (underweight, normal weight, overweight, obese) using a chart with weight (kilograms or pounds) and height (meters or feet and inches) on horizontal and vertical axes, respectively.

**Breast hypertrophy** — Usually defined as breast weight exceeding 3 percent of total body weight.

**Cellulitis** — An acute spreading bacterial infection in the deeper layers of skin associated with an abrasion or cut and characterized by redness, warmth and swelling.

**Gigantomastia** — Extreme breast hypertrophy, sometimes associated with pregnancy.

**Gynecomastia** — The benign enlargement of breast tissue in males. It may be associated with changes in testosterone levels, use of medications or presence of metabolic disorders. In some cases the underlying cause is not known and in others (primarily in prepubertal boys), it resolves spontaneously.

**Intertriginous rash** — Dermatitis occurring between juxtaposed folds of skin, caused by retention of moisture and warmth and providing an environment favoring overgrowth of normal skin micro-organisms.

**Kyphosis** — Over-curvature of the thoracic vertebrae (upper back), associated with degenerative diseases such as arthritis, developmental problems or osteoporotic compression fractures of vertebral bodies.

**Nomogram** — A graphical calculating device commonly consisting of parallel vertical scales, corresponding to the number (n) of variables in an equation. When values for n-1 variables are known, a straightedge connecting them approximates the unknown value.

The Schnur nomogram (below) has been promoted for use in calculating the amount of breast tissue to be removed in reduction mammoplasty.

The **Schnur nomogram: Tissue removal (gm) per breast** was developed in 1991 using survey data from plastic surgeons. Its value for distinguishing medically necessary from cosmetic procedures has not been established (American Society of Plastic Surgeons, 2011).

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\[
\text{Body surface area} = (\text{weight in kg}^{0.425} \times \text{height in cm}^{0.725}) \times 0.007184
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Symptomatic breast hypertrophy — A syndrome of persistent neck and shoulder pain, painful shoulder grooving from brassiere straps, chronic intertriginous rash of the inframammary fold, and/or frequent episodes of headache, backache and upper extremity neuropathies caused by an increase in the volume and weight of breast tissue beyond normal proportions (American Society of Plastic Surgeons, 2011).

References

Professional society guidelines/others:


Peer-reviewed references:


Clinical trials:

- On August 12, 2014, searching www.clinicaltrials.gov using “breast reduction surgery” yielded 305 studies. Many of these are diagnosis-specific, with protocols defining other specific clinical eligibility criteria, and conducted at one or more hospitals or universities, not all of which would be geographically accessible to every patient otherwise eligible.
- Physicians interested in supporting research participation should consult the website for studies relevant to their individual patients.

CMS National Coverage Determinations (NCDs):

CMS: NCD (140.2): breast reconstruction following mastectomy

Local Coverage Determinations (LCDs):

Wisconsin Physicians: LCD (L30733): cosmetic and reconstructive surgery

Commonly submitted codes

Below are the most commonly submitted codes for the service(s)/item(s) subject to this policy. This is not an exhaustive list of codes. Providers are expected to consult the appropriate coding manuals and bill accordingly.

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