Breastfeeding After Cosmetic Breast Surgery
Presented by Diana West, BA, IBCLC

Breastfeeding After Cosmetic Breast Surgery

Reduction Augmentation

Presented by
Diana West, BA, IBCLC
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Breast Augmentation History

- 1885: First augmentation (injection of patient's own fat) – poor results
- 1889: Paraffin (wax) – disastrous results
- 1900-1945: Many substances tried – awful results
- 1945: Flap-based technique rotated patient's chest wall tissue into breast to increase volume – nope

Breast Augmentation History

- 1950s-1960s: 50,000 women received silicone injections
  ➢ Developed granulomas and hardening requiring mastectomy

Breast Augmentation History

- 1961:
  ➢ Dr. Frank Gerow squeezed plastic transfusion bag filled with blood
  ➢ Thought it felt like a woman's breast
  ➢ Developed the first silicone gel breast implant with Dr. Thomas Cronin for Dow Corning
- 1964:
  ➢ Laboratoires Arion developed first saline breast implant

Breast Implants

- 1992: Silicone implants removed from US market due to safety concerns
- 2006: Health Canada and FDA declared silicone implants made by Allergan and Mentor companies to be safe
- 2012: Sientra approved by FDA to manufacture of silicone implants
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Breast Implants

- 2001-2010: Poly Implant Prothèse (PIP) silicone implants
  - Used industrial grade silicone, not medical grade
  - High rupture, inflammation, malignancies, hardening, death rates
  - Dec 2011: France first country to recall PIP implants, file fraud suit
  - Dec 2013: PIP owner/founder Jean-Claude Mas jailed and fined in France
  - Many other criminal and civil suits pending

Incidence of Breast Augmentation Surgery

- 2013: 290,224 women in the US
  - MOST popular cosmetic surgery in 2013

“We all have things that we want to change about ourselves and for many women, this relates to the size, shape or position of their breasts. Considering how prominent the breasts are to a woman’s overall appearance, it is not surprising to learn that many women would like to increase the size of their breasts.”

– Sydney Breast Enlargement & Cosmetic Surgery

Pervasive advertising

Teen Augmentations

- Teens increasingly requesting breast implants as birthday, holiday, and graduation gifts

- American Society of Plastic Surgeons (ASPS) FDA, and Health Canada strongly recommend against breast implants under 18

More Teens Having Augmentations
Breast Augmentations by Age

Teen Augmentations
- 53% to correct breast abnormalities
  - 22% Tubular breast
  - 17% Severe breast asymmetry
  - 9% Congenital micromastia (severe underdevelopment)
  - 5% Poland’s syndrome (congenital absent breast)

Why Breast Augmentation Surgery?
- Physical discomfort
- Psychological discomfort

Physical Reasons for Breast Augmentation Surgery
- Reduction in breast volume after
  - Weight loss
  - Weight loss surgery
  - Pregnancy
  - Normal aging

Physical Reasons for Breast Augmentation Surgery
- Balance difference in breast size
  - May not be told about hypoplasia and possible diminished lactation capability

Psychological Reasons for Augmentation Surgery
- Desire to “fit in” and be “normal”
- Desire to feel womanly and attractive
- Doubts about femininity
- Low self-esteem
**Psychological Reasons for Augmentation Surgery**

- Study by Didie and Sarwer (2003)
  - Reasons women have breast augmentation surgery
  - More motivated by *their* feelings than partners or socio-cultural representations of beauty
  - Higher incidence of:
    - Divorce
    - Unhappy marriages
    - Emotional discomfort
    - Diminished feelings of femininity
    - Depression

**Psychological Reasons**

“Most women who seek breast augmentation are not trying to outdo other women in breast size; rather they want to catch up.”

*Surgery of the Breast: Principles and Art* (Spear, ed)

**Lactation Implications of Augmentation Surgery**

- Plastic surgeons often tell mothers that augmentation *will not affect breastfeeding* “since nothing is being removed from the breast”

- This overlooks many factors of augmentation surgery that can affect lactation

**Nerve Impairment**

- Regeneration of damaged nerves
  - Body’s normal repair process
  - Responds to passage of time
  - Regrow at rate of 1 mm/month
Why Does Nerve Response Matter?
- Milk ejection reflex depends on nerve response
- Good News: Milk ejection can be triggered without direct nerve response
  - Breast compression
    - If implant above the muscle, should be done with hand on top

Duct Impairment
- Recanalization
  - = Growth of ductal tissue
    - Severed ducts reconnecting?
    - New ductal pathways?

Duct Impairment
- Responds to hormonal and physical stimuli
  - Tissue grows and matures with each menstruation and pregnancy
  - Direct response to lactation (Daly, Kent, Owens, Hartmann, 1999)
    - Number and length of lactations after surgery
    - Better outcomes for subsequent lactations

Duct Impairment
- Lactation outcome also depends on inherent number of glands and ducts
- Recent discovery: Number of ductal openings on nipple vary (Ramsey, 2005)
  - Can vary from 4-15
  - Average of 9

Two Main Augmentation Technique Categories
- Injection
- Implantation

Augmentation by Injection
Lipoaugmentation

- Patient’s Own Body Fat Injected into Breasts
  - Harvested from liposuction
  - Can fill in defects / abnormalities or soften existing implant appearance
  - No clinical evidence safer or better than saline / silicone
  - Enlargement depends on amount of spare fat

RISKS

- LIMITED to ~1 cup size increase
- Procedure may have to be repeated
- Unpredictable or low survival rates of transferred cells
- Cell reabsorption
- Cyst development
- Tissue scarring
- Calcification
- Difficulty detecting breast cancer by mammogram
  - Differentiating between malignant and fat transfer calcifications

Hyaluronic Acid (HA) Injection

- Requires yearly touch-ups
- Used primarily in Europe (not UK)
- Prior to 2012 British Association of Aesthetic Plastic Surgeons (BAAPS) saw one in four complications
- In 2012, Swedish manufacturer Q-Med withdrew Macrolane from UK market due to “cancer screening concerns”
- Not yet approved by FDA or Health Canada
- EFFECT ON MILK AND BREASTFEEDING UNKNOWN

Augmentation by Implantation

- Soft gel-like substance injected into breasts
- Hyaluronic acid occurs naturally in the body
- Marketed under name “Macrolane”
- Known by doctors as a “Boob Jab”
- Out-patient “lunchtime” procedure
  - Local anesthesia
  - Placed under breast tissue
  - Procedure less than 1-2 hours
  - Almost no recovery time

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Types of Implants

- **Saline**
  - FDA approved for age 22
  - Small incision
  - Saline filling can be increased or decreased

- **Silicone**
  - FDA approved for age 18
  - Pre-filled so need larger incision
  - Usually inframammary incision
  - Can’t use axillary incision

Implant Outcome Variables

- Two primary factors affect the amount of milk the mother will be able to make
  1. Implant location
  2. Incision placement

Implant Location

- **Subglandular**
  - UNDER the gland
  - ABOVE the muscle

- **Subpectoral**
  - UNDER the muscle

Implant Location

- **Subglandular**
  - (ABOVE the muscle)
    - PRO
      - Least complicated
      - Chest muscles cannot move implant when flexed
    - CON
      - ↑ risk capsular contracture
      - ↑ implant vulnerability
      - ↑ risk implant “rippling”
      - ↑ pressure on glandular tissue
      - ↑ more likely to negatively affect milk production

- **Subpectoral**
  - (BELOW the muscle)
    - PRO
      - ↓ capsular contracture
      - ↓ visible implant rippling
    - CON
      - Recovery time longer
      - More painful
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Implant Location

- Tunneling to implant location from remote incision can cause duct and nerve damage

Incision Placement

- For aesthetics, surgeons place incisions in less visible areas
- Four most common incision sites:
  - Inframammary
  - Transaxillary
  - Transumbilical
  - Periareolar

Same Scars Patterns

Selected Breast Augmentation Techniques and their Probable Effects on Lactation

Periareolar

- Very common
- Incision around areola to hide scarring
- Can be placed subglandular or subpectoral
- LIKELY to damage ducts, glands, and nerves

Greatest risk to lactation is periareolar incision (Hurst, 1996)

- Likelihood of severed ducts
- Likelihood of severed nerves
  - Incisions in the lower, outer quadrant will result in reduced innervation to the nipple and areola
  - Dramatically reduces milk ejection response
Inframammary
- Commonly called “crease” technique
- Scars not visible
- Most common augmentation procedure
- Can be placed subglandular, subpectoral, or submuscular
- Avoids the gland and ductal tissue
- Preserves nipple/areolar innervation
- If revision necessary, periareolar incision likely

Transaxillary
- Incision in upper, outer region of the breast, near arm juncture (“pit”)
- Scar generally invisible
- Can be subglandular or submuscular
- If revision necessary, periareolar incision likely

TransUmbilical Breast Augmentation (TUBA)
- Not common
- Implant inserted through navel
- Moved under skin into breast
- No incisions on breast
- Recovery time less
- Difficult to position accurately
- Can be subglandular or submuscular
- If revision necessary, periareolar incision likely

Breast Augmentation Surgical Photos
Warning: The following slides display breast augmentation surgery in graphic detail

Liposuction

Augmentation Mammoplasty
Periareolar Technique
Breastfeeding After Cosmetic Breast Surgery

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Augmentation Mammoplasty

Inframammary Technique

Augmentation Mammoplasty

Inframammary Technique

Breast Augmentation Complications

- Commonly requires additional surgeries
  - Average duration to revision is seven years

Surgical Variables

- Surgeon’s skill
- Time since surgery
  - Ducts and nerves reconnect and regenerate
  - Five years usually minimum for optimal outcome
- Inherent lactation capability
- Breastfeeding management
- Attitude/perspective

Change:

- Implant type
- Location
- Size
<table>
<thead>
<tr>
<th><strong>Muscle Flex Distortion</strong></th>
<th><strong>Traction Rippling</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Chest muscle scarring into implant</td>
<td>Occurs when implant pulls on scar tissue, which pulls on skin</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th><strong>Capsule Contracture</strong></th>
<th><strong>Necrosis</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Scar tissue</td>
<td>Dead tissue forms around implant</td>
</tr>
<tr>
<td></td>
<td>Can leave large, permanent scars</td>
</tr>
<tr>
<td></td>
<td>Seroma</td>
</tr>
<tr>
<td></td>
<td>Collection of fluid around implant</td>
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**REMEDY:** Surgery to release implant from scar tissue
- May require several surgical treatments

<table>
<thead>
<tr>
<th><strong>Synmastia</strong></th>
<th><strong>Leaking</strong></th>
</tr>
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<tbody>
<tr>
<td>Submuscular implants</td>
<td></td>
</tr>
<tr>
<td>Muscle attached to sternum cut by surgeon</td>
<td></td>
</tr>
<tr>
<td>Pressure of post-operative swelling forces implant to move toward center</td>
<td></td>
</tr>
<tr>
<td>Difficult to repair</td>
<td></td>
</tr>
<tr>
<td>~10 percent</td>
<td></td>
</tr>
<tr>
<td>Starts six or more months post-op</td>
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Rupture

- **Saline** → deflates and the salt water absorbed by body
- **Silicone gel** → decreased breast size, hard knots, uneven appearance, pain or tenderness, tingling, swelling, numbness, burning, sensation changes, inflammation of scar tissue around implant, increased scar tissue

Rupture

- **Risk higher:**
  - Cup size increased more than 2 sizes
  - TUBA technique
  - UNDERfilling of implant
    - Can fold during movement
  - Excessive compression during mammogram
  - Trauma, injury, or intense physical manipulation

Massive Rupture

Pregnancy

- Pain as enlarging glands compress against implants
- Worse with capsular contractures

What Women Worry About

- Breastfeeding causes breasts to sag, so surgery will be ruined???
  - Breast enlargement stretches Cooper's ligaments
  - Caused by pregnancy and weight gain, not breastfeeding
  - Without proper support, happens anyway

What Women Worry About

- Implants can affect milk quality or composition???
- Silicone can leak into the milk???
  - Silicone not higher in milk of women with implants (Semple, 1998)
  - Silicone 10 times higher in cow's milk and even higher in infant formulas (Semple, 1998)
  - Silicone drops used for colic
  - Silicone inert and not absorbed in digestive tract (Hale, 2004)
  - **Exception:** Massive implant rupture

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The Bottom Line on Breast Implants

- Breast implant surgery CAN damage lactation nerves and ducts
  - Particularly:
    - Periareolar incisions
    - Subglandular implant placement
    - Complications
    - Follow-up surgeries through areola

Breastfeeding after Augmentation Surgery

Questions?
Thoughts?
Comments?

Incidence of Breast Reduction Surgery

- 2013: 41,164 in US
- Down 2% from 2012

Reduction Mammaplasty
(Breast Reduction)

Why Breast Reduction Surgery?

- Physical discomfort
- Psychological discomfort

Physical Discomfort

- PAIN
  - Back, neck, shoulder grooves
- Neuromuscular dysfunction
  - Headaches, nerve damage
  - Posture, breathing difficulties
- Breast problems
  - Premature, exaggerated sagging
  - Significantly unequal breast size
- Interference with exercise, activities
  - Clothes fitting poorly
  - Inability to exercise comfortably, lie on stomach
- Unusual Enlargement
  - Not returning to pre-pregnant size
  - Weight gain
  - Hormone imbalances
Physical Discomfort

- 1999 survey by the University of Pennsylvania School of Medicine
  - 100+ women who had reduction mammoplasty
  - Most common reasons for surgery
    - Lower back pain (92%)
    - Shoulder grooves from bra straps (84%)
    - After surgery
      - 83% improvement in shoulder groove pain
      - 78% decrease in lower back pain

Psychological Discomfort

- 1999 (very) informal survey by me
  - 50 women who had reduction surgery responded by email
    - 80% had reduction because of sexual harassment, usually during teen years
    - Unwanted, humiliating, frightening sexual advances
    - Not just peers

Sexual Harassment

- In our society, large breasts = promiscuity

Social/cultural/family pressure

- Desire to “fit in” and be “normal”

Poor self-image

- Perceive physical abnormality
- Feel “freakish”
- Not taken seriously or respected for abilities

Selected Reduction Mammoplasty Surgical Techniques and their Probable Effects on Lactation

Liposuction

- AKA
  - Scarless
  - Binelli
- Several small incisions made to access fat tissue
  - Possible to avoid area near areola
Liposuction
- Limitation: skin can only shrink two cup sizes
- Usually used with other procedures

Pedicle Techniques
- Areola and nipple remain attached to mound of breast tissue containing:
  - Blood vessels
  - Ducts
  - Nerves

Incision Patterns

Inferior Pedicle Technique
- Most common technique
- Minimal nerve, duct, and blood supply damage
- Most tissue removed from perimeter
  - Avoids most lactation tissue
- Lactation capability substantially protected (Brzozowski, 2000)
- Higher milk production than Superior Pedicle technique (Sandmark, 1992)
- Higher milk production Free Nipple Graft technique (Marshall, 1994)

Inferior Pedicle Technique
- Wedges of tissue removed below areola
  - Area most likely to contain lactation tissue
- Incision below (superior to) pedicle may sever 4th intercostal nerve

Superior Pedicle Technique
Central Pedicle Technique

- AKA the “circumareolar technique”
- Least visible scarring
  - Only incision around areola
    - Areola remains attached
    - Tissue removed through incision
- Blood and nerve supply to areola largely preserved
  - 4th intercostal nerve likely to be damaged
- Amount of tissue removal determined by desired shape

Free Nipple Graft

- Complete removal of areola and nipple
- Wedges of tissue removed from lower breast
  - Many ducts and glands removed or severed
  - Extensive damage to remaining tissue
- Some degree of reinnervation and recanalization possible (Ahmed and Kolhe, 2000)

Breast Reduction Surgical Photos

Implications of Reduction Mammoplasty for Lactation

Surgical Variables Affecting Lactation

- MOST IMPORTANT: Type of surgery
  - Severe nerve damage probable
    - Interferes with milk ejection
    - Decreased release of oxytocin
  - Some milk ducts almost always severed
    - Reduced milk transfer

Surgical Variables Affecting Lactation

- Techniques that minimize scarring usually destroy more nerves, blood supply, and lactation tissues
  - Mothers can find technique used on surgical consent form
Other Variables Affecting Milk Production Capability

- **LIKE AUGMENTATION:**
  - Surgeon’s skill
  - Healing process
  - Time since surgery
    - Allows ducts and nerves to reconnect and regenerate
    - Normal sensation → normal milk ejection
  - Inherent lactation capability
  - Breastfeeding management
  - Attitude/perspective

Breastfeeding after Reduction Research Studies

- Almost all women who had reduction mammoplasty can lactate, although they may not have a full milk supply (Harris, 1992)
  - 35% exclusive breastfeeding
  - 65% early cessation or no breastfeeding

Breastfeeding after Reduction Research Studies

- Reduction mammoplasty likely to reduce milk supply (Souto et al, 2003)
  - Outcomes range from 0-70%, depending upon type of surgery performed (Widdice [meta-analysis], 1993)

What Mothers May Hear from their Surgeons

- “Women with large breasts can’t breastfeed anyway”
- “You’ll have a 50/50 chance of being able to breastfeed”
  - They usually mean a 50/50 chance of FULL lactation, not a 50/50 chance of ANY lactation
  - Mothers see they have some milk
    - May think they have a full milk supply
    - May not monitor for insufficient intake

What Mothers May Hear from their Doctors

- Don’t breastfeed or you’ll get mastitis from unrelieved engorgement!
  - HIGHLY UNLIKELY
  - No milk outlets means no external bacterial access
  - Engorgement usually resolves by end of first week without intervention
    - Lack of milk removal leads to involution/atrophy of the glands
    - Follow normal engorgement protocols
    - CAN be prolonged engorgement from milk stasis in severed ducts
      - Areas evident after normal LGII fullness subsides

Possible Complications of Breast Reduction Surgery

- Blanching seems common after periareolar surgery
  - Try squeezing blood back into nipple
  - Nifedipine (Barrett, 2013)
    - 30 mg (slow release) 1x day for 2 weeks
    - About 10% of women must repeat course 1-3 time
    - Also available in topical
Possible Complications of Breast Reduction Surgery

- Latching can be more difficult
  - Pedicle often less full
  - Harder for baby to grasp
  - Try pressing index finger up into breast ("nipple nudge")

Possible Complications of Breast Reduction Surgery

- Output between breasts may be markedly different
  - Most have significantly more milk on one side than the other

The Bottom Line on Breastfeeding After Breast Reduction

- Any surgery to reduce the breast can affect lactation
- Reduction surgeries with the least scarring often have the worst lactation outcomes
- You can’t tell what kind of surgery she had by her scars
- Reduction techniques with the best lactation outcomes preserve
  - Nerve function
  - Glandular tissue below the areola
- YOUR encouragement matters!

Managing Breastfeeding After Breast Reduction

- Maximize milk removal to calibrate high capability
  - The more milk that is removed in the first 2-3 weeks, the higher milk production capability will be for this baby
    - Calibration process restarts for each baby
  - Extra pumping even if only just during this time

Managing Breastfeeding After Any Cosmetic Breast Surgery

- Follow standard lactation protocols
  - Assess milk production
    - Diaper output, weight gain, and 24 hr test weights (weights taken before and after feedings)
  - Supplement appropriately
    - Do not supplement prophylactically
    - Unnecessary supplementation may decrease milk production
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- Increase milk production if necessary
  - Increase milk removal
  - Galactagogues (substances that increase milk production)
    - Prescription medications usually most effective
      - Domperidone optimal if available
    - Many herbs can moderately increase milk production
      - Goat’s rue seems to work especially well for many post-surgical moms

Consider What You Say

- Mothers who have had breast surgery are very vulnerable to HCP advice
- Discouragement of breastfeeding results in significantly lower breastfeeding rates (Deutinger et al, 1990)
- Encouragement of breastfeeding results in significantly improved lactation outcomes (Brzozowski, 2000)

Questions? Thoughts? Comments?

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THE END
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