

Our legacy is yours.

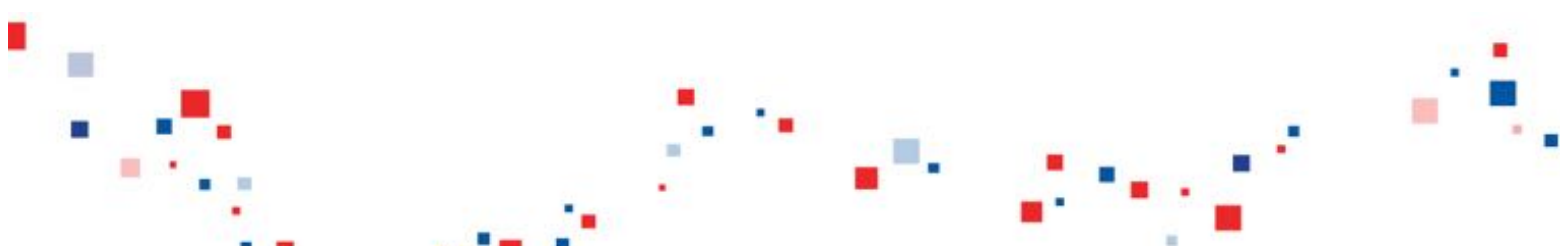


The Surgeon and the Lactating Breast

An Ambivalent Relationship

Cory Donovan MD

Breast Surgery Legacy Medical Group

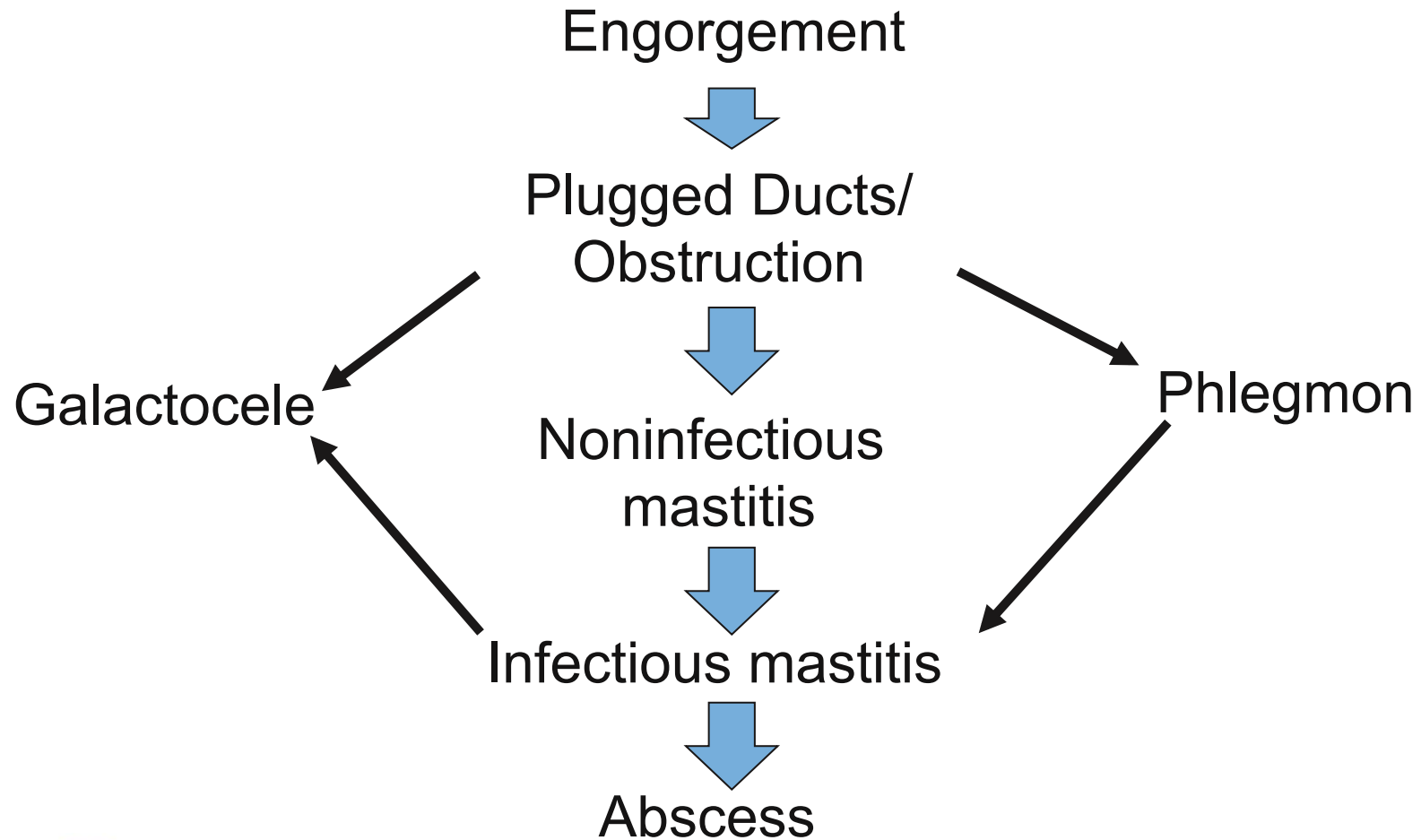


Agenda

- Management of severe mastitis and breast abscess
 - Benign breast problems in pregnancy and lactation
 - Pregnancy associated breast cancer
 - Breast feeding after breast surgery and breast cancer
-
- I have no financial disclosures
 - There will be many pictures of bosoms



Breast Infections in the Breast Feeding Woman



Mastitis

- 10% of breast-feeding women develop mastitis
- 15% of women who receive no treatment will improve
- Antibiotics and emptying the breast improve resolution rates
- Symptomatically different from engorgement



Antibiotics for mastitis in breastfeeding women (Review)

Jahanfar S, Ng CJ, Teng CL

FULL TEXT ARTICLE

Breast infections – Microbiology and treatment in the era of antibiotic resistance

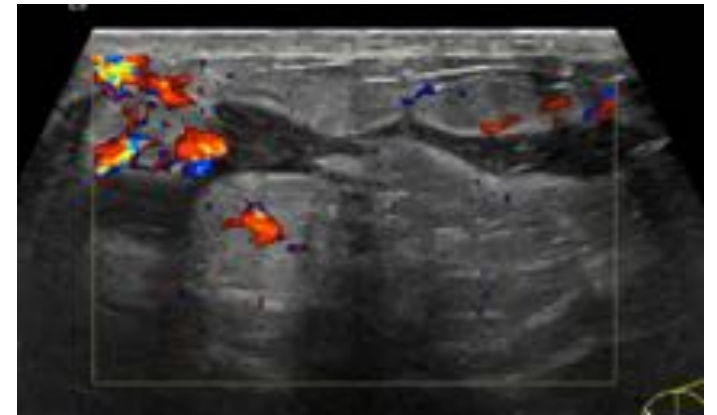
Article in Press: Corrected Proof

S.P. Russell, C. Neary, S. Abd Elwahab, J. Powell, N. O'Connell, L. Power, S. Tormey, B.A. Merrigan and A.J. Lowery
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Mastitis



Phlegmon



Abscess



Breast Abscess

- 11% in women with lactational mastitis
- Most common causes of abscess is Staphylococcus aureus
 - Steptococcus or Escherichia coli are less common
- Antibiotics of choice such as dicloxacillin or flucloxacillin 500mg four times daily orally
 - Unless there is concern for MRSA
- 15% of patients with a lactational breast abscess required a second antibiotic regime
- There is not strong evidence for duration of antibiotic treatment, or antibiotic treatment after incision in drainage
- The most important treatment of a breast abscess is drainage



Ultrasound



Figure 1 Ultrasound image of a hypoechoic abscess with layering mobile debris in the right breast.



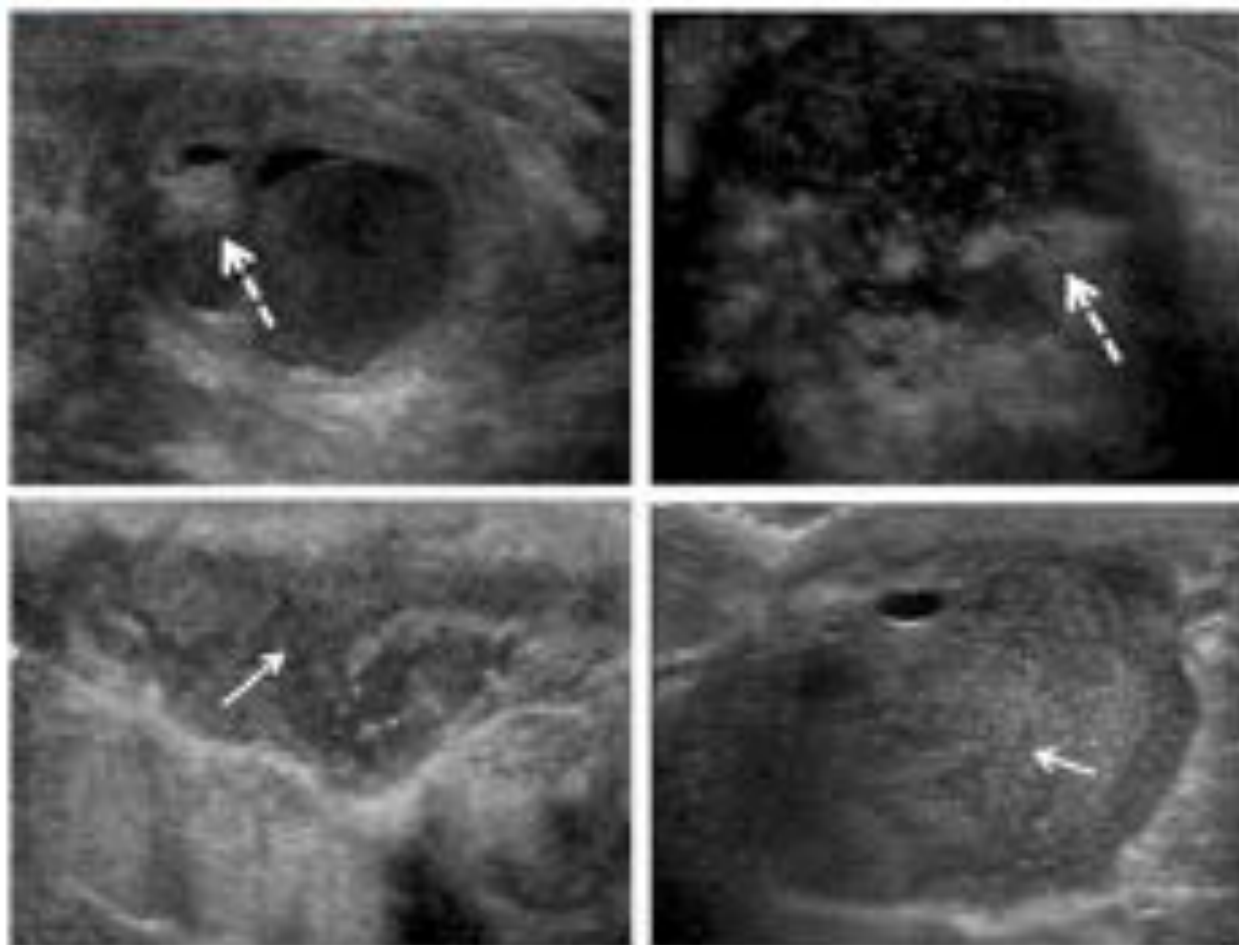



FIGURE 3 Variability of abscess contents by ultrasound imaging. These images of 4 different abscesses demonstrate lumpy/nodular demonstrated with a dash arrow and smooth debris with a solid arrow

Intervention in Breast Abscess

- Aspiration is preferred over incision and drainage (I&D)
 - > Suggest faster return to breast feeding
 - > Higher rate of treatment failure than direct to I&D
 - > Complications of I&D include:
 - Sinus tract, reoperation, nipple inversion, poor cosmetic result, hypersensitivity, and foul odor
- General anesthesia, open and packed wounds requiring daily dressing changes, and postop scarring make surgery less desirable
- Higher patient satisfaction with aspiration over I&D

Predictors of outcomes in managing breast abscesses—A large retrospective single-center analysis

Miriam David MD¹  | Priyanka Handa MD¹ | Maria Castaldi MD²

Aspiration



Pigtail Catheter

Surgical intervention is usually considered the next line



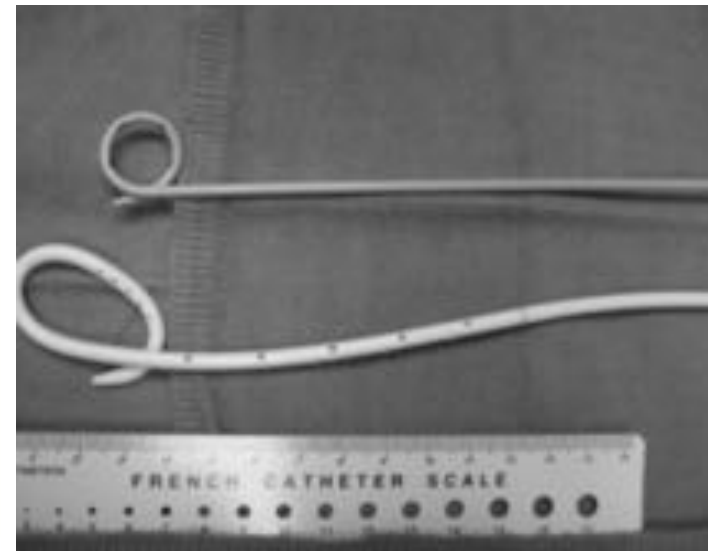
Figure 7 The catheter is seen exiting the tip of the peel-away sheath after removing the needle. (Color version of figure is available online.)



Figure 8 Pigtail catheter is shown through the peel-away sheath. (Color version of figure is available online.)



Figure 9 Peel-away sheath is removed, leaving the pigtail catheter in place. (Color version of figure is available online.)



Catheter Drainage



Signs that you need to move towards operative intervention

- Abscess >5cm are likely to require operative drainage or placement of a catheter to drain the abscess
- Symptoms of systemic illness
 - > Fever, tachycardia, hypotension
- Concern for skin integrity



Abscess Incision and Drainage



Incision and Drainage

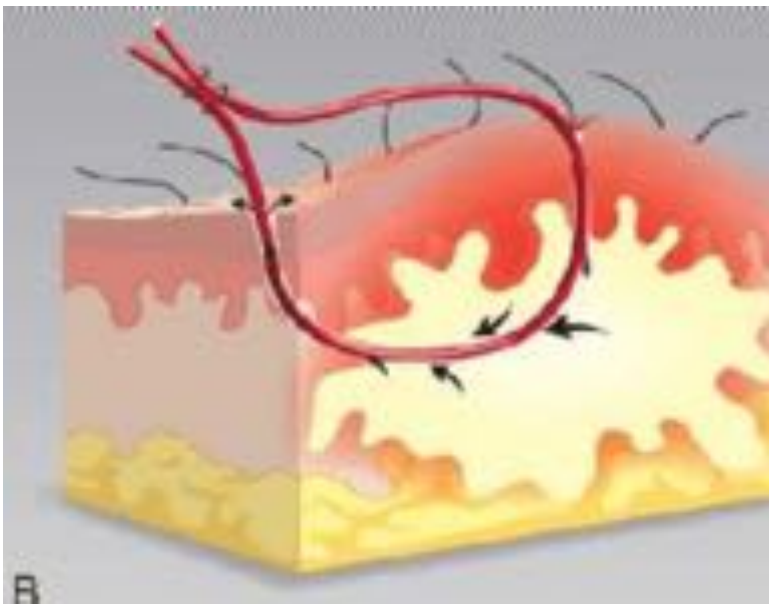
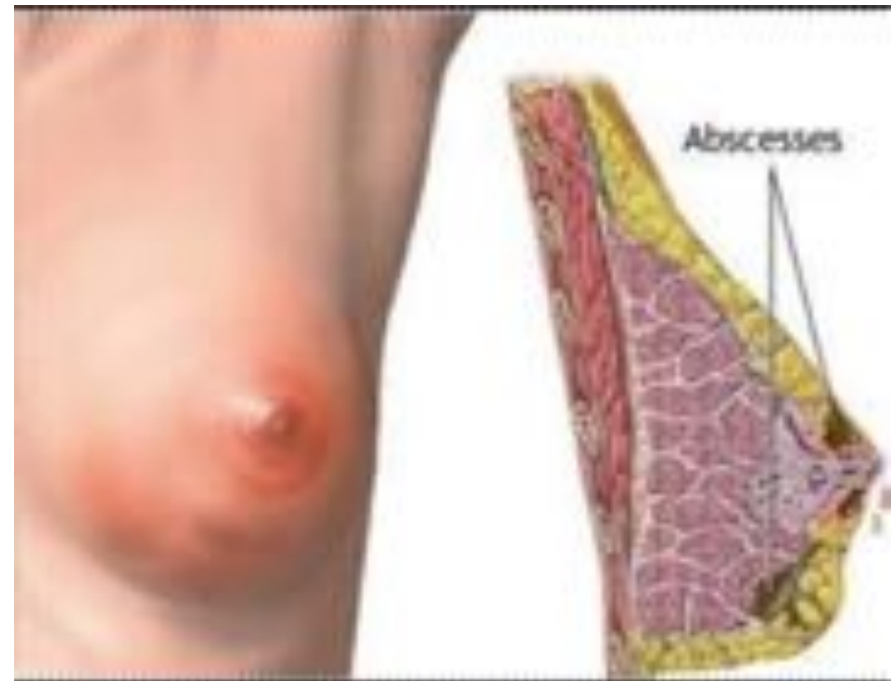


Fig. 262 Subareolar abscess with wick



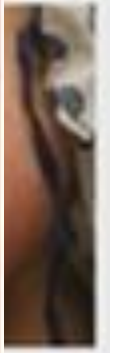
Abscess Tips

- Continue to let the baby feed from the affected breast
 - > Reduces inflammation, empties the breast best
 - > Avoid pumping
 - Stimulates milk supply but isn't as effective at emptying the breast
- Multiple weeks of antibiotics, aspirations may be needed
- Last resort incision and drainage



Milk Fistula

- Communication between the duct and the skin
- Management:
 - > Conservative: Continue feeding
 - > If extremely persistent, surgical excision of the fistulous tract



Contact Dermatitis

- Ask what the baby has touched, eaten
- If baby is on antibiotics, mother may be allergic
- Treatment is Triamcinolone cream



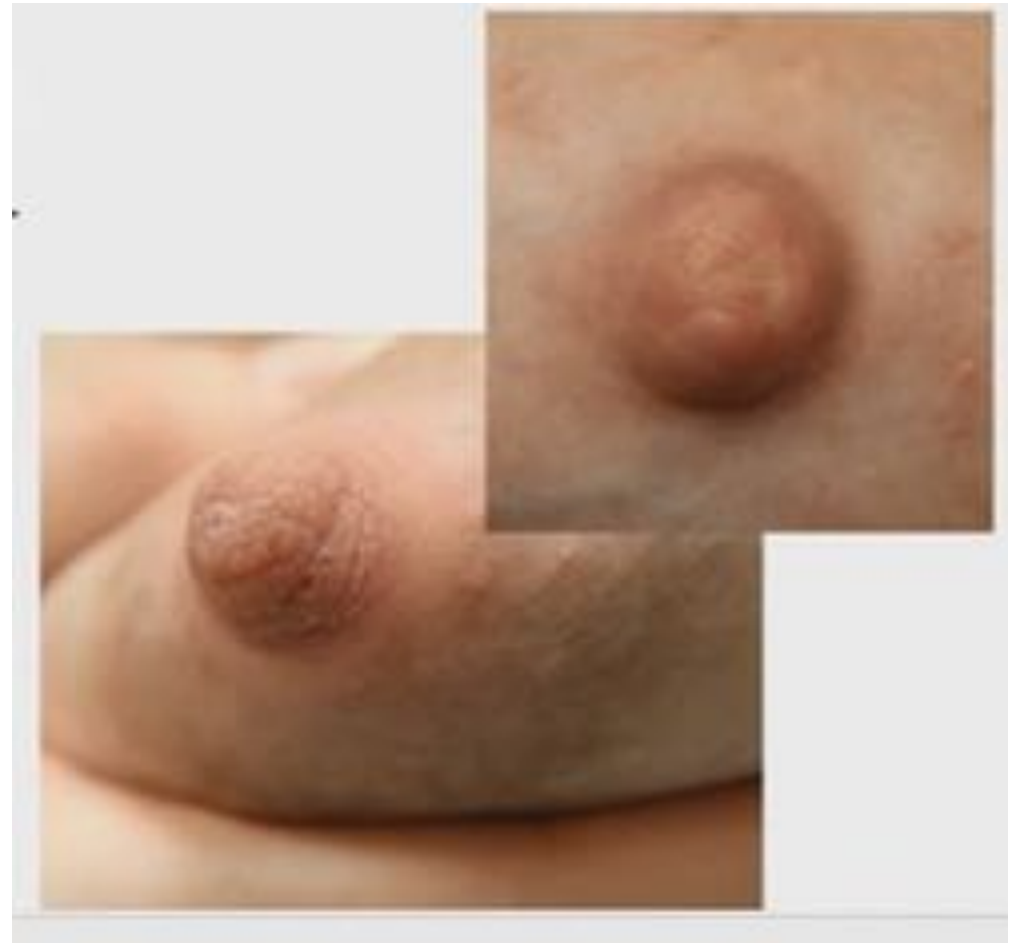
Nipple Bleb

- Inflammatory lesion on the surface of the nipple
- May be single or multiple
- 0.1% Triamcinolone cream
- PO lecithin to reduce plugging
- Resolve precipitating factors
 - > Treat mastitis
 - > Possibly oversupply?



Vasospasm

- Variety of nipple colors
 - > White
 - > Pink
 - > Purple
- Pain worse when the baby de-latches
- Treat with heat
 - > Wool pads
 - > Hand warmers
- Wound care for secondary trauma as needed



Pump Trauma

- Nipple hydrogel
- Nipple balm without lanolin



Levens et al ABM Protocol #26

Breast Cancer Risk and Lactation

- Breast feeding (especially in younger women) has been shown to be a protective factor against breast cancer
- Mechanism?
 - > Alpha-lactalbumin (Franca-Botelho 2012).
 - > Amenorrhea
 - > “Flushing the ducts”
 - > Lipids in Colostrum
- In a review of 47 studies in 30 countries, the risk of breast cancer was reduced by 4% for every 12 months of breastfeeding
- The choice to breastfeed may be one of the few proactive measures that can be undertaken to lower a woman’s lifetime risk of developing breast cancer

APA (American Psychological Assoc.)

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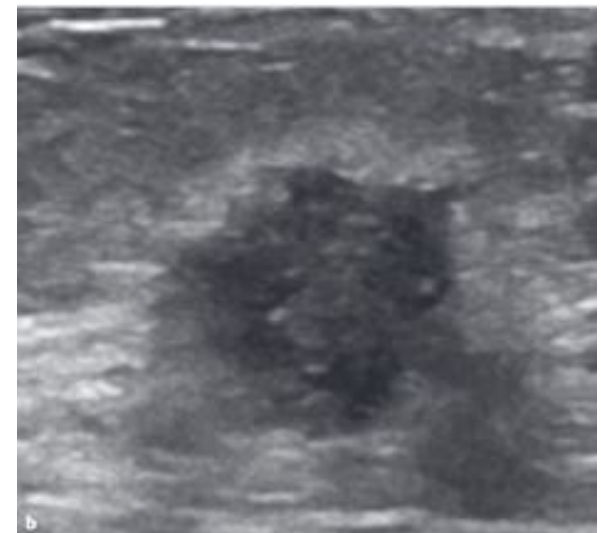
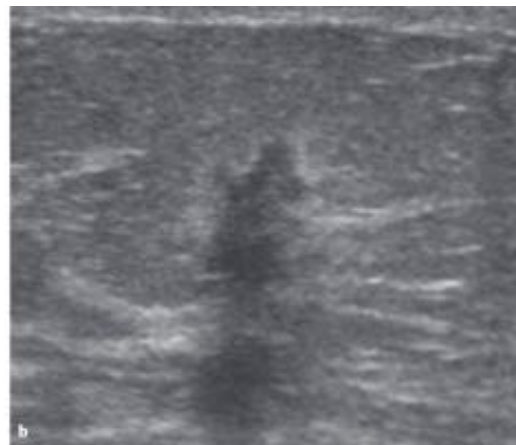
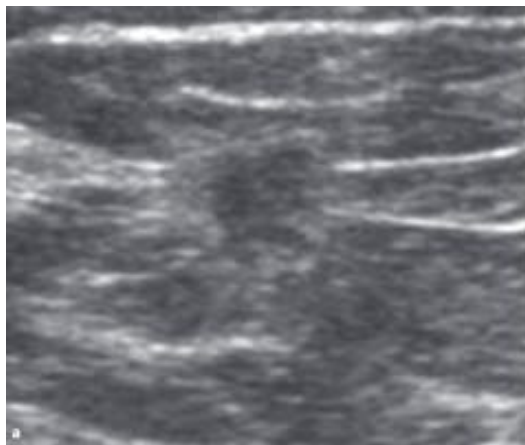
Pregnancy Associated Breast Cancer

- Defined as breast cancer during pregnancy or in the 12 months after pregnancy
- Accounts for 0.2–3.8% of all breast cancers
- At least 10% of women younger than 40 with breast cancer are pregnant at diagnosis
 - > Majority of cases are considered sporadic
 - > Second most common malignancy in pregnant women
- Transient increase in hormone-receptor breast cancer risk (lasting about 10 years) following a full-term pregnancy
- Present with a persistent palpable mass
- Imaging
 - > Combination of mammography and ultrasound is most accurate



Pregnancy Associated Breast Cancer Diagnosis

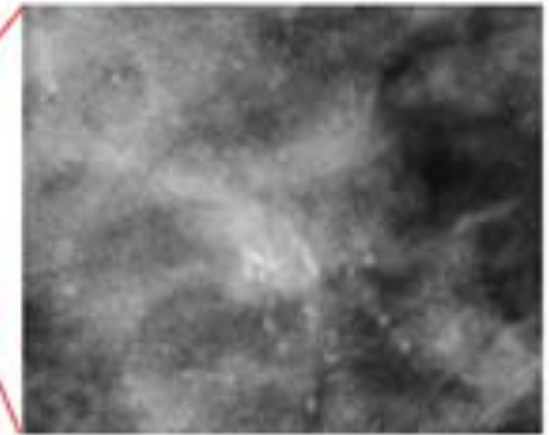
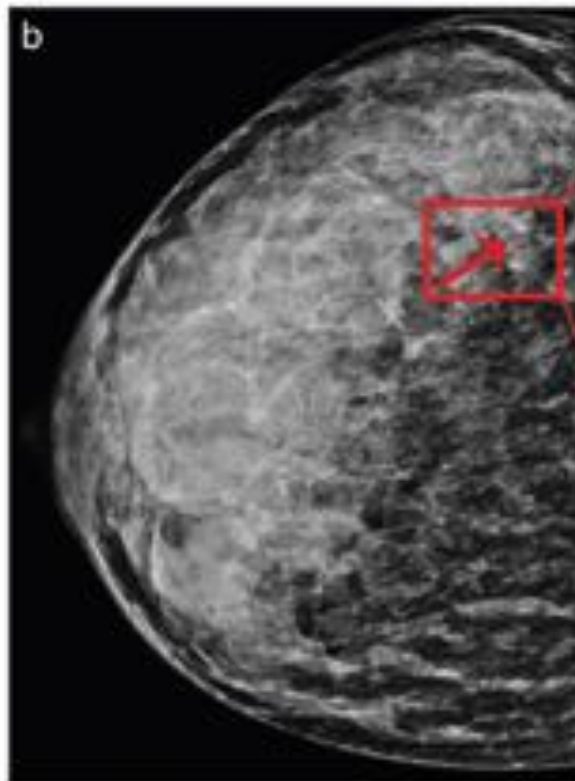
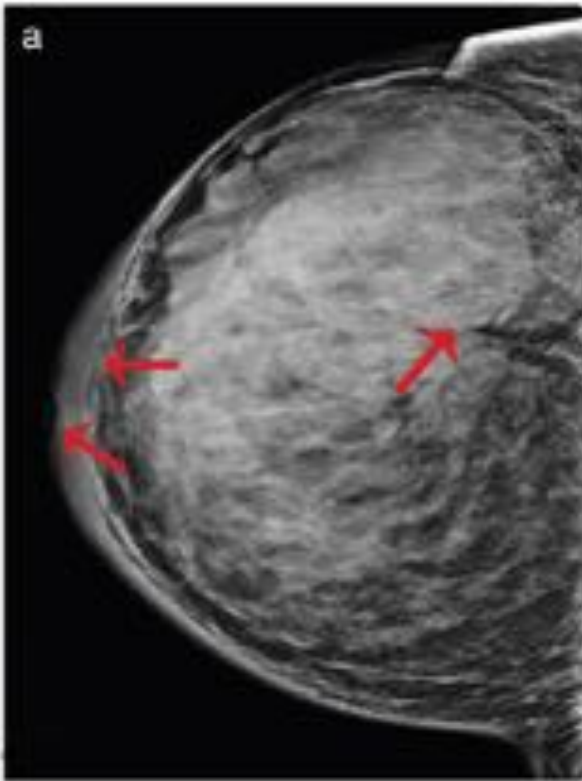
- Diagnosis



Ultrasound



Mammography



Surgical Treatment in Pregnancy

- Breast radiation during pregnancy is contraindicated
 - > Lumpectomy and radiation should only be offered if the radiation can be given postpartum
- Reconstruction after mastectomy should be delayed until after delivery and cessation of lactation
 - > When the remaining breast has returned to normal size to get a balanced reconstruction



Chemotherapy

- Although all chemotherapy drugs are category D (teratogenic),
 - > Risks have generally been seen only in the first trimester
 - > Later in pregnancy they are surprisingly safe, with only a 1.3% risk
 - > Not safe to breastfeed during chemotherapy



Breast-Feeding after Breast Surgery



Breast Feeding After Breast Augmentation

- Breast augmentation surgery is the most popular plastic surgery worldwide
- Many women choose to undergo augmentation during their reproductive ages
- Number of concerns and technical factors lead to reduction in breast feeding
- Breastfeeding is indeed possible and safe after breast augmentation with implants regardless of the incision technique
- Women may need additional support

Original Research

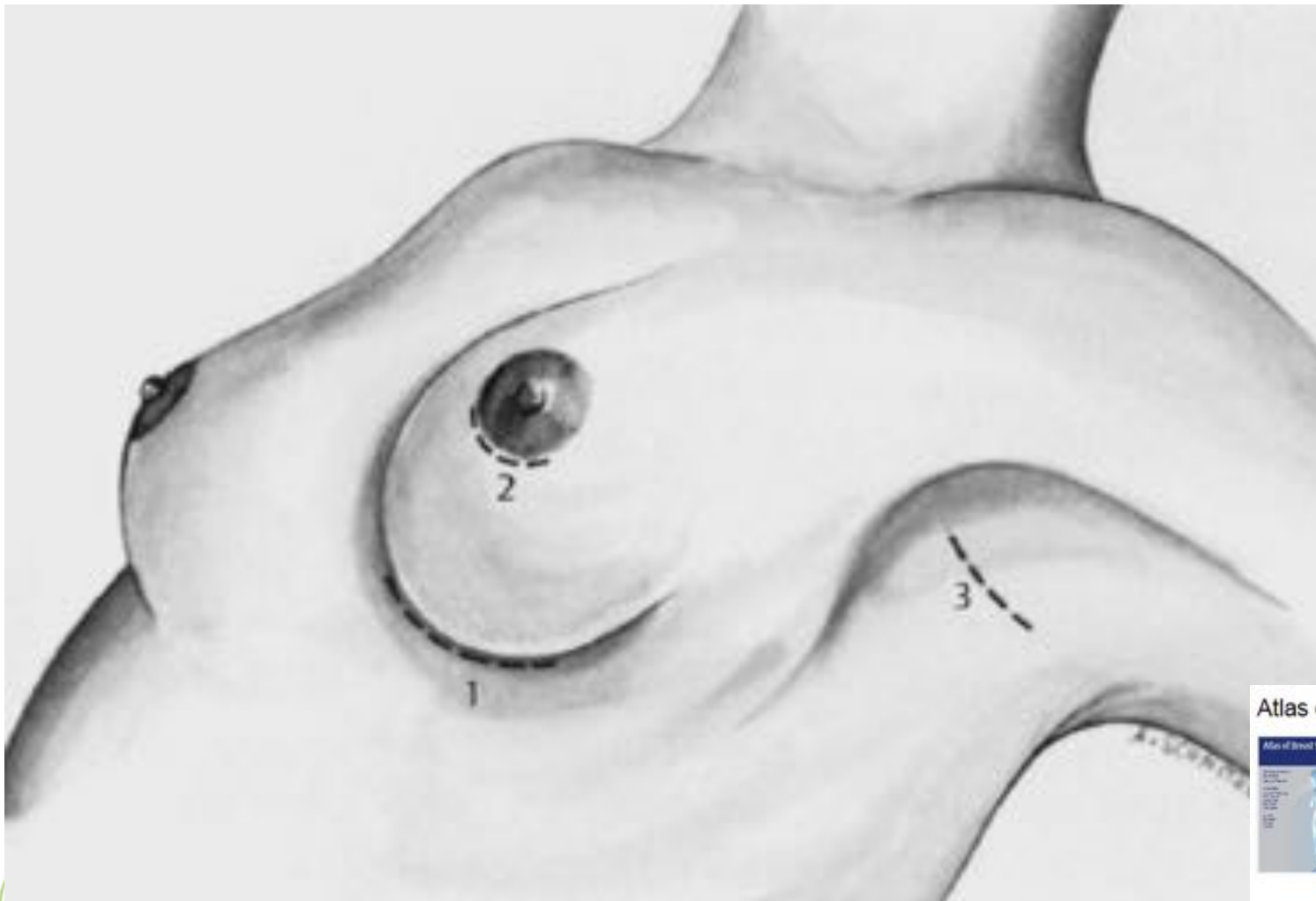
Do Breast Implants Influence Breastfeeding? A Meta-Analysis of Comparative Studies

Fengrui Cheng, MD¹,, Shuiping Dai, MD¹, Chiyi Wang, MD¹, Shaoxue Zeng, MD¹, Junjie Chen, MD, PhD¹, and Ying Cen, MD, PhD¹



Journal of Human Lactation
2018, Vol. 34(3) 424-432
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DOI: 10.1177/0890334418776654
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Breast Augmentation Incisions

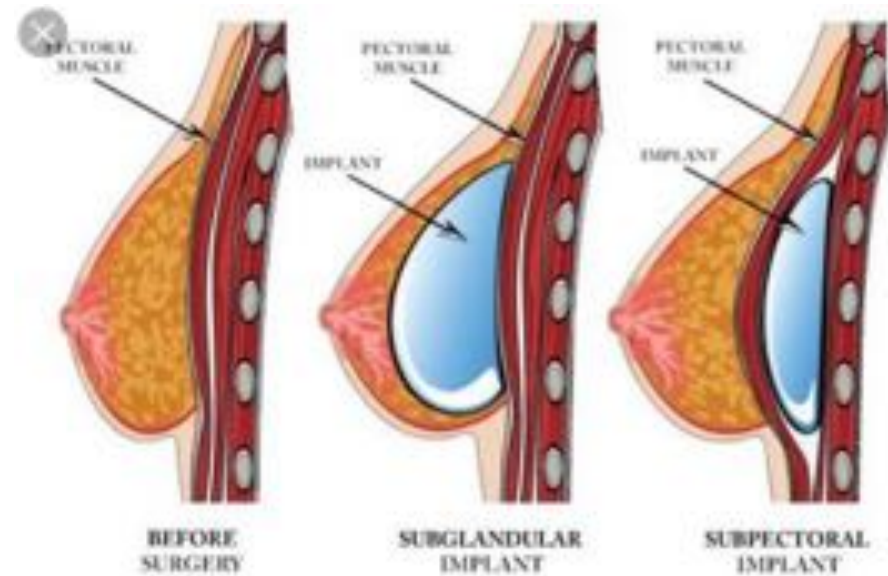
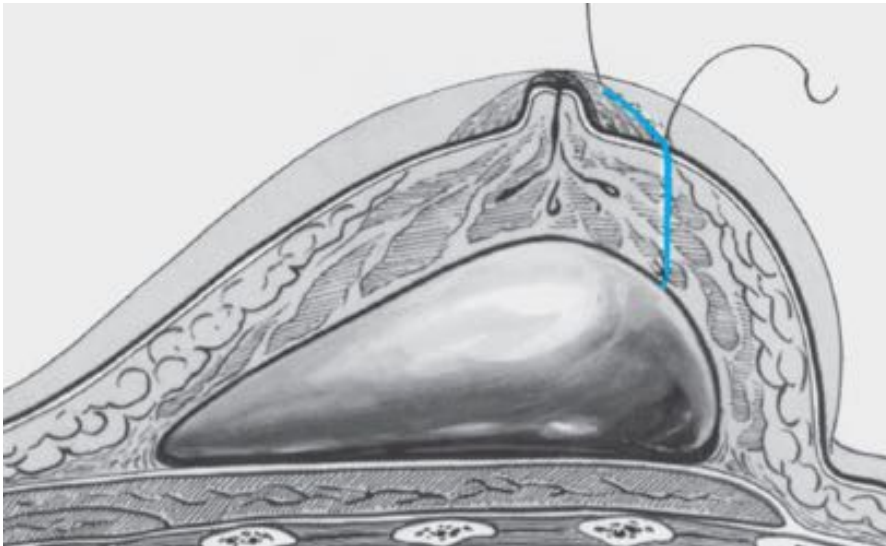


Atlas of Breast Surgery



Author: Wallwiener, D., Hirsch, Hans A., Käser, Otto, Iklé, Franz Anton
Date: 2015
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Breast Augmentation Implant Position



Atlas of Breast Surgery



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Breast Feeding after Reduction Mammoplasty



Atlas of Breast Surgery



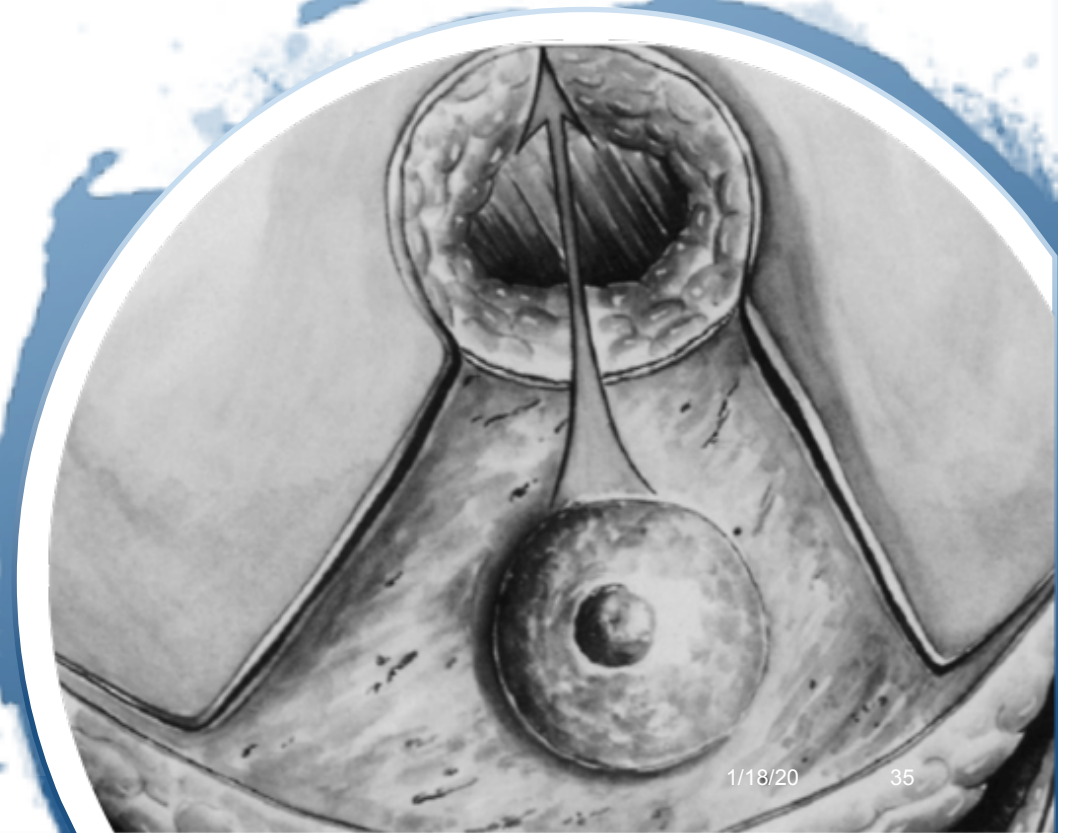
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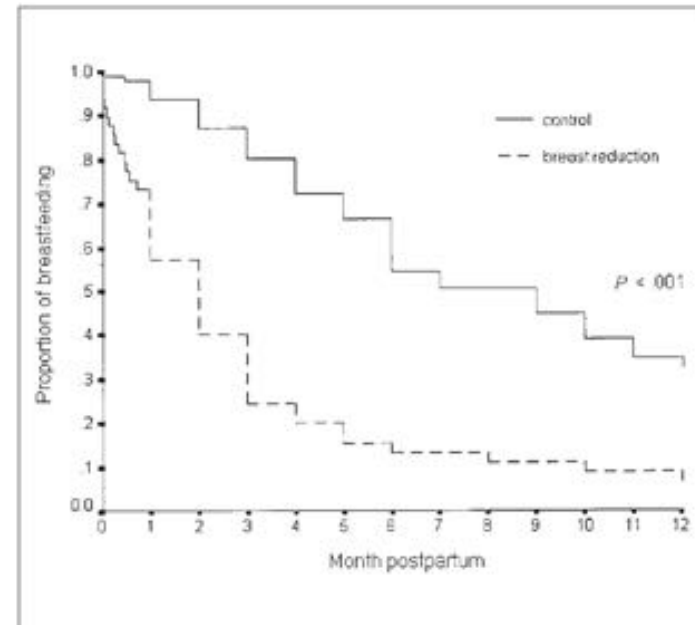
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- 97% of patients reported either improved or resolved pain following the surgery.
- 90% of the participants were happy with the results of their surgery
- In studies of women with macromastia, over 50% of opted not to breast-feed before undergoing reduction
 - “Did not know how”
 - Felt that their breasts were too large



Breast Reduction May Decrease Breastfeeding

- The Inferior Pedicle surgical technique doesn't compromise the nerves or blood supply to the nipple or areola
- May result in decreased production and therefore decreased duration
- Type of surgery performed may not matter as much as the support around her at the time of breastfeeding (Kakagia, Tripsiannis, & Tsoutsos, 2005).



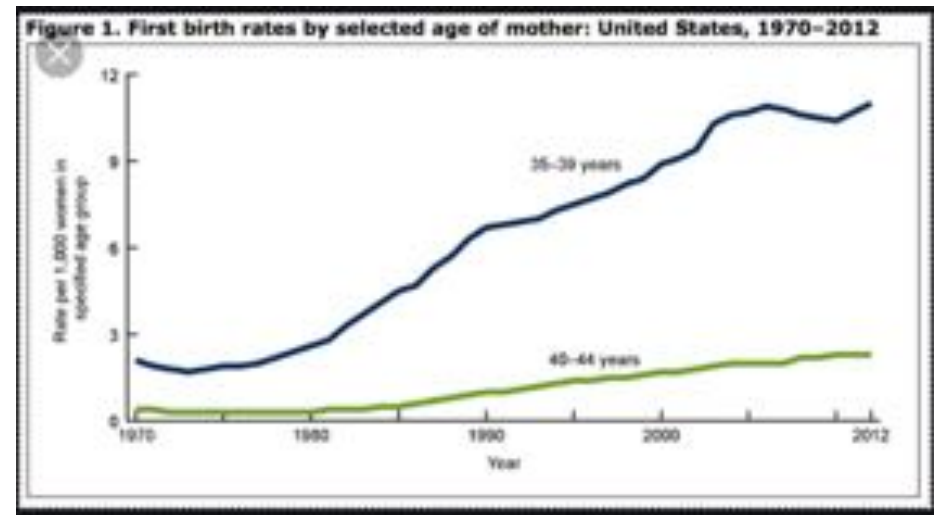
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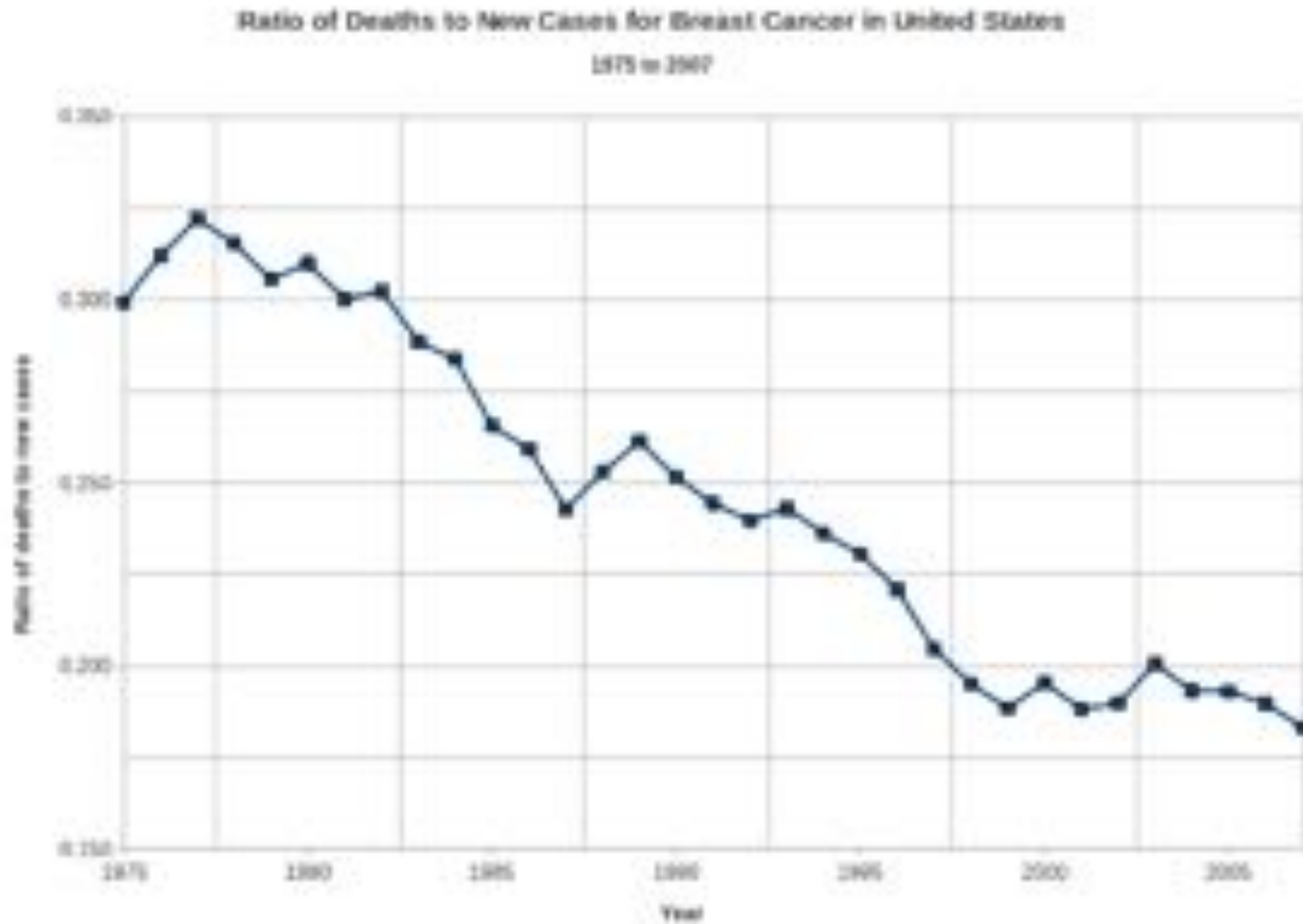
Pregnancy and Breast Feeding after Breast Cancer



Women are waiting longer to have children



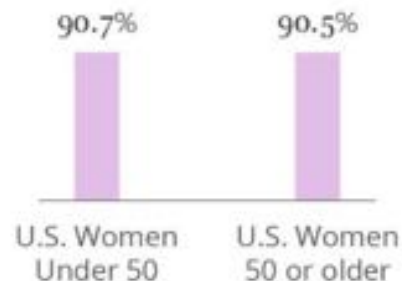
Decreasing Mortality of Breast Cancer



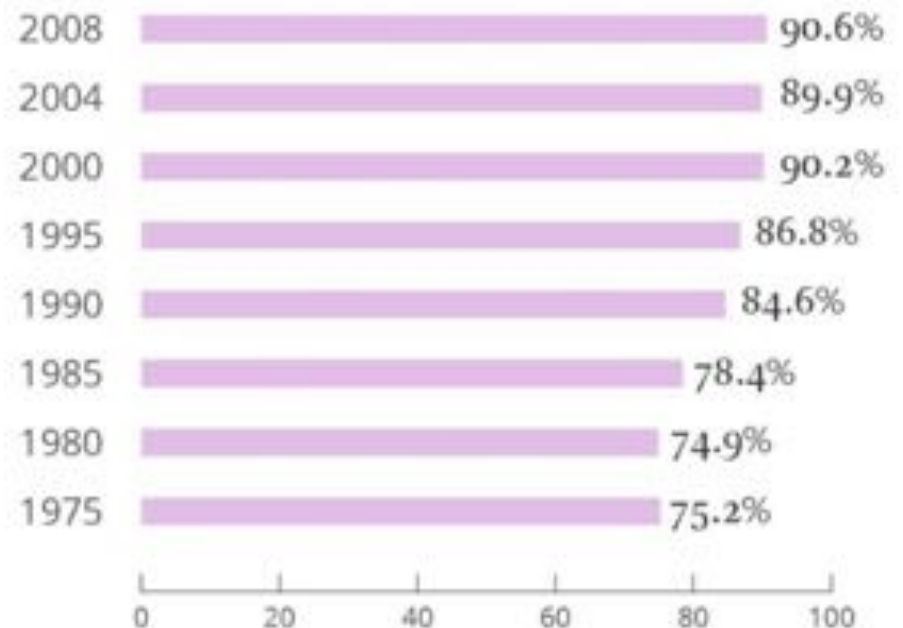
Young Survivors: A growing group

- During 2010-2014, the median age at the time of breast cancer diagnosis was 62
- 7% of women with breast cancer are <age 40

5-Year Relative Survival Rate
(2008-2013)



5-Year Survival Rate U.S. Women



[ancer Institute / seer.cancer.gov/csr/1975_2013/browse_csr.php](http://seer.cancer.gov/csr/1975_2013/browse_csr.php)

We have made significant improvements in disease free and overall survival

Study	Number of Patients	5 year DFS	5 year OS
Soft <35 y/o Tam+OS	240	75.9%	
Examestane +OS		83.2%	
POSH	2956	76.6%	81.9%
Donovan 2016	446	81.6%	89%
Boterri 2017	457		89.7%
Plichta 2016	584	89.5%	93%

(1) [JCO Volume 30.No 30. 2012 Oct. 20 p. 3687-3696](#)

(2) [JNCI. Volume 105, Issue 13, 3 July 2013, p. 978–988](#)

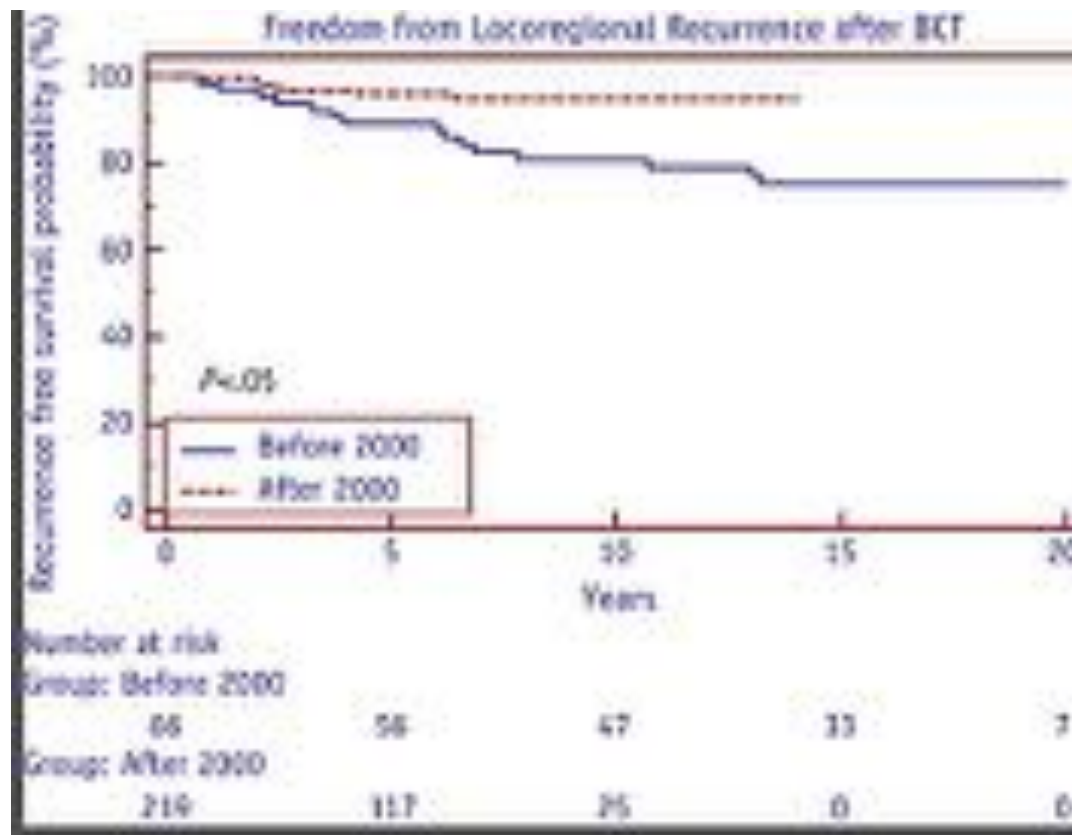
(3) [Ann Surg Oncol. 2017 Aug;24\(8\):2168-2173](#)

(4) [Br J Surg.](#) 2017 Aug 9.

(5) [Annals of Surg. Onc.](#) 2016 Oct;23(10):3212-20



Local Recurrence Rates Are Decreasing in the Modern Era

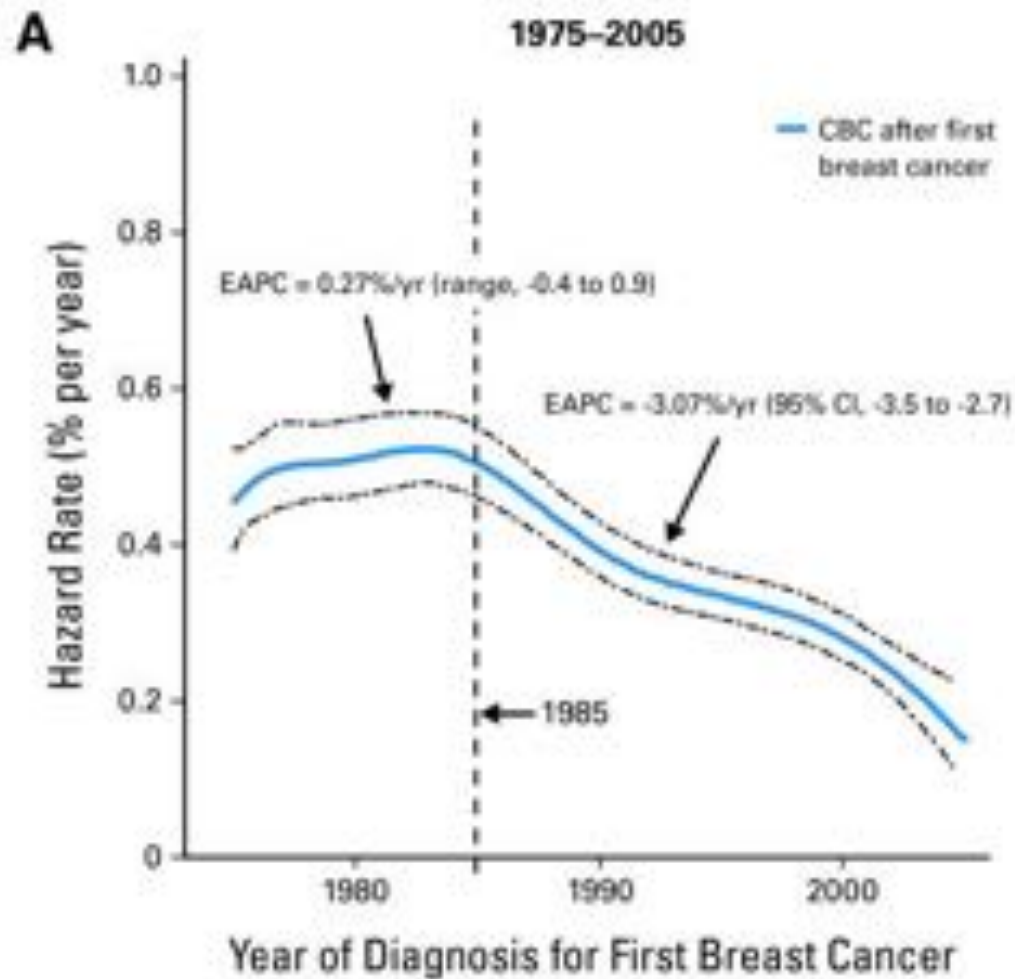


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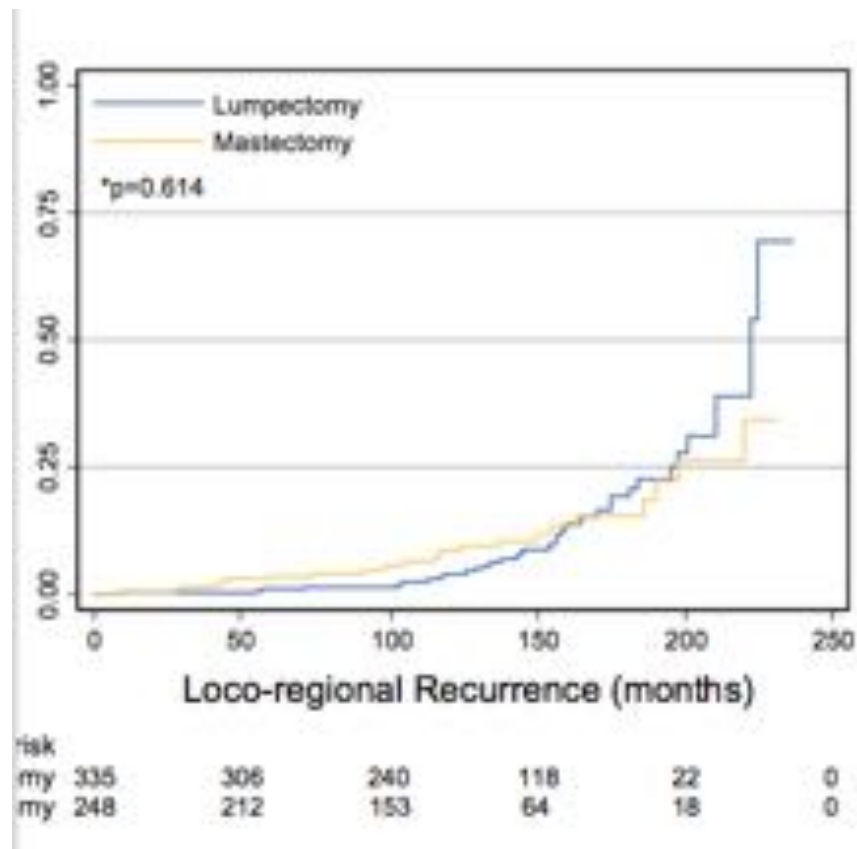
Frandsen, Jonathan, MD; Ly, David, MD, MPA... [Show all](#). Published November 30, 2015. Volume 93, Issue 5. Pages 1096-1103. © 2015.

Contralateral Breast Cancer Rates are Falling



Factors Associated with Recurrence Rates and Long-Term Survival in Women Diagnosed with Breast Cancer Ages 40 and Younger

Jennifer K. Plichta, MD, MS¹, Upahvan Rai, BS¹, Rong Tang, MD¹, Suzanne B. Coopey, MD¹, Juliette M. Buckley,

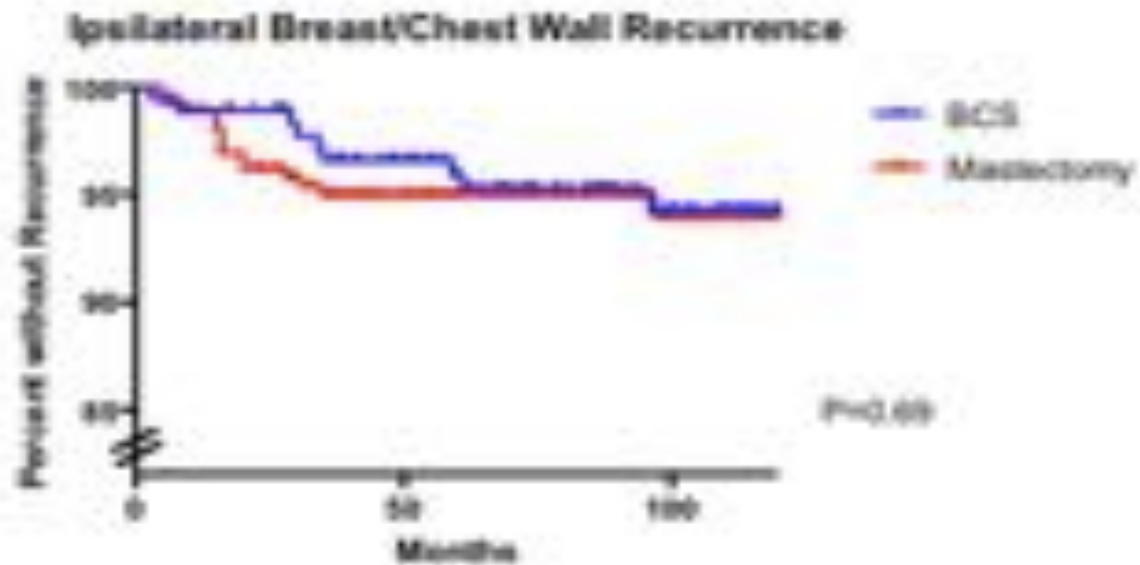


Ann Surg Oncol (2016) 23:3212–3220
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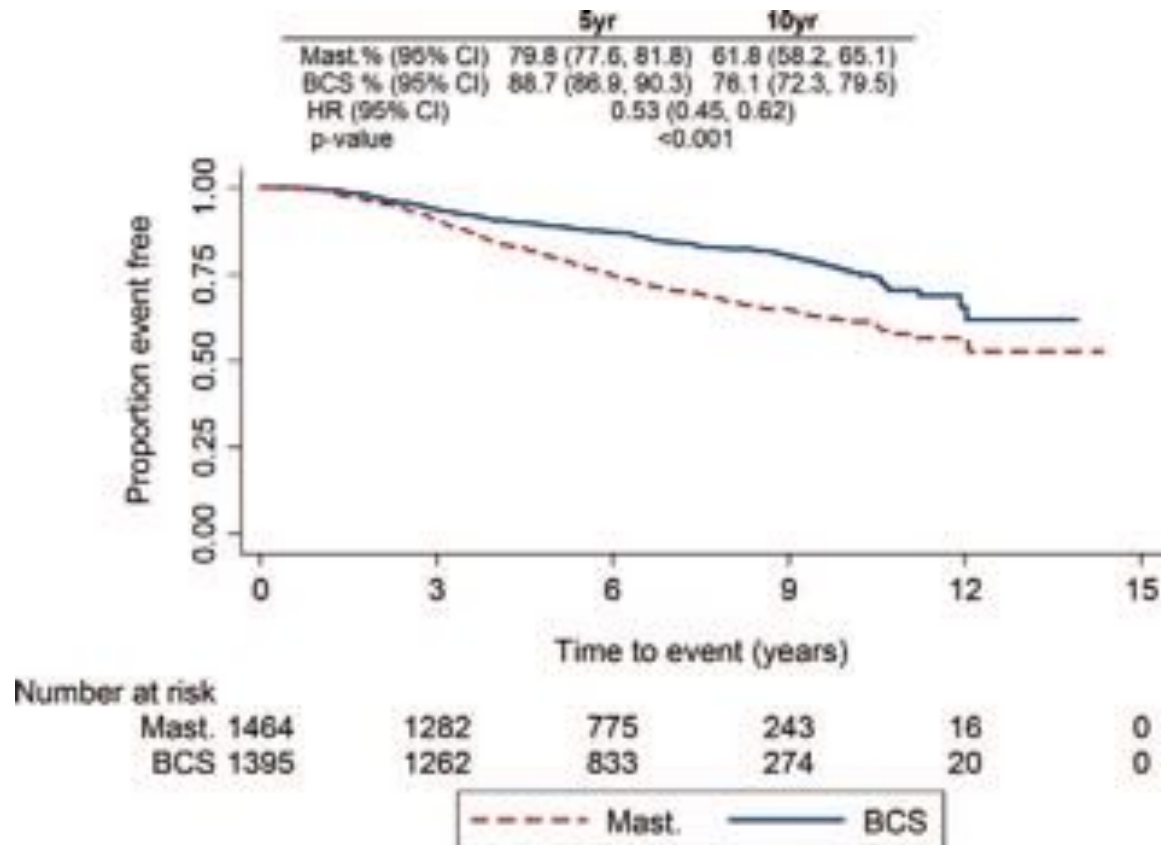
Cedars Local Recurrence



Number at Risk

BCS	194	180	177	155	143	127	133	87	83	69
Mastectomy	263	260	246	221	180	137	120	96	74	60
Months	0	12	24	48	60	72	84	96	108	120

Even in Young Women: No Survival Benefit to Mastectomy

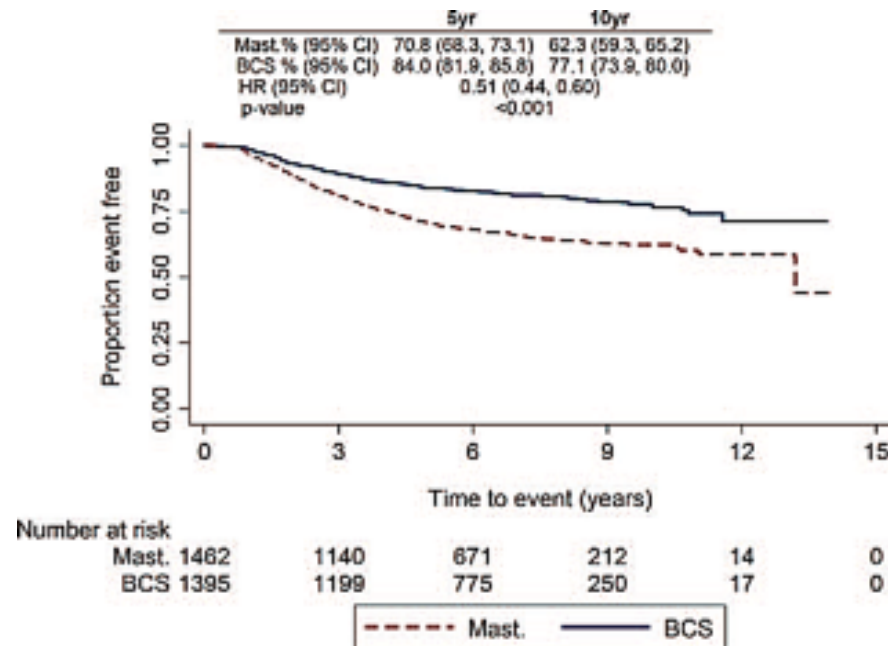


Overall survival Kaplan-Meier plot for all patients by surgical type

Annals of Surgery Volume 266, Number 1, July 2017

The risk of distant recurrence is far greater than the risk of local or contralateral recurrence

Distant disease-free interval Kaplan-Meier plot for all patients by surgical type.



- > LRR only 15% of all recurrences
- > 60% of recurrences are distant disease

Annals of Surgery • Volume 266, Number 1, July 2017

Breast Surgical Choice in Young Women

- Bilateral mastectomy rates are rising
 - > Nearly 60% of women <40 are undergoing bilateral mastectomy
- Contralateral breast cancer rates are low in the modern era, even in young women
- We can reassure young women that breast conservation is a safe choice



Lactation After Breast Cancer

- More women are delaying childbirth
- More women are long-term survivors of breast cancer
- Number of pre-menopausal breast cancer patients sustaining full-term pregnancies after treatment for their malignancy will continue to rise
- It is becoming increasingly clear that mastectomy does not prolong survival and breast conservation is a safe choice in many women
 - Exceptions include women with genetic mutations, women with large tumors or inflammatory breast cancer, strong family history, overwhelming anxiety about screening
 - 40% of women are choosing lumpectomy in this age group

Long-term Safety of Pregnancy Following Breast Cancer According to Estrogen Receptor Status

Matteo Lambertini, Niels Kroman, Lieveke Ameye, Octavi Cordoba, Alvaro Pinto, Giovanni Benedetti, Maj-Britt Jensen, Shari Gelber, Maria Del Grande, Michail Ignatiadis ... Show more

JNCI: Journal of the National Cancer Institute, Volume 110, Issue 4, April 2018, Pages 426-429, <https://doi-org.lhs.idm.oclc.org/10.1093/jnci/djx206>

Published: 26 October 2017 [Article history](#) ▼



Breast Feeding After Breast Cancer

- Retrospective studies demonstrate no survival disadvantage in women who have a pregnancy after treatment for breast cancer
- Lactation usually proceeds normally in the unaffected breast
- In the treated breast, functional lactation is possible
 - > generally milk production is significantly diminished in the majority of patients

MLA (Modern Language Assoc.)
Wilson-Clay, Barbara, and Kay Hoover. *The Breastfeeding Atlas*. Vol. Fifth edition, B.Wilson-Clay/K.Hoover, dba LactNews Press, 2013.



Dow 1994, Kasum 2006,
Camune 2007, Danforth
1991, Moran 2005

Disclosure



References

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Original Research

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