1

DISCLOSURE OF CONFLICTS OF INTEREST

E. Antonio Mangubat, MD

- Solta Medical, consultant
- KMI, royalty
- Shippert Medical Technologies Corp., royalty

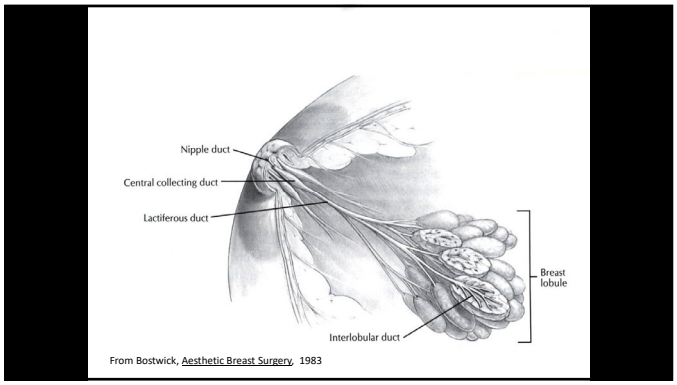
2

Breast Reduction
Goals

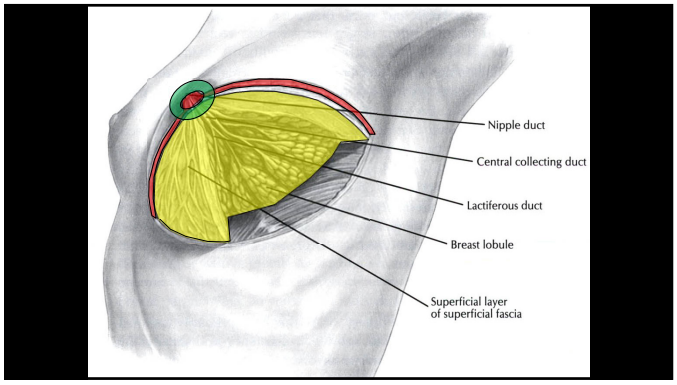
- Reposition the nipple
- Reduce skin envelope
- Improve symmetry
- Improve breast shape
- Reduce breast mass
- Preserving vascular and nerve supply

3

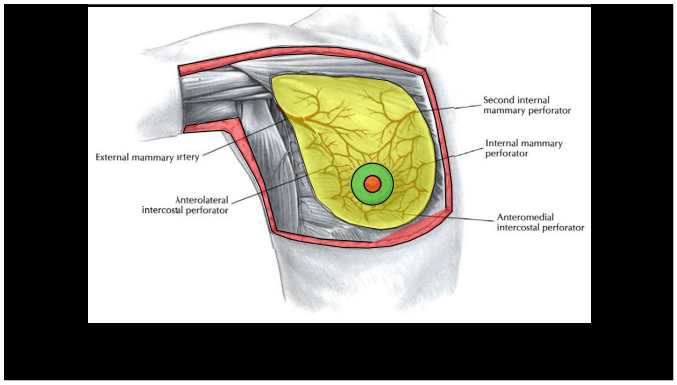
4


Nipple duct
Central collecting duct
Lactiferous duct
Breast lobule
Interlobular duct
From Bostwick, Aesthetic Breast Surgery, 1983

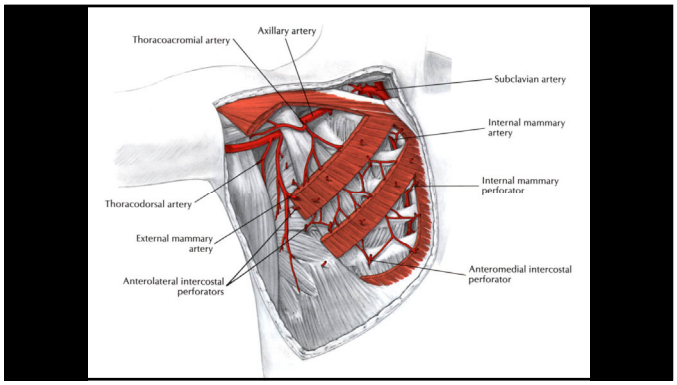
5


Nipple duct
Central collecting duct
Lactiferous duct
Breast lobule
Superficial layer of superficial fascia

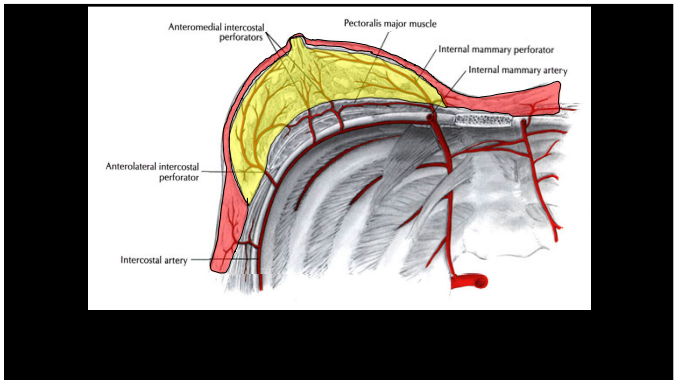
6


Second internal mammary perforator
Internal mammary perforator
External mammary artery
Anterolateral intercostal perforator
Anteromedial intercostal perforator

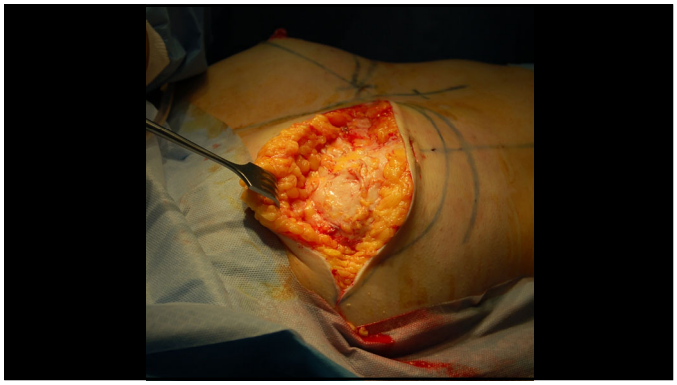
7


Thoracoacromial artery
Axillary artery
Subclavian artery
Internal mammary artery
Internal mammary perforator
Thoracodorsal artery
External mammary artery
Anterolateral intercostal perforators
Anteromedial intercostal perforator

8


Anteromedial intercostal perforators
Pectoralis major muscle
Internal mammary perforator
Internal mammary artery
Anterolateral intercostal perforator
Intercostal artery

9



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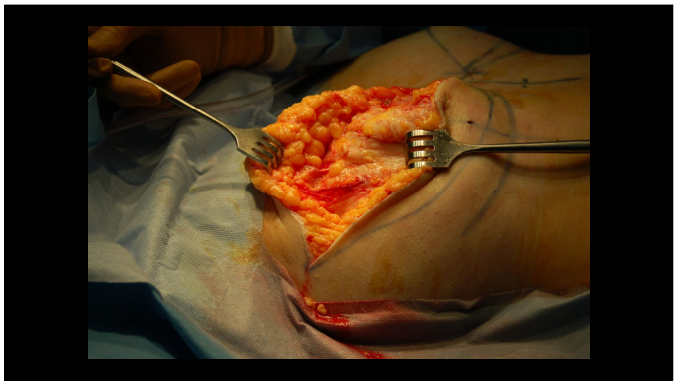

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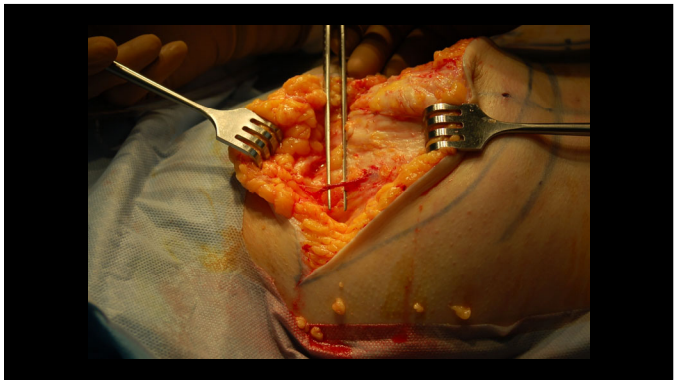

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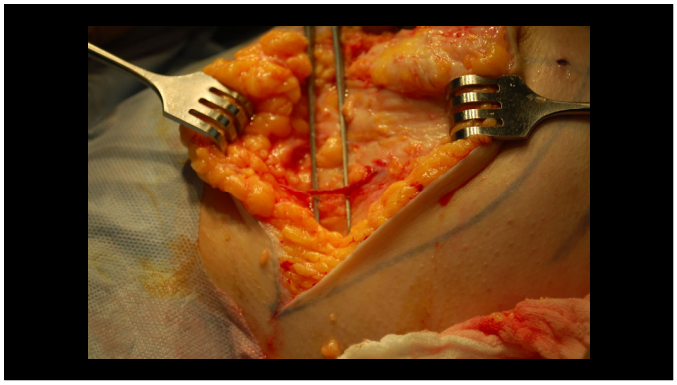

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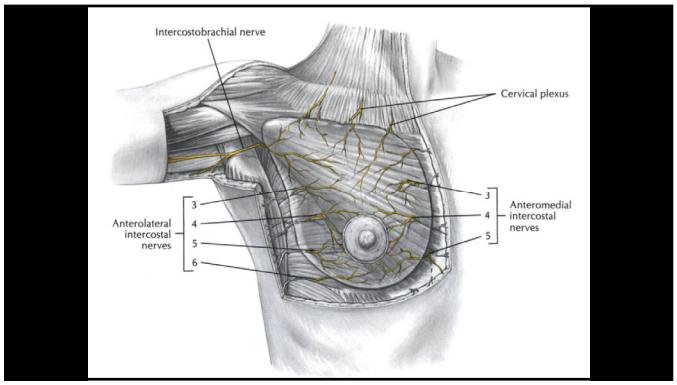


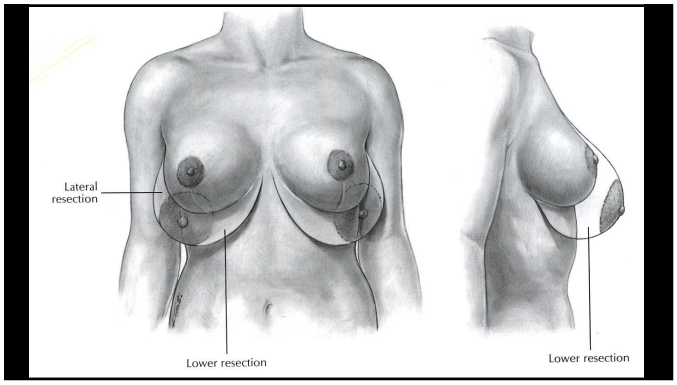
14

Breast Reduction
Practical Anatomy

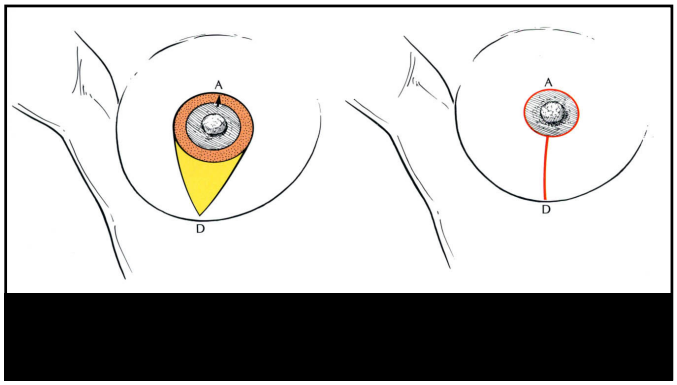
- Superiorly based pedicle
- Inferiorly based pedicle
- Vertical bipedicle (McKissock)
- Free nipple graft

3/12/2022

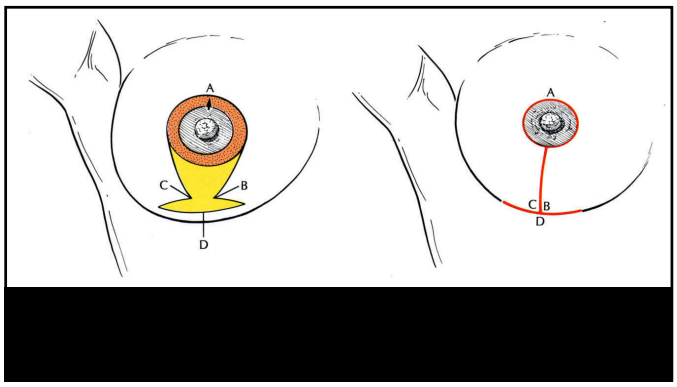
15


Lateral resection
Lower resection
Lower resection

16


A
D
A
D

17


A
C
B
D
A
C
B
D

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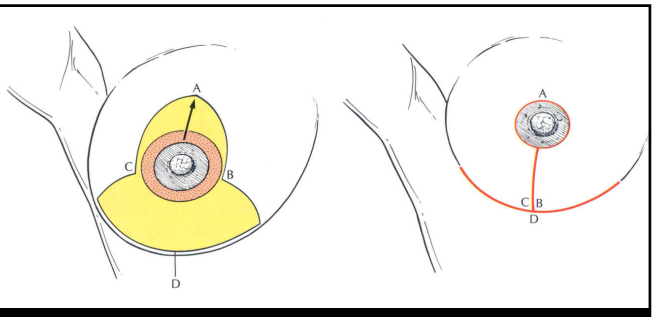
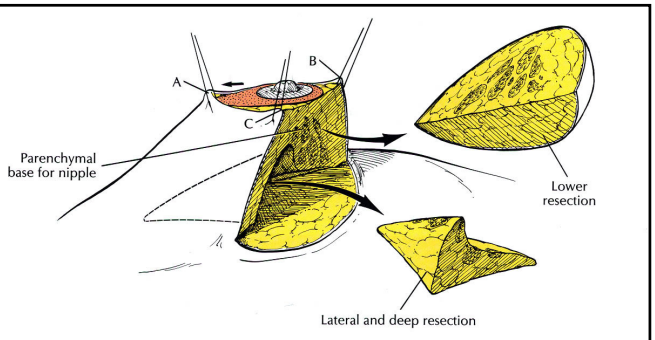


19

Breast Reduction
Superior Pedicle

- Suited for smaller reductions
- Inferior breast resected
- Nipple movement restricted < 7 cm

20



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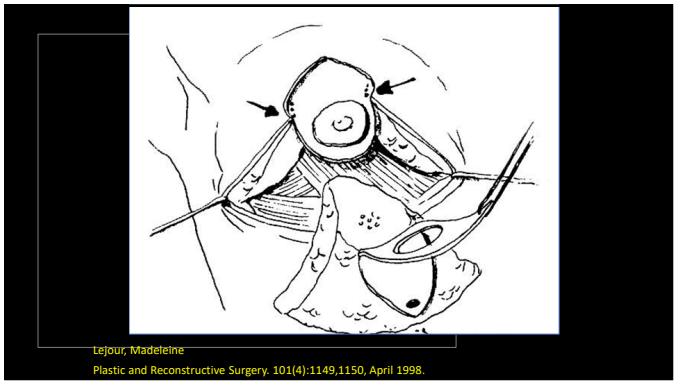
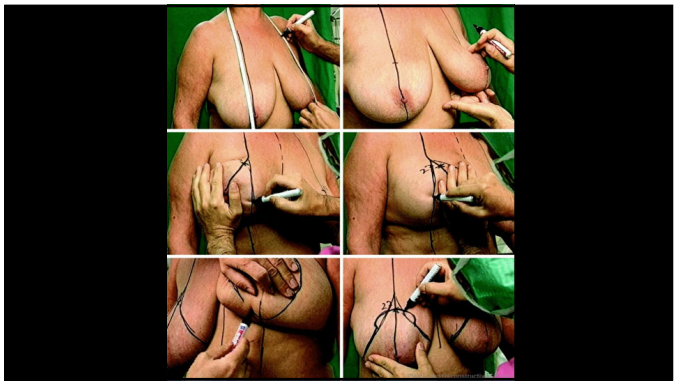


Lejour, Madeleine
Plastic and Reconstructive Surgery. 101(4):1149,1150, April 1998.

22



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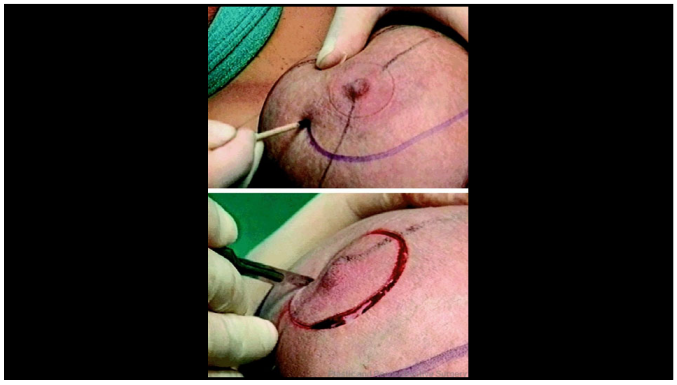

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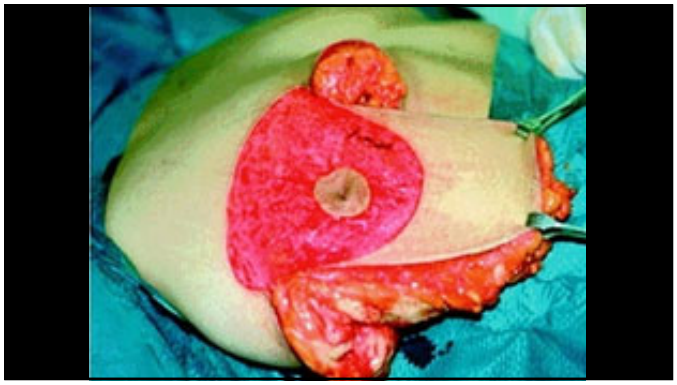

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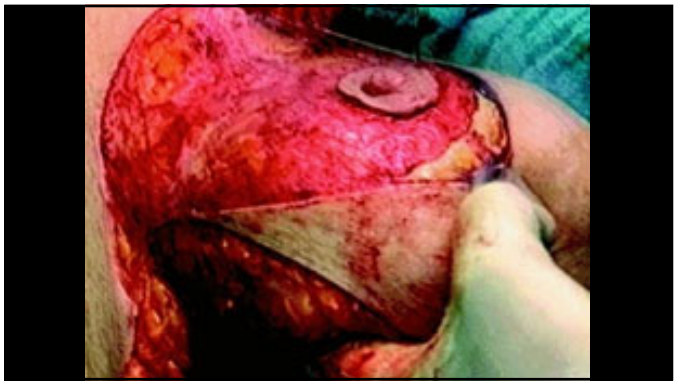

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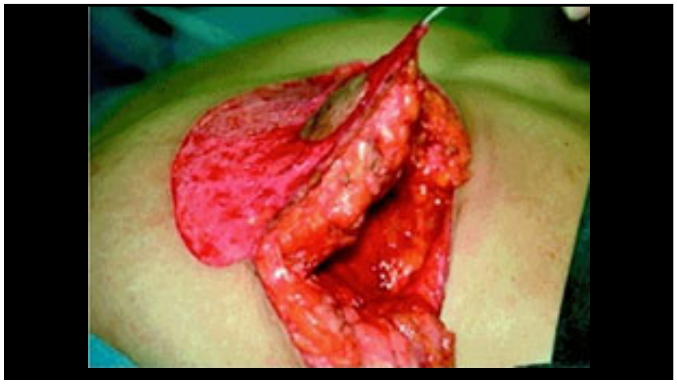

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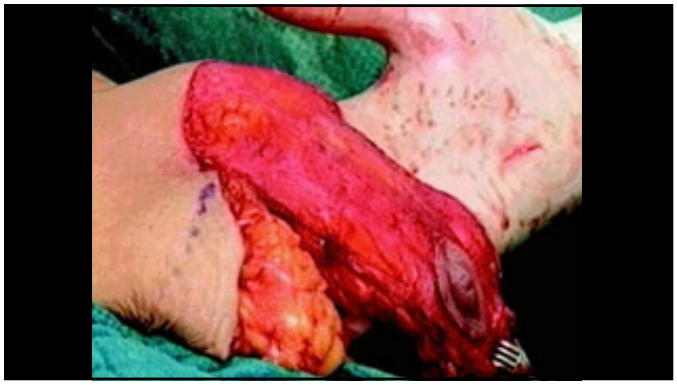

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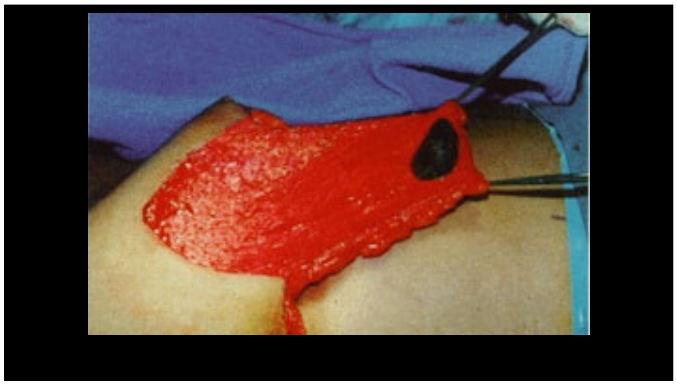

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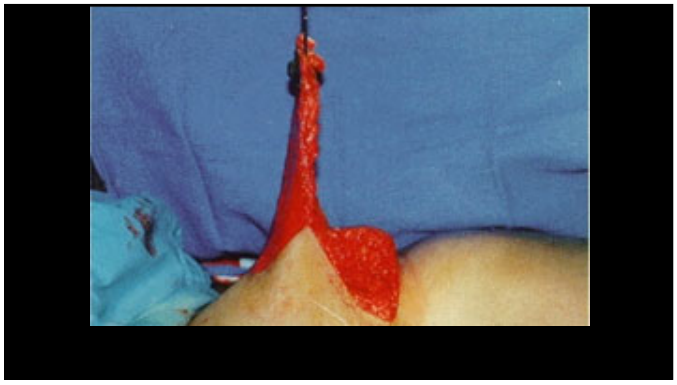

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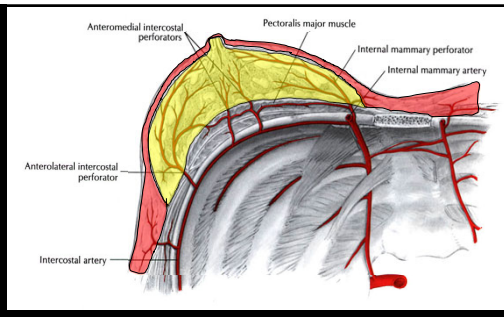

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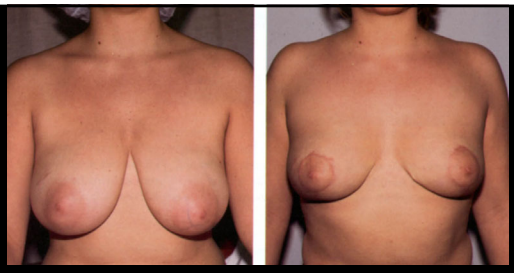
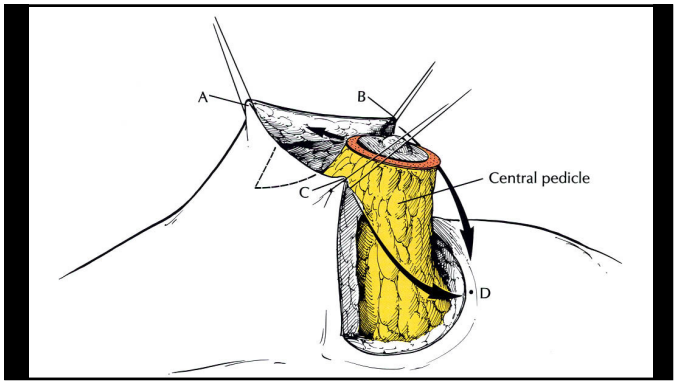


32

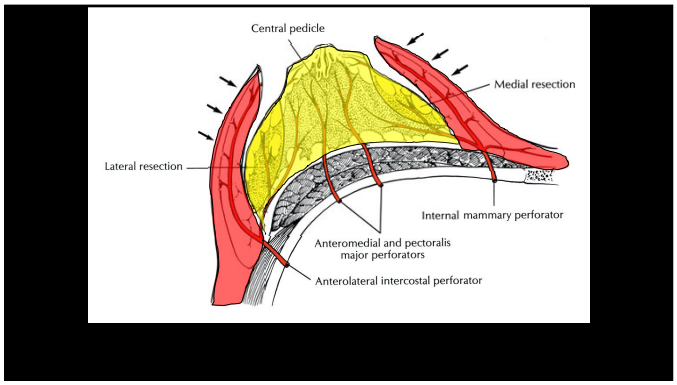
Breast Reduction
Inferior/Central Pedicle

- Suited for larger reductions
- Superior breast resected
- Nipple movement > 7 cm
- Lactation preserved

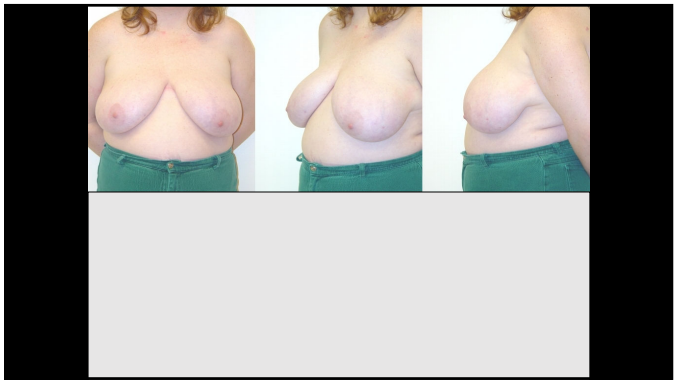
33


A
B
C
Central pedicle
D

34


Central pedicle
Medial resection
Lateral resection
Internal mammary perforator
Anteromedial and pectoralis major perforators
Anterolateral intercostal perforator

35



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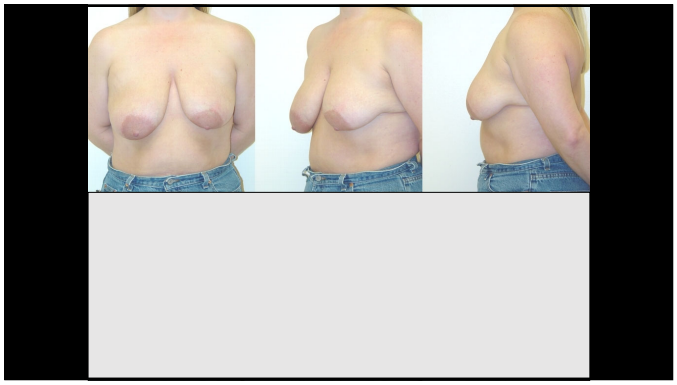

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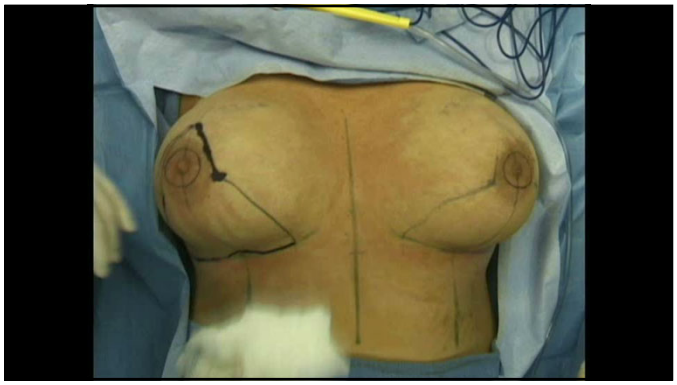
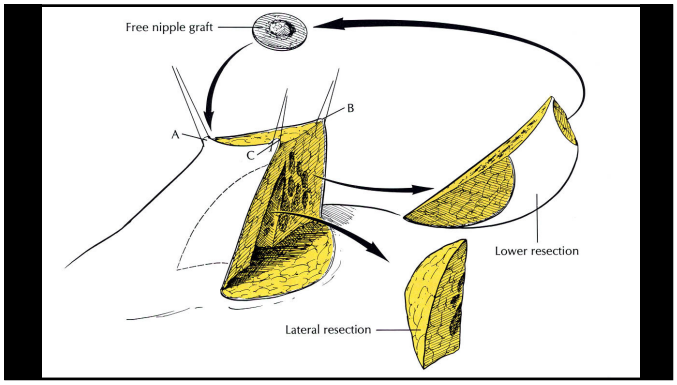


38

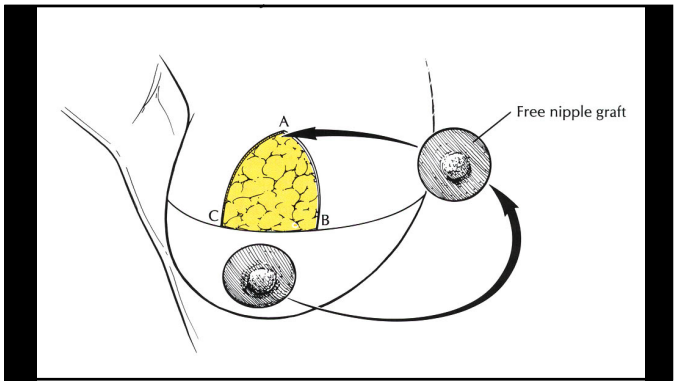
Breast Reduction
Free Nipple Graft

- Suited for gigantic reductions
- Suited when nipple viability is in question
- Detach NAC and skin graft to new position
- Lactation NOT preserved

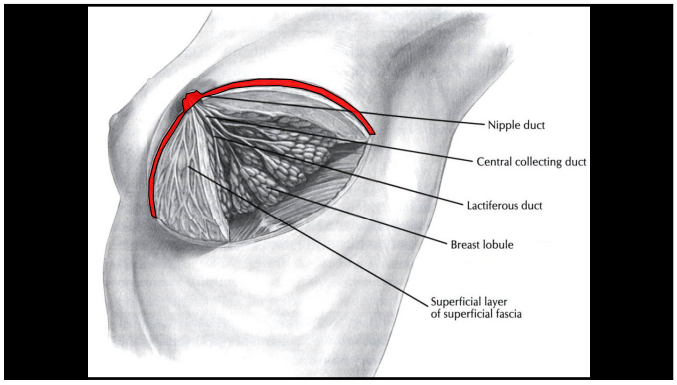
39


Free nipple graft
A
B
C
Lower resection
Lateral resection

40


A
Free nipple graft
C
B

41


Nipple duct
Central collecting duct
Lactiferous duct
Breast lobule
Superficial layer of superficial fascia

42

Augmentation/Mastopexy
Conflicting Goals

- Breast augmentation
  - Enlarge & fill skin envelope
- Mastopexy
  - Reposition the nipple
  - Reduce skin envelope
  - Reshape parenchyma
  - Correct asymmetry
  - Improve breast shape
  - Is a temporary result
- Mastopexy + augmentation
  - Ideally, implant fills out most of the available skin
  - Enough excess skin to reshape breast and reposition the nipple.

43

Unpredictable Variables
Late Changes

- Augmentation
  - Implant settles inferiorly
  - Contracture displaces implant superiorly
- Mastopexy
  - Continued nipple ptosis
  - Glandular bottoming out
    - Massive weight loss
- Staged vs. Combined?

44

Evaluation

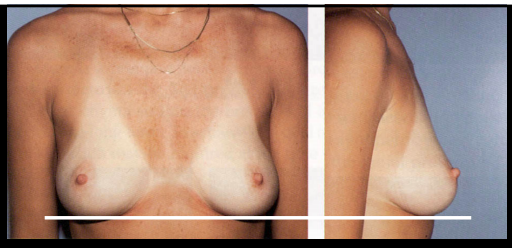
- Nipple position
  - Regnault classification
  - Implants do not lift a breast
  - A low nipple before augmentation, will be low afterwards
  - Trying to fix ptosis with an implant is a mistake
- Glandular position
  - How much gland sags below IMF
  - Greater gland sag
    - greater challenge
    - less likely implant will fill skin envelope
  - Double bubble deformity

45

Breast Ptosis Classification (Regnault)

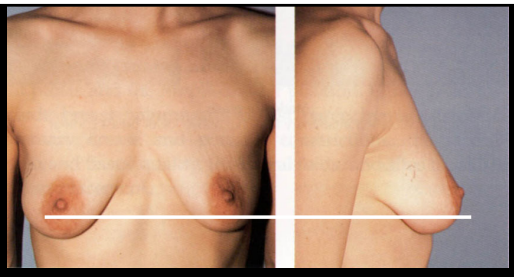
Normal	= Nipple above IMF + lower pole at IMF
Pseudoptosis	= Nipple above IMF + lower pole below IMF
Grade I	= Nipple at IMF
Grade II	= Nipple below IMF but above lower pole
Grade III	= Nipple below IMF but below lower pole

46



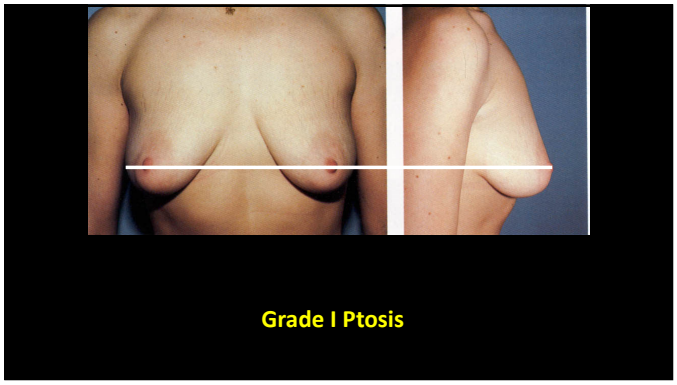
No Ptosis

47



Psudeoptosis

48



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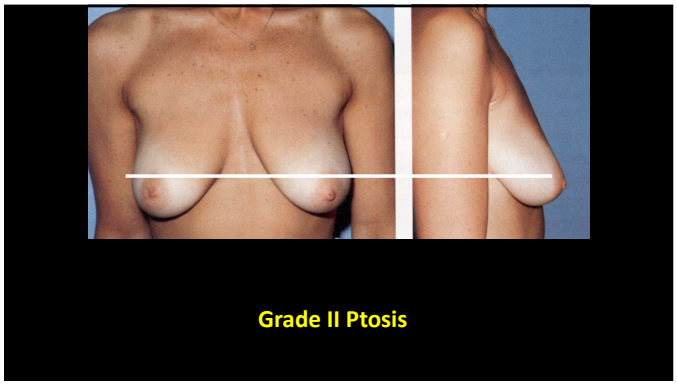

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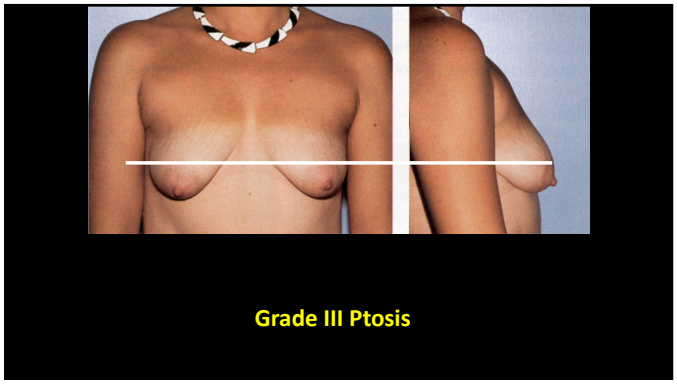

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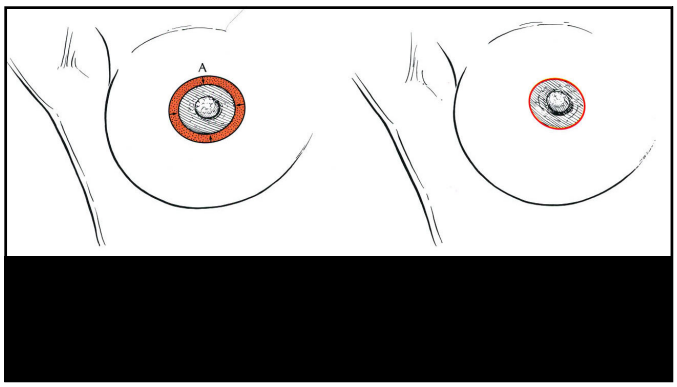

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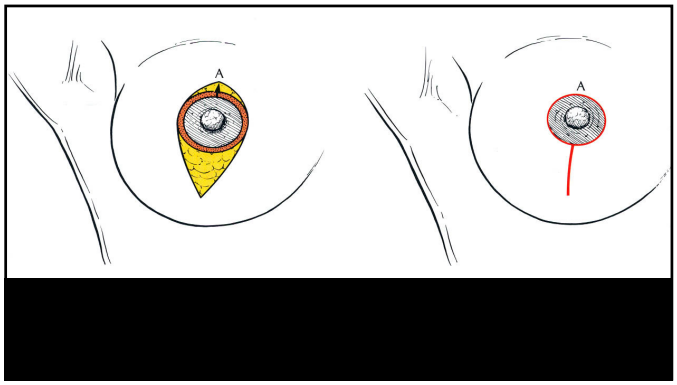

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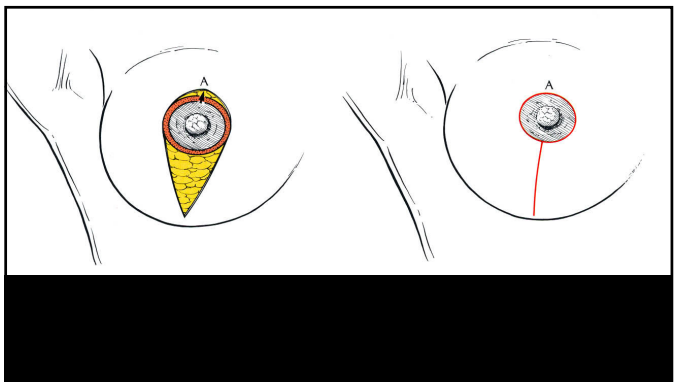

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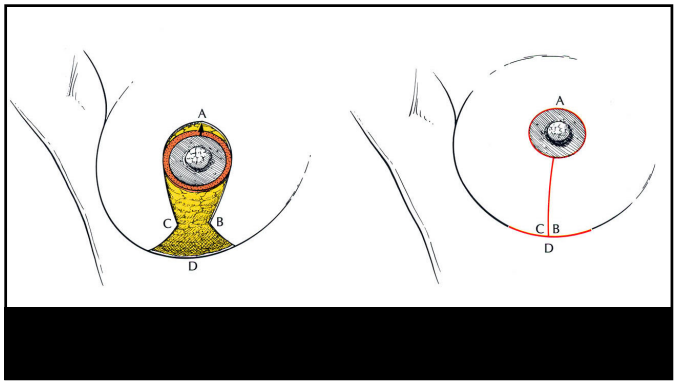

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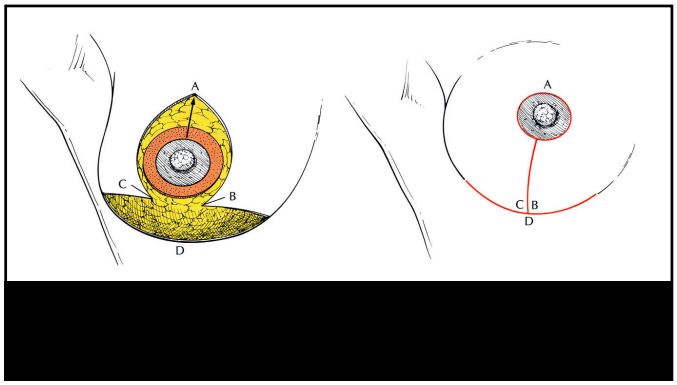
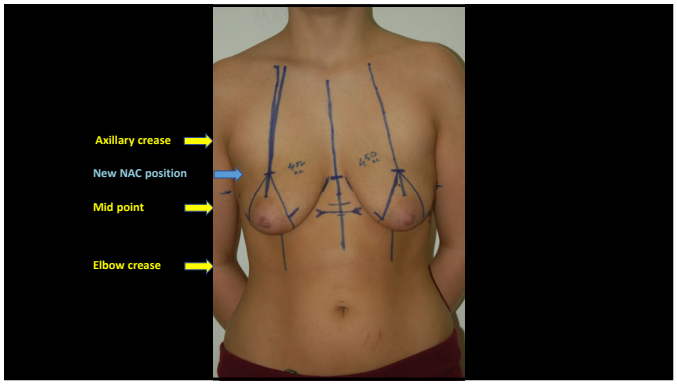


56

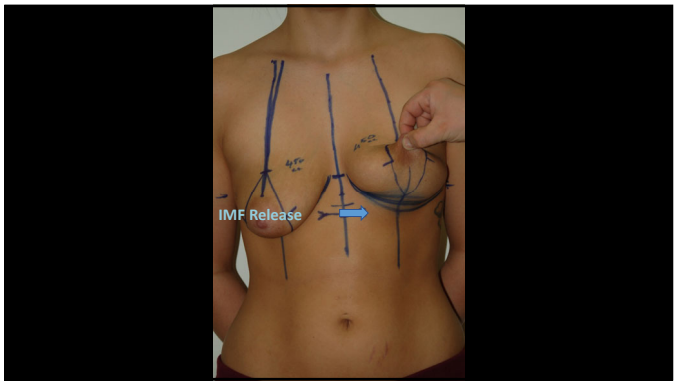
Augmentation Mastopexy
Essentials-Careful planning

- Good history
- Preop markings
  - Patient standing
  - Permanent marker
  - Proper proportions
- Plan level of IMF release

57


Axillary crease
New NAC position
Mid point
Elbow crease

58


IMF Release

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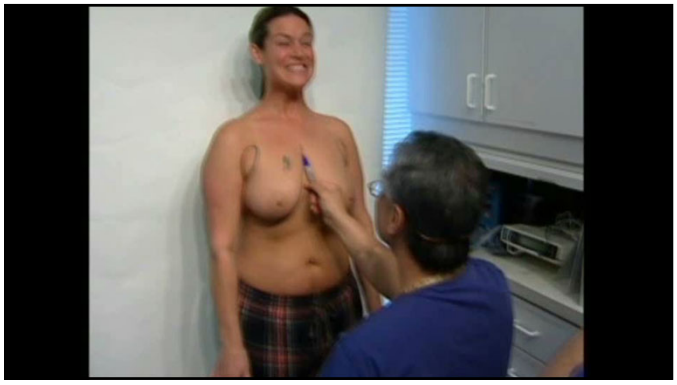
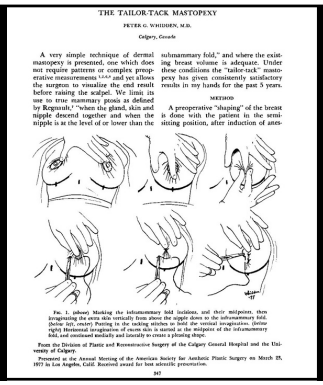


60

Augmentation Mastopexy
Essentials-Skin resection

- Be conservative
- Insert implant first
- Measure before cutting
  - Whidden "Tailor tacking" (PRS 1978)
  - Webster
- Avoid risk of skin shortage
- Avoid excessive wound tension

61



THE TAILOR-TACK MASTOPEXY

PETER G. WHIDDEN, M.D.

Calgary, Canada

A very simple technique of dermal mastopexy is presented, one which does not require patterns or complex preoperative measurements[1,2,3,4] and yet allows the surgeon to visualize the end result before raising the scalpel. We limit its use to true mammary ptosis as defined by Regnault,[5] "when the gland, skin and nipple descend together and when the nipple is at the level of or lower than the submammary fold," and where the existing breast volume is adequate. Under these conditions the "tailor-tack" mastopexy has given consistently satisfactory results in my hands for the past 5 years.

METHOD

A preoperative "shaping" of the breast is done with the patient in the semi-sitting position, after induction of anes-

FIG. 1. (above) Marking the inframammary fold incisions, and their midpoints, then invaginating the areola skin vertically from above the nipple down to the inframammary fold. (below left, center) Pinning in the tacking stitches to hold the vertical invaginations. (below right) Horizontal invagination of excess skin is started at the midpoint of the inframammary fold, and continued medially and laterally to create a pleating shape.

From the Division of Plastic and Reconstructive Surgery of the Calgary General Hospital and the University of Calgary.

Presented at the Annual Meeting of the American Society for Aesthetic Plastic Surgery on March 25, 1977 in Los Angeles, Calif. Received award for best scientific presentation.

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Augmentation Mastopexy
Proper Implant Size

- Smaller implant reduces wound tension
- Larger implant fills out a skin envelope but if too large:
  - Thins breast parenchyma
  - Compress the vascular supply to NAC
    - Saline - reduce volume
    - Gel – choose smaller implant
    - Remove completely and replace later
    - Hyperbaric O2

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Mastopexy
Surgical Complications

- Nipple necrosis
  - Heavy smokers
  - Diabetes
  - Collagen vascular Dz
- Hematoma uncommon
  - Tumescent
  - Careful hemostasis
- Infection
  - Associated with skin loss at T
  - Heavy smokers, diabetics, CV Dz

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Current Literature Review

- Stevens, W G
  - One-stage Mastopexy w/ Breast Augmentation: A Review of 321 Patients 120(6):1674-1679 (2007)
  - 14.7% revision rate
- Spear, S
  - Augmentation/Mastopexy: A 3-Year Review of a Single Surgeon's Practice118(7S):136S-147S, (2006)
  - 8.9% revision after primary procedure
  - 16.6% revision after secondary procedure

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Secondary Mastopexy in the Augmented Patient

- Population of augmented women aging
- Greater demand for
  - Mastopexy
  - Capsular contracture release
  - Implant exchange
- Altered breast anatomy and physiology increases risk
  - Tissue atrophy, thinning and stretching
  - Reduction of vascular supply
  - Caution in corrective surgery in these women

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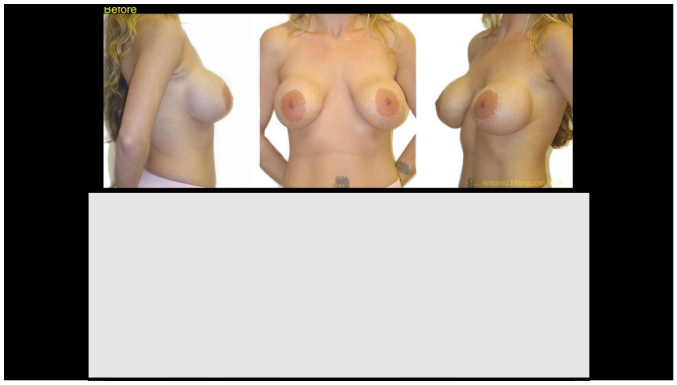
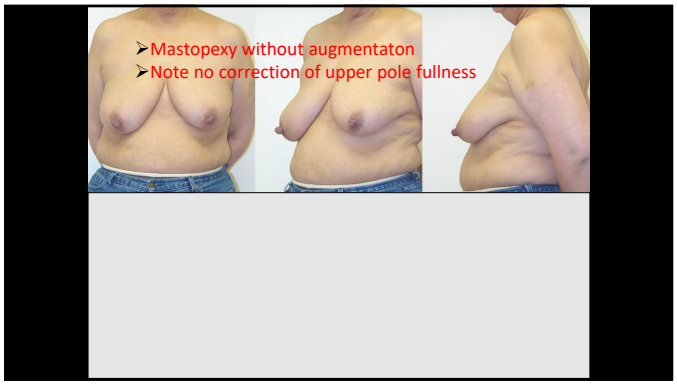

Before

67


➢Mastopexy without augmentaton
➢Note no correction of upper pole fullness

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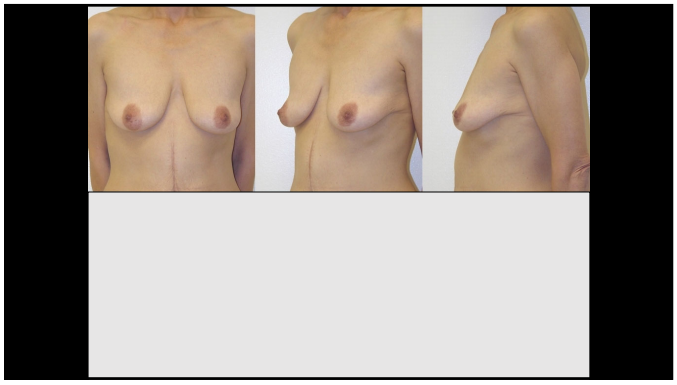

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Mastopexy
Cosmetic Complications

- Bottoming out = glandular ptosis
- Inappropriate use of implants
  - Double bubble
  - "High riding" submuscular implant
  - Snoopy Dog deformity
- Scarring can be significant

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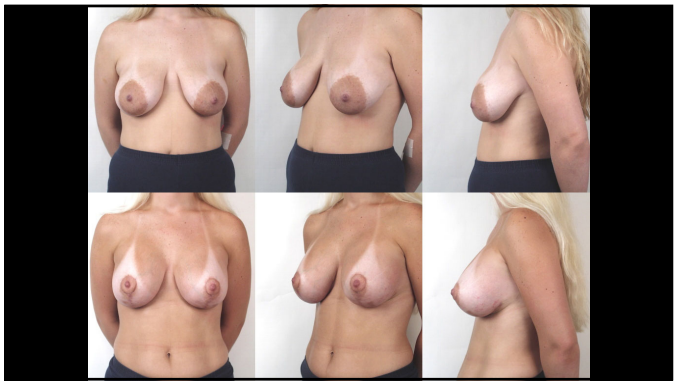

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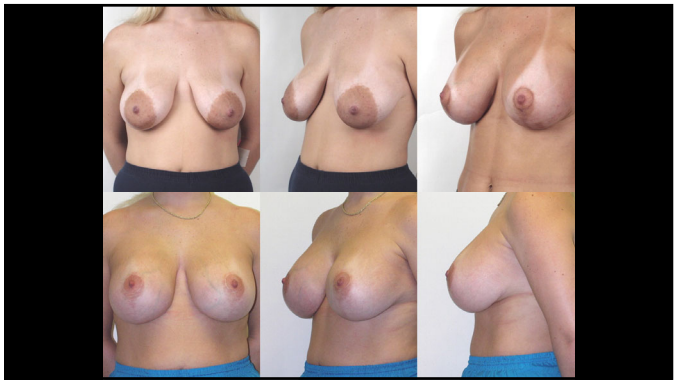

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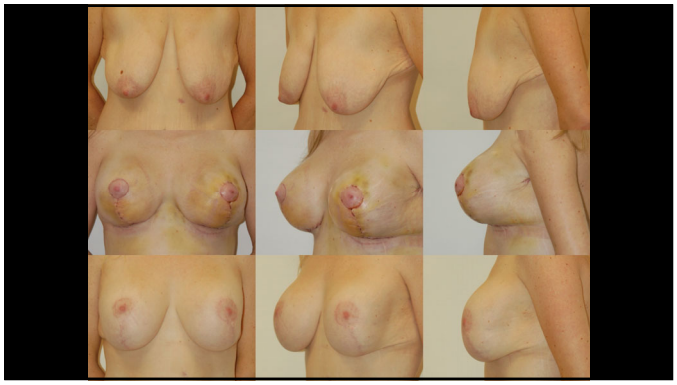

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Breast Reduction and Mastopexy
Complications

- Infection
- Hematoma
- Nipple necrosis
- Fat necrosis
- Dog eared incisions
- Wide hypertrophied scars
- Inadequate reduction
- Overzealous reduction

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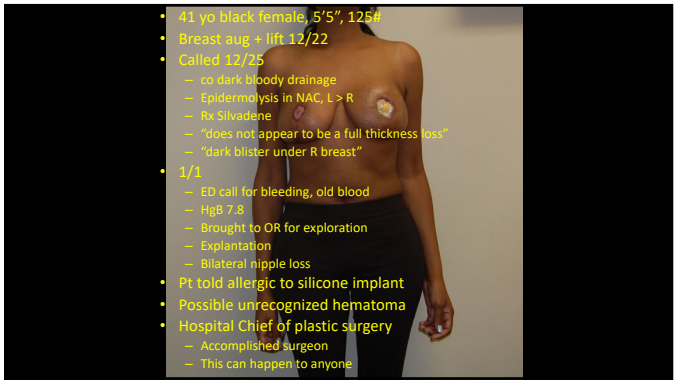

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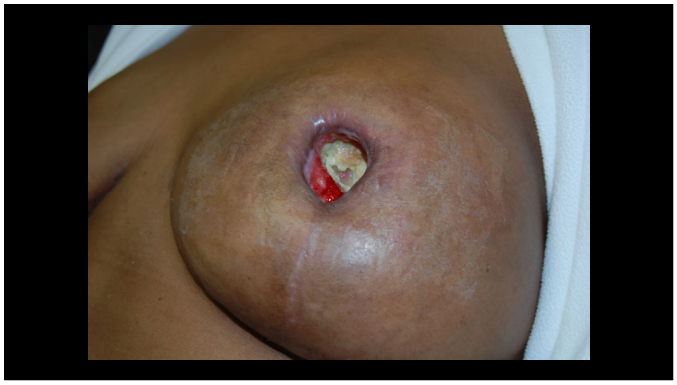

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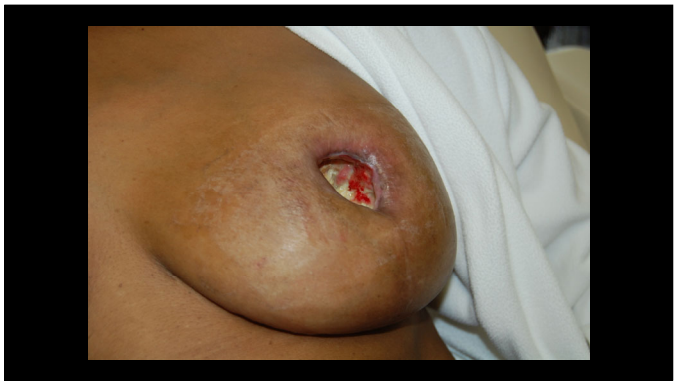

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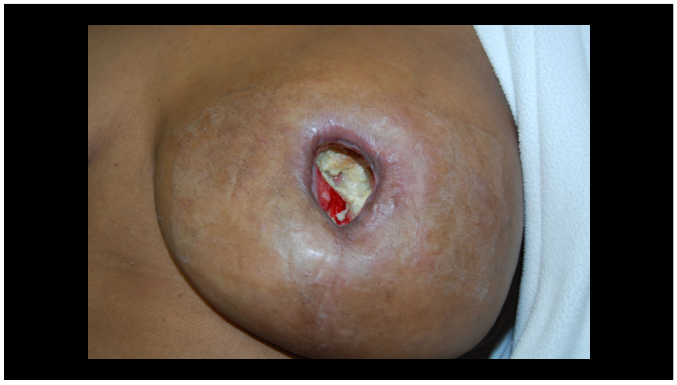

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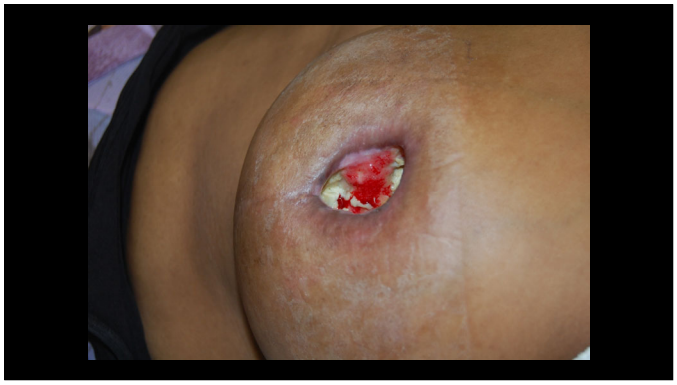

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Breast Vascular Anatomy
Summary

- NAC vascular supply has two funcation systems
  - Deep perforators
  - Dermal plexus in skin
- Breast parenchymal vascular supply is predominantly deep
- Loss of vascular supply
  - Kinking vasculature
  - Excess tension or pressure
  - Prior surgery
  - Devascularization

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