

Postoperative Considerations Within Plastic & Reconstructive Surgery

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Commonly Used Dressings, Products & Devices

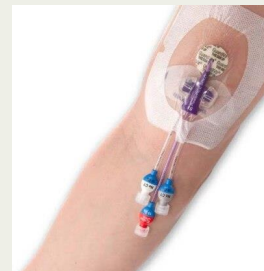
Drains

- Jackson-Pratt (JP) drains are very commonly used
 - Closed suction negative pressure system
 - Function
 - Remove fluid from dead space
 - Reduce risk of infection
 - Reduce pressure on surgical area



Postoperative Considerations

- Tube will come out near surgical site
 - Sutured into skin
 - Drain sponge dressing/gauze
 - Covered with waterproof dressing
- Antibiotics
- Strip tubing
- Output
- Signs of infection
- Drainage around exit site



Wound Vacuum Assisted Closure (VAC)

- Negative Pressure Wound Therapy (NPWT)
- Foam dressing attached to a vacuum device
 - Suction usually 75 – 125 mmHg
 - Uses
 - Large, deep, wounds
 - Chronic wounds
 - Skin grafts
- Function
 - Suck out fluid & debris from wound
 - Increase oxygen to wound
 - Decrease swelling & buildup of fluid in nearby tissues
 - Keeps wound clean
- Placed & changed intraoperatively or bedside/clinic



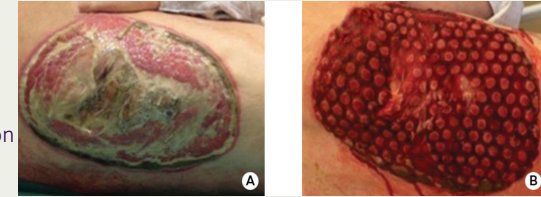
Postoperative Considerations

- Suction at specific setting per surgeon's order
 - Charge VAC
 - Reinforce dressing if leak
- May shower normally (unless instructed not to by surgeon)
- VAC can be changed at wound care clinic, home care or specialty clinic
- Cannot assess wound
 - Evaluate surrounding skin
- Elevation of surgical site

Wound VAC cont.

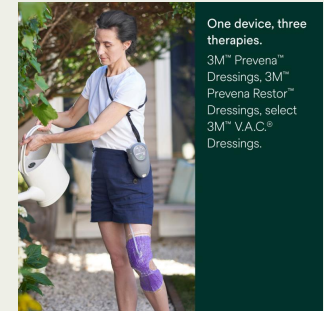
Veraflo

- Cyclic cleansing of wound via infusion of solution
- Hydromechanical debridement



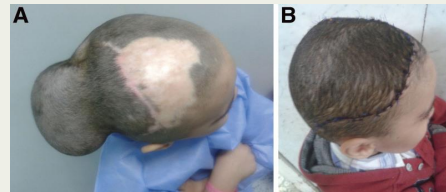
Prevena

- 125 mmHg
- 7 days of continuous therapy
- Smaller
- Over closed incision
- Disposable



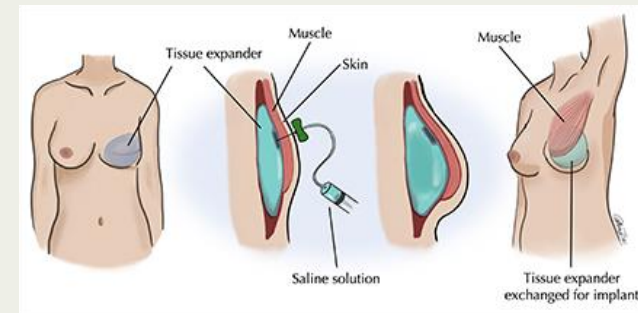
Tissue expanders

- Stretch & grow skin
- Used prior to reconstruction of wounds, defects or other areas
 - Commonly used for breast & scalp reconstruction
 - Silicone balloons inserted under the skin
 - Serially inflated until desired amount of excess skin is achieved
 - Start filling 2-3 weeks out from surgery
 - Weekly expansions
 - External or internal ports



Postoperative Considerations

- Stay in place for months
- Risk of infection
- Contour irregularities for a while
- Can partially fill in OR



Splints

- Provide immobilization
 - Fractures
 - Prevent motion of tendons
 - Soft tissue rest
- Stay in place until follow up with surgeon's clinic
- Plaster or fiberglass
- Immobilization joint above & below area of injury



Postoperative Considerations

- Plaster does not harden for 24-48 hours
- Cannot get wet
- Weightbearing restrictions to the extremity
- Watch perfusion of skin/digits free from splint
- Watch for:
 - Pressure points
 - Increased pain
 - numbness tingling to area immobilized
- Incisions are dressed under splint



Bolster Dressings

- Pressure dressing to hold a skin graft in place
 - Function
 - Pressure on graft site
 - Immobilization of graft until neovascularization is achieved
 - Reduces fluid buildup between graft donor and recipient site
- Over split thickness skin graft or full thickness skin graft
- Sutured into place



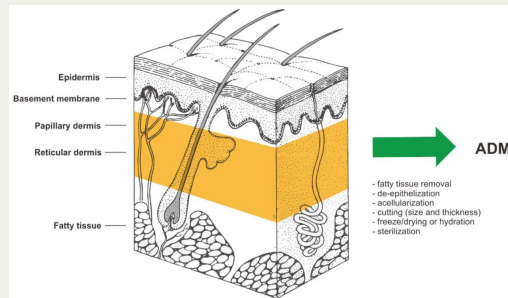
Postoperative Considerations

- Patient cannot get bolster wet until removed
- Usually removed after about 1 week from surgery
- Monitor skin edges
- May have another dressing over bolster



Acellular Dermal Matrix

- Allograft
- Decellularized dermal matrix with extracellular matrix intact
- Derived from human or animal skin
 - Deepithelialized
- Breast reconstruction
 - Supports implants, expanders
 - Improves wound healing
 - Integrates into tissue
- Animal derived
 - AlloDerm, Integra, Strattice, Matrigel
- Human derived
- DermACELL, Cortiva, MegaDerm

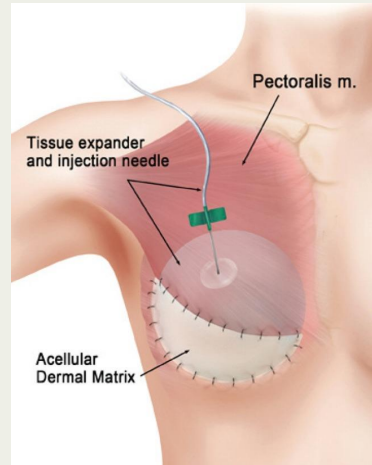


The biological source and the manufacturing process of ADM (acellular dermal matrix). Structure of human skin based on <https://visualsonline.cancer.gov/details.cfm?imageid=2496> (access on 1 January 2001) [10].

Integra

- Bilayer skin substitute
- Outer layer is silicone
 - Peels off ~3 weeks
- Promotes healing
 - protection from infection
 - Prevent fluid loss
 - Scaffolding to assist with dermal proliferation
- Temporary or permanent wound treatment
- When to use? Wound that is...
 - Not clean enough for grafting or closure
 - Deep
 - Burn wounds





Dermal Adhesive

- Liquid skin glue
 - Cures by polymerization
- Skin closure
 - Clean wounds
- Physical barrier
 - Protection against infection
- Waterproof
- Flakes off naturally over days - weeks
- Brands
 - Dermabond
 - Luqiband
 - Histoacryl
 - Exofin

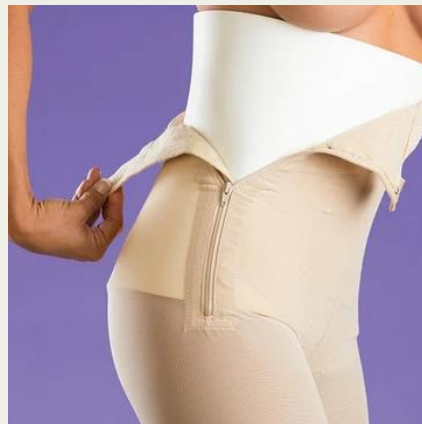


Dermabond



Compression Foam

- Topifoam, Eoi-foam pads, lipo-foam sheets
- Polyurethane foam dressings
- Used after liposuction
- Function
 - Consistent pressure across surgical site
 - Contour
 - Comfort
 - Minimizes swelling, bruising & friction
- Silicone adhesive



Flaps & Grafts

Skin Grafts

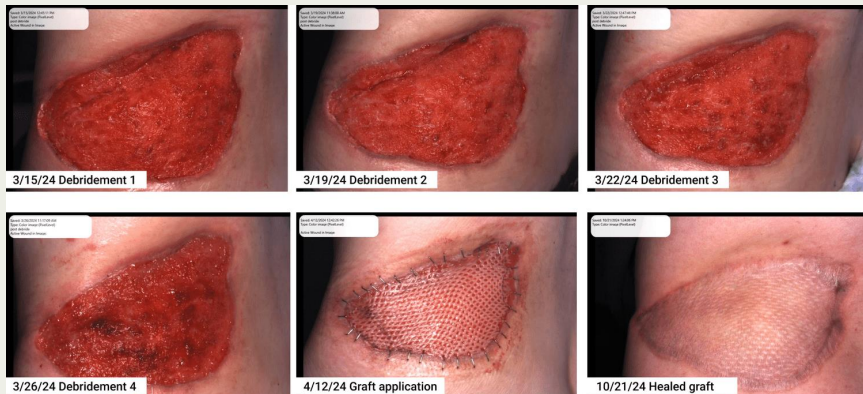
Donor site: site where skin graft is harvested from

Recipient site/skin graft site: where the skin graft is placed/area in need of reconstruction

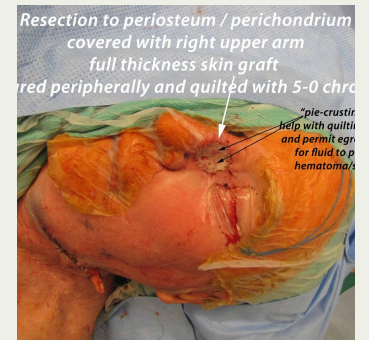
- **Split thickness skin graft (STSG)**
 - Epidermis and some dermis
 - Anterolateral thigh is most common donor site
 - [Split Thickness Skin Graft \(STSG\) Zimmer Dermatome Settings - Clinical Case Example | Iowa Head and Neck Protocols - Carver College of Medicine | The University of Iowa](#)
 - Dermatome
 - 0.12-0.20 in. Thickness
 - Meshed after harvested
- **Full thickness skin graft**
 - Epidermis & entire dermis
 - Wound will be fully covered with graft



Split thickness skin graft healing progression



Full Thickness Skin Graft



Skin graft recipient site

- Grafts are placed over wound & trimmed to fit
- Grafts are sutured/stapled into place

Dressings

- Pressure dressing in place for about 7-10 days postoperative
 - Wound VAC
 - Can usually shower
 - Bolster dressing
 - If area is small & in place wound VAC unable to be placed
 - Surgeon preference
 - Cannot get bolster dressing wet postoperatively

Skin graft donor site

Split thickness skin graft

- Hemostasis achieved
- Occlusive dressing
 - Stays in place 1-2 weeks postoperative
 - Reinforced if needed
 - Tegaderm +/- hydrocolloid dressing like calcium alginate
 - Keeps moist barrier
 - Absorbs drainage
- Dry dressing
 - Xeroform
 - Dries & is trimmed as donor site heals
- Less pain & discomfort with moist dressing
- Donor site healing time: 7-21 days

Full thickness skin graft

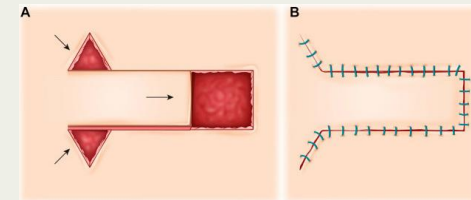
- Primarily closed
 - Sutures with dressing
 - Dermal adhesive

Flaps

- Tissue rearrangement for wound closure or reconstruction
 - Advancement flap
 - Rotational flap
 - Transposition
 - Free flaps – flap taken and arterial venous vessels are anastomosed
 - microsurgery
 - Flap composition
 - Skin, muscle, musclocutaenous, osteocutaneous, fascial and fascialcutaneous
- Can fill deeper defect
- Tissue & blood supply moved together

Postoperative considerations

- Type of flap
- Avoid compression
- Elevation of flap site
- Activity restrictions
- Perfusion
- Nitro paste
- Pulses
- Swelling



What's Under The Dressing?

Common Breast & Abdominal Surgeries

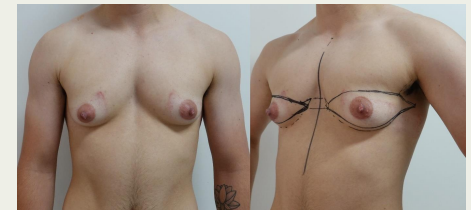
Chest Masculinization

Make chest look more masculine

- Remove breast tissue
- Changing size and position of the nipple areolar complex

Postoperative Considerations

- Incisions to anterior breasts
- Bolster dressings to nipple areola complexes
- ACE bandage
- Possible drains
- Upper body restrictions
- Compressive upper body garment for weeks after surgery



Preoperative markings



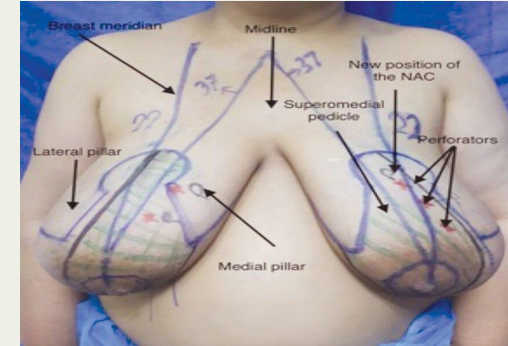
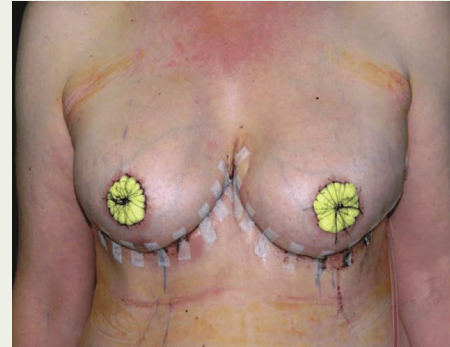
Postoperative results at six months

Bilateral Breast Reduction

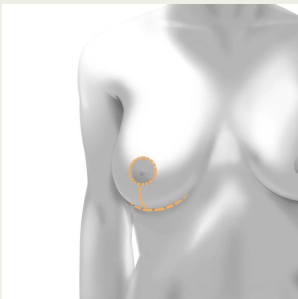
- Improve symptoms related to having large breasts by reducing the size of the breasts as well as the skin to skin contact from the breasts to the chest
- common symptoms: neck, shoulder, back pain; skin rashes, breakdown, irritation & infections; shoulder grooving; difficulty with exercise
- Can be insurance based or cosmetic
- Pedicled reduction
 - NAC attached to original blood supply
- Free nipple grafts
 - When pedicle length is too long
 - Dramatic change in size

Postoperative Considerations

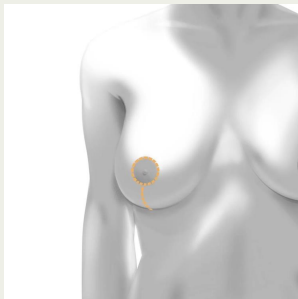
- Pedicle vs. Free nipple graft
- Swelling
- NAC viability
- Drains
- Supportive dressing
- Activity modifications
- Scar pattern



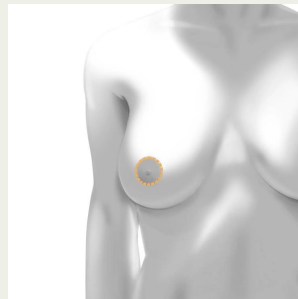
Breast Reduction Patterns



"Anchor"



Keyhole
"Lollipop"



Periareolar
"donut"

Breast Reconstruction

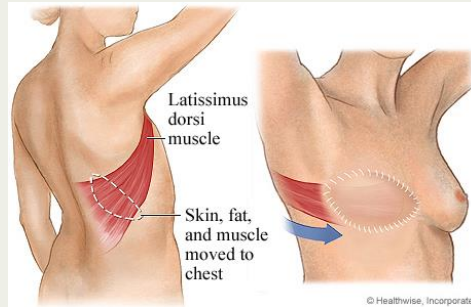
- Reconstruction of breasts after cancer diagnosis
- Immediate vs. delayed
- 3 main types
 - Implant based
 - Tissue expanders
 - Implants placed immediately
 - Local flap
 - Latissimus flap
 - +/- implants
 - Free flap
 - Free deep inferior epigastric perforator (DIEP) flap
 - Abdominal tissue to reconstruct breasts
 - Arteriovenous anastomoses

Postoperative Considerations

- Breast & abdominal support postop
- Pulse checks
- Drains
- Antibiotics
- Activity restrictions
- Incision location
- Swelling
- Hemoglobin
- Acellular dermal matrix
- Mesh to abdomen



Left breast reconstruction with free DIEP flap



Breast reconstruction with latissimus dorsi flap

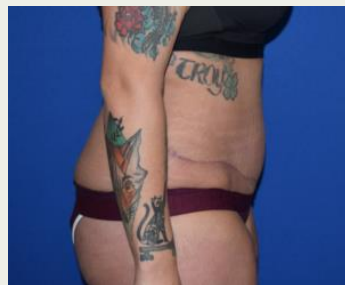
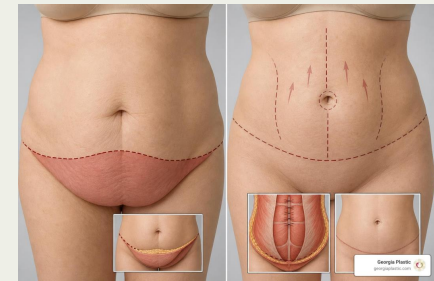
Panniculectomy/Abdominoplasty

- Removes abdominal pannus
- Improve contour of abdomen & symptoms related to pannus
 - Skin to skin contact
- Incision is hip to hip
- Umbilicus may be removed or transposed



Postoperative Considerations

- Drains
- Swelling
- Binder for compression
- Activity restrictions
- Postoperatively in a flexed position – may need to walk bent at hips
- Contour irregularities due to deep sutures or lipo



Questions?

Thank you!

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