Disclosures

Angiotech/Surgical Specialties - Advisory Board
AxcelRx Pharmaceuticals - Advisory Board
Suneva Medical - Instructor

Will use brand names for ease of understanding
Objectives

• Incision selection
• Pocket selection
• Implant selection
  – Saline vs gel
  – Smooth vs textured
• Preventing complications
  – Malposition, capsular contracture
• Anesthesia & analgesia
Too Many Implant Options?

Differences in millimeters
Implant Size Selection

- Do NOT promise a cup size
  - Victoria’s Secret has larger cups sizes
- Use a measurement system
  - Sternal Notch to Nipple
  - Upper Pole Pinch
  - Base Width
  - Areolar Diameter
  - Nipple to IMF (stretch)
  - Inter Mammary Distance
The Rice Test

This is the most popular way to determine your breast implant size at home, before the consultation with your surgeon.

You will start to get an idea of how you would look with different sizes of breast implants.
Saline Implants

- Favorable cost
- Smaller incision
- “Safer”
- Adjustable size range
- Deflation known (no surveillance)
- Rippling, palpability (in thinner breast tissue)
- OR time (few minutes)
- Not for
  - Thin patients
  - Small breast
Saline Implants

Thick breast tissue

Good result

Rippling in thin breast tissue
Structured Saline Implants

• Smaller incision
• “Safer”
• Adjustable size range
• Deflation known (no surveillance)
• Less rippling, palpability? (in thinner breast tissue)
• Higher cost
• OR time (few minutes)
Gel Implants

• More natural look & feel
• Shorter OR time
• Shell integrity not known (MRI surveillance)
• Longer incision
• Gel concerns
• Higher cost
Implant Profiles

Match breast width to implant width

- **Low Profile**: Not commonly used
- **Moderate**: Commonly used
- **High Profile**: Common, more “fake” appearance
- **Extra-High Profile**: Not for augmentation
Smooth vs Textured

Smooth
• More contracture
  – Subglandular
  – Not when submuscular
• Less palpable

Textured
• Reduced contracture
• Palpability
• Double capsule & seroma
• ALCL?
Incision Choices

- Transaxillary
- Periareolar
- Inframammary
- Transumbilical
Inframammary Crease Incision

- Suitable for most cases
- No size limitations
- Direct access to pocket
- IMF Adjustments

- Scar superior migration
- Risk of implant extrusion
Periareolar Incision

- Scar may be less visible
- Size limitation
- Hyperpigmentation
- Harder with larger breasts
- Nipple sensation & pain
- Capsular contracture?
- Transparenchymal vs subcutaneous
Periareolar Incision Options
Transaxillary Incision

- Favorable scar
- Size limitation
- Instrumentation
- Less IMF control?
- Capsular contracture?
- Endoscopic
- Retractor
- “Blind”
Transumbilical Incision

• Favorable scar
• Saline implants only
• Instrumentation
• Less IMF control
• Less pocket control
• Less muscle release control
Implant Pocket Options

- Sub Muscular
- Subglandular
- Subfascial
- Dual-plane
Subglandular

• Less pain
• Faster recovery
• “Awake” procedure
• Better for ptosis
• More palpability & visibility
• Capsular contracture
• Mammograms
Subfascial

- Less pain
- Faster recovery
- “Awake” procedure
- Better for ptosis
- More palpability & visibility
- Capsular contracture?
- Mammograms

Less data on advantages & disadvantages
Submuscular

- Less palpability & visibility
- Less capsular contracture
- Mammograms
- Anesthesia required (usually)
- More discomfort
- Longer recovery
  - Time to “settle”
- Animation deformity
- Lateral displacement
Animation Deformity: Mild
Animation Deformity: Severe
Pectoralis Muscle Release

Total Submuscular

Partial Submuscular
Dual Plane Breast Augmentation: Optimizing Implant-Soft-Tissue Relationships in a Wide Range of Breast Types

John B. Tehbets, M.D.
Dallas, Texas

In breast augmentation, surgeons usually choose a pocket location for the implant behind breast parenchyma (retromammary), partially behind the pectoralis major.

**Dual Plane I**
Partial Submuscular
- Most commonly used technique
- Optimal implant placement for normal breasts

**Dual Plane II**
Partial Submuscular
- Greater muscle release
  - Optimal implant position to improve very slight sagging

**Dual Plane III**
Partial Submuscular
- Greatest muscle release
  - Optimal implant position to improve minor sagging

For non-ptotic breast  For slightly ptotic breast  For minor ptotic breast
Double Bubble

• Appreciate & respect the IMF
• Risk factors
  – Tuberous breasts
  – Constricted inframammary fold
  – Short nipple – IMF distance
Double Bubble

- Original IMF lowered
- Implant too large for Nipple – IMF distance
- Original IMF did not expand
Double Bubble

Need to release fibrous connection from muscle to dermis
Double Bubble Decision Making

Consider ADM as an adjunct in patients with extremely thin tissues, patients with combined anomalies, and patients who have failed previous attempts at repair.
Implant Malposition

Implant not in intended position

• Superior
• Inferior
• Lateral
• Medial
• Combination

Combination inferior & lateral malposition
Superior Malposition

Causes

• Failure to release inferior muscle
  – Common in trans-axillary approach
• Too large implant for footprint
• Muscle activity (animation)
• Capsular contracture
Inferior Malposition

Causes

• Release of original IMF
• Large implant
• Muscle hyperactivity
• “Weak” IMF
Suture fixation of new IMF

The Inframammary Fold (IMF) Fixation Suture: Proactive Control of the IMF in Primary Breast Augmentation

Carey F. Campbell, MD; Kevin H. Small, MD; and William P. Adams Jr, MD
Medial Malposition (Symm mastia)

Causes

• Extensive medial dissection
• Large implant
• Attempt to create cleavage
Lateral Malposition

Causes

• Extensive lateral dissection
• Large implant
• Muscle hyperactivity
• Chest wall anatomy
• Obvious when laying down
Patient Experience & Pain Control

• Educate on expectations
• No need for drains
• No need for constrictive wraps
• Surgical bra or breast band OK
• Multimodality analgesia
  – Block pain in differ ways
• Liposomal bupivacaine (Exparel)?
• Pain pump?
• No need for massage or exercises
Choice of Anesthesia

• General anesthesia + intubation or LMA
• Possible with surgeon administered sedation
• Better to do with TIVA by anesthesiologist
Multimodality Analgesia

- **Night before**
  - **Gabapentin** 600 mg PO

- **Perioperative**
  - **Lidocaine (1%) + Epi & Marcaine (0.5%)**
    - Incisions (5 cc per side) + medial & lateral field block (20 cc per side)
  - **Acetaminophen** 1000 mg PO (No need for IV)
  - **Celebrex** 200 mg 1 PO
    - or
  - **Ketorolac** 30 mg IV when closing incisions
  - **Marcaine** 0.5% 5 cc in each pocket

- **Postoperative**
  - **Gabapentin** 300 - 600 mg PO q 6 hrs
  - **Ibuprofen** 400 mg PO q 4 hr or **Naproxen** 220 PO q 6 hr
  - **Acetaminophen** 325 mg PO q 4 hr
  - **Oxycodone** 5 mg PO q 4 hr (if needed)
Although extremely rare, there have been cases reported of ALCL, a type of lymphoma or, cancer of the immune system, associated with breast implants.”
ALCL

• Analysis of all significant seromas > 1 yr
  – CD30 immunochemistry
• Very rare (as of 9/26/16)
  – < 1 to 3 in 1,000,000
  – 1 in 30,000 in textured implants? (1 in 4000 in Biocell)
  – NO documented cases with SMOOTH shells in USA
  – 2 cases with SMOOTH shells in Australia (3.6)
• Guidelines on diagnosis & treatment
• Early stage – good prognosis with surgery
• Late stage – worse prognosis, + immunoTx
Capsular Contracture

Prevention

• Implant choice
  – Smooth vs textured
  – Shaped vs round
• Incision choice
• Implant pocket
• Pocket irrigation
  – Betadine
  – Antibiotics
• Surgical technique
  – No touch methods
  – Keller Funnel
• Pharmacologic
3495 saline or silicone gel implants in 1529 women for any indication
Capsular Contracture Over Time

A Long-Term Study of Outcomes, Complications, and Patient Satisfaction with Breast Implants

Neal Handel, M.D.
Tracy Cordray, M.D.
Jaime Gutierrez, M.D.
J. Arthur Jensen, M.D.

Background: Breast implants have been used worldwide for more than 40 years. Despite extensive clinical experience, there is continued concern about the safety of these devices. The purpose of this study was to compare the efficacy, complication rates, frequency of reoperation, and degree of patient satisfaction with different types of implants.

Is capsular contracture inevitable?

Indication

Surface
# Incidence: Allergan Saline

## Allergan Saline Implants

<table>
<thead>
<tr>
<th>Procedure</th>
<th>1 yr</th>
<th>3 yr</th>
<th>5 yr</th>
<th>7 yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Augmentation</td>
<td>7%</td>
<td>9%</td>
<td>11%</td>
<td>16%</td>
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<tr>
<td>Reconstruction</td>
<td>13%</td>
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<td>43%</td>
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<tr>
<td>Revision</td>
<td>12%</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
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</tbody>
</table>

- Based on 3 studies done in the 1990’s
- For augmentation:
  - Mostly textured, submuscular, PA or IMF incision
- May not apply to current techniques
## Incidence: Mentor Saline

### Mentor Saline Implants

<table>
<thead>
<tr>
<th>Procedure</th>
<th>1 yr</th>
<th>3 yr</th>
<th>5 yr</th>
<th>7 yr</th>
<th>10 yr</th>
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<tbody>
<tr>
<td>Augmentation</td>
<td>5%</td>
<td>9%</td>
<td>10%</td>
<td>11%</td>
<td>18%</td>
</tr>
<tr>
<td>Reconstruction</td>
<td>29%</td>
<td>30%</td>
<td>29%</td>
<td>49%</td>
<td>59%</td>
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<tr>
<td>Revision</td>
<td>15%</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

- Based on 2 studies done in the 1990’s
- For augmentation:
  - Mostly textured, submuscular, PA or IMF incision
- May not apply to current techniques
Allergan Silicone Gel Implants

Procedure  7 yr
- Augmentation  16%
- Reconstruction  17%

- Based on 3 studies done in the late 1990’s
- For augmentation:
  - Mostly smooth, submuscular, IMF incision
- May not apply to current techniques
Allergan Silicone Gel Implants: Final 10 Years

Procedure 10 yr

- Augmentation 19%
- Reconstruction 25%

COSMETIC 2014

Natrelle Round Silicone Breast Implant Core Study Results at 10 Years

Background: Allergan’s Natrelle round silicone-filled breast implants were approved by the U.S. Food and Drug Administration in 2006 based on interim results from the Core Study: final 10-year study results are now available.

Methods: Seven hundred fifteen subjects were implanted with smooth and Biocell textured Natrelle round silicone implants and attended clinic visits at 0 to 4 weeks, 6 months, 1 year, and annually through 10 years. Approximately one-third of subjects underwent magnetic resonance imaging at years 1, 3, 5, 7, and 9 to assess rupture.
Natrelle Augmentation Subgroup Analysis

- Core Study not designed to capture CC risk factors
  - Caution with drawing conclusions
- Implant Surface
  - Subglandular & submuscular: Textured (17.2%) vs smooth (19.9%)
  - Subglandular only: Texture (20.2%) vs smooth (37.0%) NOT SIGNIFICANT
- Incisions
  - Inframammary (17.4%) & periareolar (18.6%) vs Axillary (23.6%) \( (p = 0.077) \)
  - Axillary smooth (34.6 %) vs textured (14.8%)
- The lowest CC rates at 10 years
  - Inframammary submuscular smooth (10.2 %) or textured (14.2 %) implants
  - Periareolar submuscular textured implants (13.9%)
- The highest CC rates at 10 years
  - Transaxillary subglandular smooth (50%, \( n=2 \))
  - Periareolar subglandular smooth (36.2%)
  - Inframammary subglandular smooth (35.6%)
Textured vs Smooth: Same Patient

- **Silicone Gel**
  - 25 patients
  - Smooth on one side
  - Textured on one side
  - All subglandular
  - 1 year: Textured much softer

- **Saline**
  - 21 patients
  - Smooth on one side
  - Textured on one side
  - All subglandular
  - 1 year: No difference
Textured vs Smooth: Same Patient +/- Betadine

The Effect of Biocell Texturing and Povidone-Iodine Irrigation on Capsular Contracture Around Saline-Inflatable Breast Implants

Boyd R. Burkhardt, M.D., and Edward Eades, M.D.
Tucson, Arizona
1995

- **Saline Biocell (McGhan)**
- 60 patients
- Smooth + Betadine or saline
- Textured + Betadine or saline
- All periareolar & subglandular

The Effect of Siltex Texturing and Povidone-Iodine Irrigation on Capsular Contracture Around Saline Inflatable Breast Implants

Boyd R. Burkhardt, M.D., and Christopher F. Demas, M.D.
Phoenix, Ariz.
1994

- **Saline Siltex (Mentor)**
- 56 patients
- Smooth + Betadine or saline
- Textured + Betadine or saline
- All periareolar & subglandular

- Most contractures in smooth group
- Betadine had no effect
Textured Surfaces NOT the Same

Mentor

Sientra

Allergan
Differences in Same Manufacturer

Mentor Round MemoryGel 100 pores/inch
Mentor Shaped MemoryShape 65 pores/inch
Mentor CPX Tissue Expander 45 pores/inch

The Design and Engineering of the MemoryShape Breast Implant

M. Bradley Calobrace, MD
Louisville, Ky

Summary: The recent approval of MemoryShape implant by the Food and Drug Administration introduces a novel implant available to the surgeon for cosmetic
Smooth vs Textured

812 patients
Pocket irrigation unknown

- Most silicone gel implants were subglandular
- Most saline implants were submuscular
- However, no statistical difference
Implant Surface

Meta-analysis of 7 RCT
- CC odds ratio 0.34 for Biocell vs smooth

Meta-analysis, including 6 RCT (Subglanular)
- CC higher with smooth vs textured at:
  - 1 year [RR = 4.16]
  - 3 years [RR = 7.2]
  - 7 years (RR = 2.98)

Number needed to treat
- 2 long-term trials, subglandular & submuscular
- 9 patients needed to treat with Biocell round, or 7 patients with a Biocell anatomic, rather than with smooth round implant, to prevent 1 Baker grade III/IV CC over 10 years

Slightly increased risk of
- Non-adherence
- Double capsule
- Late seroma

Benefits and Limitations of Macrotextured Breast Implants and Consensus Recommendations for Optimizing Their Effectiveness

G. Patrick Maxwell, MD; Michael Scheiflan, MD; Scott Spear, MD; Maurizio B. Nava, MD; and Per Hedén, MD, PhD
Recommendation: Use **textured** implants for subglandular placement

**Smooth** implants may be appropriate for **submuscular** placement
No Recommendations

SPECIAL TOPIC

Capsular Contracture with Breast Implants in the Cosmetic Patient: Saline versus Silicone—A Systematic Review of the Literature

Timothy A. Schaub, M.D.
Jamil Ahmad, M.D.
Rod J. Rohrich, M.D.

Background: Capsular contracture is one of the most common and trying complications associated with the placement of breast prostheses. The authors hypothesized that silicone implants have a higher rate of capsular contracture

- Lack of current prospective data comparing saline & silicone implants
- Therefore can’t make data-driven recommendations regarding:
  - Pocket, fill type, surface
- Textured implants (saline and silicone) have tendency for less contracture
- Submuscular plane (saline and silicone) has tendency for less contracture
CC risk **lower in:**

- High-profile vs low- to moderate-profile (RR = 0.21)
- Midrange-profile and full/high/extra high–profile vs low- to moderate-profile breast
  - Midrange (RR = 0.49)
  - Full/high/extra high (RR = 0.55)
- Subpectoral versus subglandular placement
- Younger patients

**Breast Surgery**

Clinical Trial Outcomes of High- and Extra High–Profile Breast Implants

2013

Joan A. Largent, MPH, PhD; Neal R. Reisman, MD, JD, FACS; Hilton M. Kaplan, MBBCh, FCSSA, PhD; Michael G. Oefelein, MD, FACS; and Mark L. Jewell, MD
Implant Profile

May not matter after 10 years

Augmentation Cohorts of the Combined Core and 410 Studies:
Months to Capsular Contracture (Baker Grade 3-4)

Survival Distribution Function

Logrank p < 0.001

Months to Capsular Contracture Baker Grade 3-4
Core Studies Summary: CC

Core studies NOT same design

Capsular Contracture Rates following Primary Breast Augmentation

2015

Textured Silicone Breast Implant Use in Primary Augmentation: Core Data Update and Review

Summary: Evolution of silicone breast implant design has focused primarily on advances in implant fill, surface texture, and shape. Fifth-generation, shaped, formable, silicone breast implants from all three major implant manufacturers...
Core Studies Summary: CC

Core studies NOT same design

Textured Silicone Breast Implant Use in Primary Augmentation: Core Data Update and Review

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Core Studies Summary: CC

Core studies NOT same design

Textured Silicone Breast Implant Use in Primary Augmentation: Core Data Update and Review

Summary: Evolution of silicone breast implant design has focused primarily on advances in implant fill, surface texture, and shape. Fifth-generation, shaped, form-stable, silicone breast implants from all three major implant manufacturers...
Core Studies Summary: Seroma

Core studies NOT same design

Seroma Rates following Primary Breast Augmentation

2015

Textured Silicone Breast Implant Use in Primary Augmentation: Core Data Update and Review

Summary: Evolution of silicone breast implant design has focused primarily on advances in implant fill, surface texture, and shape. Fifth-generation, shaped, form-stable, silicone breast implants from all three major implant manufacturers...
Core Studies Summary: Malposition

Malposition Rates following Primary Breast Augmentation

Core studies NOT same design

Textured Silicone Breast Implant Use in Primary Augmentation: Core Data Update and Review

Summary: Evolution of silicone breast implant design has focused primarily on advances in implant fill, surface texture, and shape. Fifth-generation, shaped, form-stable, silicone breast implants from all three major implant manufacturers.
Core Studies Summary: Rippling

Rippling Rates following Primary Breast Augmentation

Core studies NOT same design

2015

Textured Silicone Breast Implant Use in Primary Augmentation: Core Data Update and Review

Summary: Evolution of silicone breast implant design has focused primarily on advances in implant fill, surface texture, and shape. Fifth generation, shaped, form-stable, silicone breast implants from all three major implant manufacturer...
Incision Site

• 183 primary augmentations, mean follow-up 1.2 years
• Betadine + triple antibiotic irrigation + IV antibiotics
• CC rates:
  – 6.4% transaxillary
  – 2.4% periareolar
  – 0.5% inframammary
Incision Site

- 856 primary augmentations, mean follow-up 1.4 years
- Variable pocket irrigation
- Overall CC 2.8%
  - Antibiotic irrigation decreased CC (3.9% vs 0.4%)
  - Tobacco users had more CC (5.5% vs 1.9%)
  - Saline implants had more CC than silicone gel (4.3% vs 1.3)
- Recommend IMF & submuscular placement, antibiotic irrigation

Capsular Contracture Rate in a Low-Risk Population After Primary Augmentation Mammaplasty

2013

Andrew L. Blount, MD; Matthew D. Martin, MD; Kyle D. Lineberry, BS; Nicolas Kettaneh, BS; and David R. Alfonso, MD
Incision Site

- Inframammary incision CC: 0.59%
- Periareolar incision CC: 9.5%
- Periareolar mastopexy CC: 8%
- “due to an increase in contamination of the breast pocket with intraductal material colonized by bacteria.”
Optimizing Variables

- 1539 patients with 3078 implants
- 596 shaped textured gel, 192 round textured gel
- 236 round smooth gel implants, 515 round smooth saline
- Follow-up average 18 months
- Lower CC rates:
  - Textured shaped gel implants
  - Submuscular pocket

Outcomes in Primary Breast Augmentation
A Single Surgeon’s Review of 1539 Consecutive Cases

Ron Barry Somogyi, M.D., M.Sc.
Mitchell H. Brown, M.D., M.Ed.
Toronto, Ontario, Canada

Background: The use of implants in aesthetic breast surgery may lead to complications resulting in the need for reoperation. This study examines outcomes following breast augmentation in a single surgeon’s practice and investigates the effect of implant selection and surgical technique on complications and reoperations.

Methods: A retrospective review of a single surgeon’s prospectively maintained
Can we Agree on:

• Submuscular pocket
• Inframammary incision
• Textured implant
  – Unless submuscular pocket
Pocket Irrigation: Betadine

- Betadine rinse followed by saline (FDA OK)
- Leaving Betadine in the pocket (FDA NOT OK)
- Intraluminal Betadine (FDA NOT OK)
- FDA concerns of implant shell compromise
  
  - Studies suggest it is safe
Pocket Irrigation: Betadine + Abx

- 330 inframammary dual-plane augmentations
  - **Group A**: Cephalothin 1.5 g IV + cephalexin 750 mg PO BID x 7 days
  - **Group B**: Cefuroxime 750 mg IV + levofloxacin 500 mg PO QD x 5 days + pocket irrigation
    - 25 mL 10% povidone-iodine + cefuroxime 750 mg + gentamicin 80 mg in 15 mL saline
- CC at 2 year follow up
  - Group A: 6%
  - Group B 0.6%

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Breast Surgery

Povidone-Iodine Combined With Antibiotic Topical Irrigation to Reduce Capsular Contracture in Cosmetic Breast Augmentation: A Comparative Study

Salvatore Giordano, MD; Hilkka Peltoniemi, MD, PhD; Peter Lilius, MD, PhD; and Asko Salmi, MD, PhD

2013
Betadine Irrigation

- Meta-analysis of four studies
  - 1191 patients Betadine irrigation
  - 595 patients saline irrigation
- Less CC with Betadine
  - 2.3% vs 8.9%
- Implant rupture <1%
- Low study methodologic quality limits recommendation for standard of practice

Efficacy and Safety of Povidone-Iodine Irrigation in Reducing the Risk of Capsular Contracture in Aesthetic Breast Augmentation: A Systematic Review and Meta-Analysis

Georgia C. Valantis, M.Sc., B.S.
En-Wei Liu, M.D.
Huu-Tung Cheng, M.D.

Background: Capsular contracture is common and distressing after aesthetic breast augmentation. The precise cause of capsular contracture is not well established. This systematic review investigates current available evidence regarding perioperative povidone-iodine irrigation safety and efficacy in reduc-
Betadine + Marcaine NOT Compatible

- Common to place long-acting anesthetic in pocket
- Bupivacaine is pH balanced
  - Sensorcaine: NaOH + HCl
  - Marcaine: Ascorbic acid
- Marcaine (not Sensorcaine) may neutralize antimicrobial effects of Betadine

Elizabeth Hall-Findlay 2013
Antibiotic Irrigation: Cephalosporin Only

- 414 patients: ½ had irrigation with cephalothin
- Double lumen textured implants
- No difference in CC (8% vs 6%)

Protective Effect of Topical Antibiotics in Breast Augmentation

Philip Pfeiffer, M.D.
Signe Jørgensen, M.D.
Thomas B. Kristiansen, M.D.
Anna Jørgensen, M.D.
Lisbet R. Hölmich, M.D., D.M.Sc.

Background: Previous studies indicate that antibacterial lavage and/or use of topical antibiotics may reduce infection in breast implant surgery and perhaps also reduce occurrence of capsular contracture. A retrospective analysis was performed to evaluate this effect.

Methods: The study participants included all women (n = 436) who underwent breast augmentation during two different time periods: 2000 to 2002 (n = 218)
Triple Antibiotic Irrigation

- 335 patients, mean follow-up 14 months (6 - 75 months)
- **No control group** – compared to historical controls
- 50,000 U bacitracin + 1 g cefazolin + 80 mg gentamicin in 500 cc NS
- No touch techniques + postop antibiotics
- CC rates:
  - 1.8% primary breast augmentation (n=248)
  - 0% augmentation-mastopexy (n=24)
  - 9.5% breast reconstruction (n=63)
Postoperative Antibiotics

- 605 implants: 1º or 2º breast augmentation
- 1% CC at mean 3.8 year follow up
- Protocol:
  - 1 g cefazolin IV (or clindamycin)
  - Bacitracin irrigation
  - Smooth Mentor saline or silicone gel implants
  - 3 days of antibiotics (52%) vs none (48%)
- No reduction in CC, infection, or complication rate
Electocautery vs Blunt Dissection

Brief Communication

• 615 cases

• 51% visualized dissection with electrocautery
  – CC 0.64%

• 49% blind Dingman blunt dissection
  – CC 6.4%

The Role of Pocket Dissection in Breast Implant Contracture: A Single Surgeon’s Review

Jason Jacoby, B.S.
Sean T. Lille, M.D
2011
No Touch Technique

- Breast tissue is not sterile
  - Cx (+) in axillary, periareolar, inframammary tissue
- Techniques to not touch skin or breast tissue
- Keep implant in original container and transfer to pocket with minimal handling
Nipple Shield

- NAC covered with adhesive shield
- 35% had + bacterial cultures

Risk of Breast Implant Bacterial Contamination From Endogenous Breast Flora, Prevention With Nipple Shields, and Implications for Biofilm Formation

Roger N. Wixtrom, PhD, DABT; Ross L. Stutman, MD; Renee M. Burke, MD; Amy K. Mahoney, BS; and Mark A. Codner, MD

No Shield: 5% CC, n=60
Shield: 0% CC, n=105
Skin Barrier

A Simple Barrier Drape for Breast Implant Placement

Kenneth C. Shestak, M.D.
Morad Askari, M.D.
Pittsburgh, Pa.
Keller Funnel

$100 to $130

One case use
Keller Funnel

27-fold reduction in skin contact

Differences in Skin Contact by Implantation Technique

Breast Surgery

Contamination in Smooth Gel Breast Implant Placement: Testing a Funnel Versus Digital Insertion Technique in a Cadaver Model

2012

Hunter R. Moyer, MD; Bahair Ghazi, MD; Neil Saunders, MD; and Albert Losken, MD
Keller Funnel

- 7 center retrospective analysis of CC related reoperation
- Reoperation within 1 year
  - 0.68% Keller Funnel (n=1620)
  - 1.49% no Keller Funnel (n= 1177)
- 54% reduction in CC reoperation
• Leukotrienes (LTs)
  – Produced by leukocytes
  – Promote inflammation & smooth muscle contraction

• Mechanism of Action
  – Block LTs at final inflammatory pathway
Prophylactic Singulair

- 82 patients over 2 years
- Mostly subglandular & subfascial
- Reduction in CC with Singulair
- Not well designed study
Recommendations: Antibiotics

• 2 g cefazolin (or clindamycin) IV within 60 min
• Repeat if longer than 4 hour procedure
• No post-op antibiotics
  – May not apply if drains in place
  – Consider antibiotics until drains removed

• Prophylaxis for future procedures involving mucosal breach?
  – Not recommended due to lack of data
Recommendations: Technique

- Nipple shield
- Inframammary incision
- Submuscular or dual plane pocket
- Minimize bleeding during pocket dissection
  - Avoid dissection into breast tissue
- Pocket irrigation
  - Triple antibiotic
  - Betadine
Recommendations: Technique

• No touch principles
  – Glove change (no talc) before handling implant
  – Introduction sleeve (Keller Funnel)?
  – Minimize time implant is exposed
  – New instruments for incision closure

• No Drains

• Multi-layer tissue closure
Recommendations: Medications

• Singulair (Cost?)
  – Dose x 2 to 3 months
  – Inform patient “off label” use
• Steroid irrigation
  – Bad history
  – Select cases of recurrent CC?
Recommendations: Implants

• Implant choice
  – Shaped (form stable) implants may have lower CC
  – Rotation, cost, firmness, etc
  – Specific fit for size

• Submuscular – Smooth

• Subglandular – Consider textured over smooth
  – Seroma, ALCL, double capsule
Manufacturer CC Warranties

- **Allergan** Confidence Plus
  - Primary & **revision** augmentation
  - All silicone gel implants
  - No charge replacement implant (**any** style)
  - Baker III/IV within **10 years**
  - Can replace contralateral implant

- **Mentor** Warranty
  - Primary augmentation
  - All silicone gel implants
  - No charge replacement implant
  - Baker III/IV within **3 years**
  - Can replace contralateral implant
  - **10 years** + $3500 if Enhanced Warranty ($200)

- **Sientra** CapCon Care Program
  - Primary augmentation by BC/BE plastic surgeon
  - TRUE **Texture** silicone gel implants only
  - No charge replacement implant
  - Baker III/IV within **2 years**
  - Same style, 1 size up or down
  - Affected side only

- Rupture warranties still apply
Breast Augmentation: Surgical Decisions & Complications

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Instructional Course