

JOINT ID/PLASTIC SURGERY GUIDELINES FOR MANAGEMENT OF TISSUE EXPANDER INFECTIONS

Patient with tissue expander in place and evidence of breast cellulitis

Initial work-up:

- Evaluate for fluid (clinically or get US)
- If fluid is present, aspirate via expander port or via IR and send for bacterial cx
- Consider uPCR and AFB cultures for indolent infection and/or culture-negative cases (especially if recurrent)

Acute SSTI not involving the expander

Suggested by:

- Acute onset
- Trace/no fluid around the expander
- Negative fluid culture (if done)
- First episode of infection

Tissue expander infection

Suggested by:

- Large amount of fluid around expander
- Positive fluid culture
- Recurrent infection
- Late onset (>30d from last surgery or expansion)
- No obvious portal of entry (no skin break)

Outpatient therapy

- Okay if no systemic symptoms or significant lab abnormalities
- Empiric PO regimen:
 - TMP-SMX
 - If TMP-SMX allergy: doxy/cipro
 - No rifampin
- Duration of therapy = 2 wks

Inpatient therapy

- Empiric IV regimen: vanc/cefepime
- Discharge with orals
 - Step-down to doxy/cipro
 - If previously on doxy then consider linezolid (or clinda if on SSRI or insurance issues)
 - No rifampin
- Duration = to complete 2 wks

TISSUE EXPANDER REMOVAL

Indications for removal

- Not improving on IV antibiotics
- Multiple recurrences or recurrence on Abx (if removal is not feasible, chronic suppression may be considered)
- *S. aureus*, *Pseudomonas*, *Candida*, or NTM

Removal without replacement (preferred if above organisms or gross purulence/thick biofilm intra-op)

- Duration = 2-4 weeks depending on intra-op findings and degree of source control
- No rifampin

Removal with single stage replacement (preferred over salvage if any cultures positive)

- Duration = 4 weeks
- Rifampin if Staph isolated (but not if culture-neg)

Antibiotic Regimen

- IV while hospitalized: vanc/cefepime
- Orals at discharge (unless particularly severe infection, lack of good source control; this is rare)
 - Treat as per organism if positive cultures
 - If culture negative: doxy/cipro
- Rifampin as indicated above

TISSUE EXPANDER SALVAGE

- Use in particular if XRT in last 6 mo b/c of poor healing
- Antibiotic regimens as above
- Rifampin if Staph isolated (but not if culture-neg)
- Duration = 6 weeks

Additional Notes

Notes on antibiotic dosing

- Cefepime and ciprofloxacin: use non-Pseudomonal dosing unless Pseudomonas is isolated
 - Cefepime: for normal renal function, non-Pseudomonal dosing is 2gm IV q12 and Pseudomonal dosing is 2gm IV q8h
 - Ciprofloxacin: for normal renal function, non-Pseudomonal dosing is 500mg PO bid and Pseudomonal dosing is 750mg PO bid
 - For dosing questions, please contact ID or ID pharmacy
- TMP-SMX dosing (for normal renal function; if CrCl<50 please call ID or ID Pharmacy for assistance):
 - 40-59kg: 1 DS tab PO BID
 - 60-70kg: 1 DS tab PO TID
 - >80kg: 2 DS tab PO BID
 - Note, TMP-SMX = Trimethoprim-Sulfamethoxazole. The DS tab is the 'double strength' tablet which contains 160mg of the TMP (trimethoprim) component.

Peri-operative Antibiotics for Tissue Expander Surgery

Peri-operative decolonization (ortho protocol):

- 3 consecutive days of CHG soap pre-op
- CHG body wipes during inpatient stay
- Betadine nasal swabs bid starting in pre-op holding area and continuing x 5 days or hospital discharge, whichever comes first
- Peri-operative antibiotic choice: cefazolin
- Peri-operative antibiotic duration: in clean and clean-contaminated surgeries, discontinue antibiotics after the surgical incision is closed unless the patient has a documented or suspected infection (even if drains in place)
- Complete UCSF surgical prophylaxis guidelines:
<https://idmp.ucsf.edu/content/surgical-prophylaxis-guidelines>

Internal Review of Tissue Expander Infection Positive Results (Inpatients, 9/2019-11/2020)

- 74% Gram positives (22% MRSE, 11% MSSE, 7% Staph epi, 4% MRSA, 15% MSSA, 7% P acnes)
- 26 % GNRs (11% Serratia, 7% Pseudomonas)

References

- Phillips et al, J Am Coll Surg 2016;222:1116.
McCullough et al, Ann Plast Surg 2016;77:501.
Viola et al, Plast Reconstruct Surg Glob Open 2016; e732.
Banuelos et al, Ann Plast Surg 202; 85:194