

Skin and Soft Tissue Infection Treatment Algorithm

Exclusions: Neutropenia, malignancy, severe immunodeficiency, osteomyelitis, diabetic ulcers, bite wounds, animal contact, surgical site infections, penetrating trauma, fresh or ocean water exposure, viral exanthems.



Non-Purulent Cellulitis

Purulent (MRSA, MSSA) Carbuncles/furuncles/abscess

Mild

Moderate

Severe

Mild

Moderate

Severe

Localized infection, no systemic toxicity.

Large area, or SIRS (HR >90, RR>24, Temp <36 or >38°, WBC >12000 or <4000 cells/ul. Not hypotensive.

Necrotizing infection or severe sepsis or septic shock, or fever with neutropenia

Localized infection, no systemic toxicity.

Purulent infections with SIRS (HR > 90, T <36 or >38°, WBC >12000 or <4000, RR >24 without hypotension)

Failed I & D /oral antibiotics, SIRS with hypotension and/or organ dysfunction.

Rx: Oral Penicillin or Cephalexin. Clindamycin if PCN allergy.

Rx: Cefazolin. Clindamycin (if PCN allergy)

Blood cultures. Prompt surgical consultation for suspected necrotizing infection.

Piperacillin/Tazobactam AND IV vancomycin

Defined Rx for Necrotizing Infection:
Strep or Clostridium
• Penicillin + Clindamycin
Vibrio vulnificus (marine water exp.)
• Doxycycline + ceftriaxone
Aeromonas sp. (fresh water exp.)
• Doxycycline + [ceftriaxone or ciprofloxacin]

I&D

I&D Wound Culture

I&D Wound Culture

Empiric Rx: TMP/SMX or Doxycycline

Defined Rx: MRSA: TMP/SMX MSSA: Cefazolin or po cephalexin or po dicloxacillin

Empiric Rx: IV Vancomycin. Change according to culture results

Defined Rx: MRSA: IV vancomycin or TMP/SMX or Linezolid MSSA: Cefazolin or po cephalexin or po dicloxacillin

Bacterial Cellulitis: Look for these reassuring signs of improvement on empiric antibiotics and consider de-escalation to orals

- Leukocytosis is decreasing.
- Fever is resolving
- Pain and tenderness are decreasing
- Pain medication use is decreasing
- Intensity of erythema is decreasing; bright redness is changing to brown
- Heat and/or edema of involved area is decreasing
- Note: leading edge of erythema may progress despite appropriate antibiotics for the first 2 days: this is not considered failure if there are other findings of clinical improvement, as listed above.

Pseudocellulitis

- A non-infectious, non-necrotizing inflammatory condition of the skin and/or soft tissue.
- These heterogeneous conditions are often confused with cellulitis, resulting in delay in treatment and misuse of antibiotics.
- Dermatology consult +/- biopsy may be beneficial.
- Common examples:
 - Stasis dermatitis
 - Contact dermatitis
 - Vasculitis
 - Gout
 - Lymphedema
 - Drug eruption

[J Am Acad Dermatol. 2015 Jul;73\(1\):70-5](#)

[Ann Int Med 2005;142:47-55](#)