Skin and Soft Tissue Infection Treatment Algorithm

**Non-Purulent Cellulitis**

- **Mild**
  - Localized infection, no systemic toxicity.
  - Rx: Oral Penicillin or Cephalexin. Clindamycin if PCN allergy.

- **Moderate**
  - Large area, or SIRS (HR >90, RR>24, Temp <36 or >38°C, WBC >12000 or <4000 cells/ul. Not hypotensive.
  - Rx: Cefazolin. Clindamycin (if PCN allergy).

- **Severe**
  - Necrotizing infection or severe sepsis or septic shock, or fever with neutropenia.
  - Blood cultures. Prompt surgical consultation for suspected necrotizing infection.
  - Piperacillin/Tazobactam AND IV vancomycin

**Purulent (MRSA, MSSA)**

- **Mild**
  - Localized infection, no systemic toxicity.
  - I&D

- **Moderate**
  - Purulent infections with SIRS (HR> 90, T<36 or >38°C, WBC>12000 or <4000, RR >24 without hypotension).
  - I&D Wound Culture

- **Severe**
  - Failed I & D/oral antibiotics, SIRS with hypotension and/or organ dysfunction.
  - I&D Wound Culture

**Purulent**

- **Carbuncles/furuncles/abscess**

**Defined Rx for Necrotizing Infection:**
- Strep or Clostridium
  - Penicillin + Clindamycin
  - Vibrio vulnificus (marine water exp.)
  - Doxycycline + ceftriaxone
  - Aeromones sp. (freshwater exp.)
  - Doxycycline + [ceftriaxone or ciprofloxacin]

**Exclusions:** Neutropenia, malignancy, severe immunodeficiency, osteomyelitis, diabetic ulcers, bite wounds, animal contact, surgical site infections, penetrating trauma, fresh or ocean water exposure, viral exanthems.
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:
  • Statis dermatitis
  • Contact dermatitis
  • Vasculitis
  • Gout
  • Lymphedema
  • Drug eruption