Skin and Soft Tissue Infection:

Cellulitis

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What is Cellulitis?

Cellulitis is a common skin and soft tissue infection of the dermis and subcutaneous fat. It often follows an indolent course, and may progress to systemic symptoms (see discussion below). The diagnosis of cellulitis is often clinical, and the mainstay of treatment is antibiotics.

Possible complications of cellulitis include osteomyelitis, pyomyositis, necrotizing infections, lymphangitis, bacteremia, and endocarditis, among many others.

1 Clinical features

- Poorly demarcated area with:
  - Erythema
  - Warmth
  - Tenderness
  - Induration
  - Edema
- ± Systemic symptoms:
  - Fever
  - SIRS criteria

2 Microbiology

The vast majority of cellulitis cases are caused by beta-hemolytic streptococci, such as *Strep. pyogenes*. A less common, but notable, cause of cellulitis is *S. aureus*, including both MSSA and MRSA. Even less common (but also notable) causes:

- Immunosuppressed: Gram-negatives
- Liver disease: Vibrio species
- Animal bites: Pasteurella

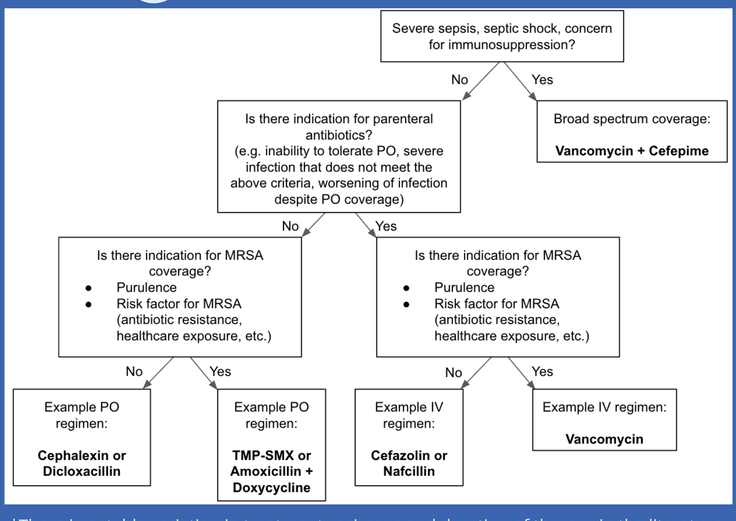
***S. aureus* is more common in cases of purulent cellulitis.**

3 Diagnosis

Diagnosis of cellulitis is based on clinical presentation. However, some laboratory and imaging studies are helpful to further characterize the severity and extent of infection:

- CBC
- BMP
- ESR/CRP
- Blood cultures
- Ultrasound (to assess for purulence)

4 Management of Cellulitis



*There is notable variation in treatment regimens and duration of therapy in the literature. There does not appear to be a single superior regimen or length of treatment.
** Jefferson's 2022 antibiogram indicates there is signifcant local resistance of MRSA to Clindamycin (only 61% susceptable).

References:

1. Raff AB, Kroshinsky D. Cellulitis:A Review. *JAMA*.2016;316(3):325–337. doi:10.1001/jama.2016.8825

2. Cross, E., Jordan, H., Godfrey, R., Onakpoya, I. J., Shears, A., Fidler, K., Peto, T., Walker, A. S., & Llewelyn, M. J. (2020). Route and duration of antibiotic therapy in acute cellulitis: A systematic review and meta-analysis of the effectiveness and harms of antibiotic treatment. The Journal of infection, 81(4), 521–531. https://doi.org/10.1016/j.jinf.2020.07.030

3. Jefferson Antibiogram

4. UpToDate: Acute cellulitis and erysipelas in adults: Treatment. Spelman et al.