Diagnosis of Cellulitis

IMPORTANT INFORMATION

- **Early detection of cellulitis is crucial.**
- Educate patients to monitor for redness, warmth, and tenderness around the infusionsite.

Red flags that warrant immediate medical attention:

- Fever
- Chills
- General malaise
- Fatigue
- Other systemic symptoms

Immediate initiation of antibiotic therapy, as guided by clinical severity, can prevent complications.

Characteristics

- **Cellulitis**: bacterial infection involving the inner layers of the skin, specifically affecting dermis and subcutaneous fat.[1]
- Presents as a **red, swollen, warm, and often painful** area of skin. Area of redness increases in size over a few days with borders that are generally round, but the edges of the redness are not always well defined.[1]
- Individual may have a fever and feel tired.[2]
- Lymphatic vessels may occasionally be involved.[1-4]
- Potential complications include abscess formation.[1]
- Infusion-site swabbing discouraged.[5]
  - Swabbing skin will not identify bacterial pathogen and may produce inconclusive results.









Causes

- **Cellulitis** is typically caused by *Streptococcus* or *Staphylococcus aureus* bacteria.[1]

1. Vary JC, O'Connor KM. Common dermatologic conditions. *Med Clin North Am*. 2014;98(3):445–485; 2. Mistry RD. Skin and soft tissue infections. *Pediatr Clin North Am*. 2013;60(5):1063–1082; 3. Edwards G, Freeman K, Llewelyn MJ, Hayward G. What diagnostic strategies can help differentiate cellulitis from other causes of red legs in primary care? *BMJ*. 2020;368:m54; 4. Tintinalli JE, Ma O, Yealy DM, Meckler GD, Stapczynski J, Cline DM, Thomas SH, eds. Tintinalli's Emergency Medicine: A Comprehensive Study Guide. 9th ed. McGraw-Hill Education; 2020. Accessed November 27, 2024. https://accessmedicine.mhmedical.com/content.aspx?bookid=2353&sectionid=183421313;
5. Fung VSC, and al. Clinical Parkinsonism & Related Disorders. 2024, Vol.10.

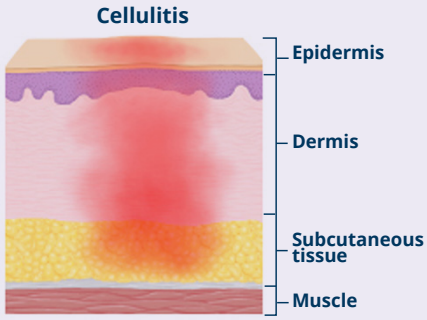
Other Considerations

Expert insights video. Click to view Lynne H. Robertson, Dermatologist

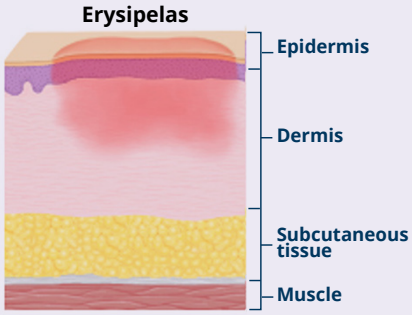


Cellulitis vs. Erysipelas[1]

Cellulitis
- Infection of deep dermis and subcutaneous tissue
- Group A strep and *Staph aureus*
- **Signs**:
  - Slower onset, spreading redness and increasing pain/warmth
  - Lighter red colour, border ill defined
  - +/-purulence, red streaking, enlarged lymph nodes



Erysipelas
- Infection in superficial dermis & lymphatics
- Group A strep
- **Signs**:
  - Acute onset, fever/chills, malaise, headache
  - Bright red with sharp cutoff borders
  - No purulence



Management of Cellulitis – Bacterial Infection

- Treating physicians usually prescribe **oral/IV antibiotics**, such as cephalosporin (cephalexin) or penicillin (amoxicillin or cloxacillin)[2,3] depending on their criteria.
- For patients with recurring infections:
  - Test for MRSA.
  - Consider consultation with infectious disease specialist.
    - Do not limit specialist consultation for MRSA only, as it could be various infections.

1. UpToDate - https://www.uptodate.com/contents/cellulitis-and-skin-abscess-epidemiology-microbiology-clinical-manifestations-and-diagnosis.
2. Vary JC, O'Connor KM. Common dermatologic conditions. *Med Clin North Am*. 2014;98(3):445–485; 3. Phoenix G, Das S, Joshi M. Diagnosis and management of cellulitis. *BMJ*. 2012;345:e4955.
IV, intravenous; MRSA, methicillin-resistant *Staphylococcus aureus*.

Infectious Reaction: Care Plan

At insertion of cannula, a localized, red, swollen, warm, and often painful area of skin that increases in size with borders that may or may not be well defined



Consider

1. Prescribing oral/IV antibiotics, such as cephalosporin (cephalexin) or penicillin (amoxicillin or cloxacillin), depending on criteria
2. Testing for MRSA for patients with recurring infections
3. Consultation with an infectious disease specialist

Skin reaction is accompanied by fever, chills, general malaise, fatigue, persistent pain or other systemic symptoms

Ensure

1. **Immediate medical attention**

Plan of Action:

Roles and Responsibilities:

IV, intravenous; MRSA, methicillin-resistant *Staphylococcus aureus*.