Skin and Soft Tissue Infection

General Consideration

- Most skin and soft tissue infections are caused by *Staphylococcus aureus* and/or β-hemolytic *Streptococcus*
- Culture of pus or exudates can help guide antimicrobial selection
- Cephalexin is not indicated for treatment of infections caused by methicillin-resistant *Staph aureus* (MRSA)
- Trimethoprim/Sulfamethoxazole is not indicated for treatment of infections caused by β-hemolytic *Streptococcus*
- Therapy should be reevaluated if no clinical improvement within 5 days
- These recommendations do not apply to patients who are immune compromised or who have had penetrating trauma

Diagnosis

- Impetigo begins as erythematous papules that evolve into vesicles and pustules that form honey-colored crusts on an erythematous base
- Ecthyma is a deeper infection that involves ulcerating vesicles with surrounding erythema
- Cellulitis is a superficial, spreading skin infection that causes warmth, redness, swelling, and tenderness without abscess formation. Culture is usually not indicated, and MRSA is rarely the cause.
- Cutaneous abscesses are painful, fluctuant red nodules with surrounding erythema and a collection of pus in the deeper tissue typically caused by *Staph aureus*. Incision and drainage is the preferred treatment and allows for culture.

Treatment Recommendations – Impetigo and Ecthyma

1. First-line for bullous and non-bullous impetigo - **Mupirocin**
    - Topically twice daily for 5 days
2. First-line for ecthyma or multiple areas of impetigo - **Cephalexin**
    - 50 mg/kg divided three times daily for 7 days
    - Max dose: 500 mg per dose
3. Penicillin allergy or concern for MRSA – **Clindamycin**
    - 20 mg/kg divided three times daily for 7 days
    - Max dose 300 mg per dose

Treatment Recommendations – Cellulitis

1. First-line - **Cephalexin**
    - 50 mg/kg divided three times daily for 5 days
    - Max dose: 500 mg per dose
2. Penicillin allergy or concern for MRSA – **Clindamycin**
    - 30 mg/kg divided three times daily for 5 days
    - Max dose: 450 mg per dose

Treatment Recommendations – Cutaneous Abscess

1. First-line – **Incision and Drainage**
    - Culture is recommended
    - Oral antimicrobials are not indicated for patients with adequate drainage and no systemic symptoms (fever, tachycardia, tachypnea, or abnormal white blood cell count)
2. First-line – **Trimethoprim/Sulfamethoxazole**
    - 12 mg TMP/kg divided twice daily for 5 days
    - Max dose: 160 mg TMP per dose
- Sulfa allergy – **Clindamycin**
    - 40 mg/kg divided three times daily for 5 days
    - Max dose: 450 mg per dose

Treatment Recommendations – Recurrent Cutaneous Abscess

1. First-line – **Incision and Drainage and appropriate antimicrobial**
    - Treat for 10 days if previous abscess was recent
    - Culture is recommended
2. Consider 5-day decolonization
    - Twice daily intranasal mupirocin
    - Daily chlorhexidine washes

Not Recommended

- Trimethoprim/Sulfamethoxazole if there is concern for β-hemolytic *Streptococcus*
- Amoxicillin if there is concern for *Staphylococcus aureus*

Clinical Reference: Practice Guidelines for the Diagnosis and Management of Skin and Soft Tissue Infections: 2014 Update by the Infectious Diseases Society of America. *Clinical Infectious Diseases*, Volume 59, Issue 2, 15 July 2014, Pages e10–e52