

Skin and Soft Tissue Infections: Outpatient Management



Inclusion criteria for guideline:

- ED and/or ambulatory care setting presenting with concern for one of the following uncomplicated infections:
- Simple cellulitis ± abscess
- Animal/human bites
- Impetigo
- Staphylococcal scalded skin syndrome (SSSS)

Exclusion criteria for guideline:

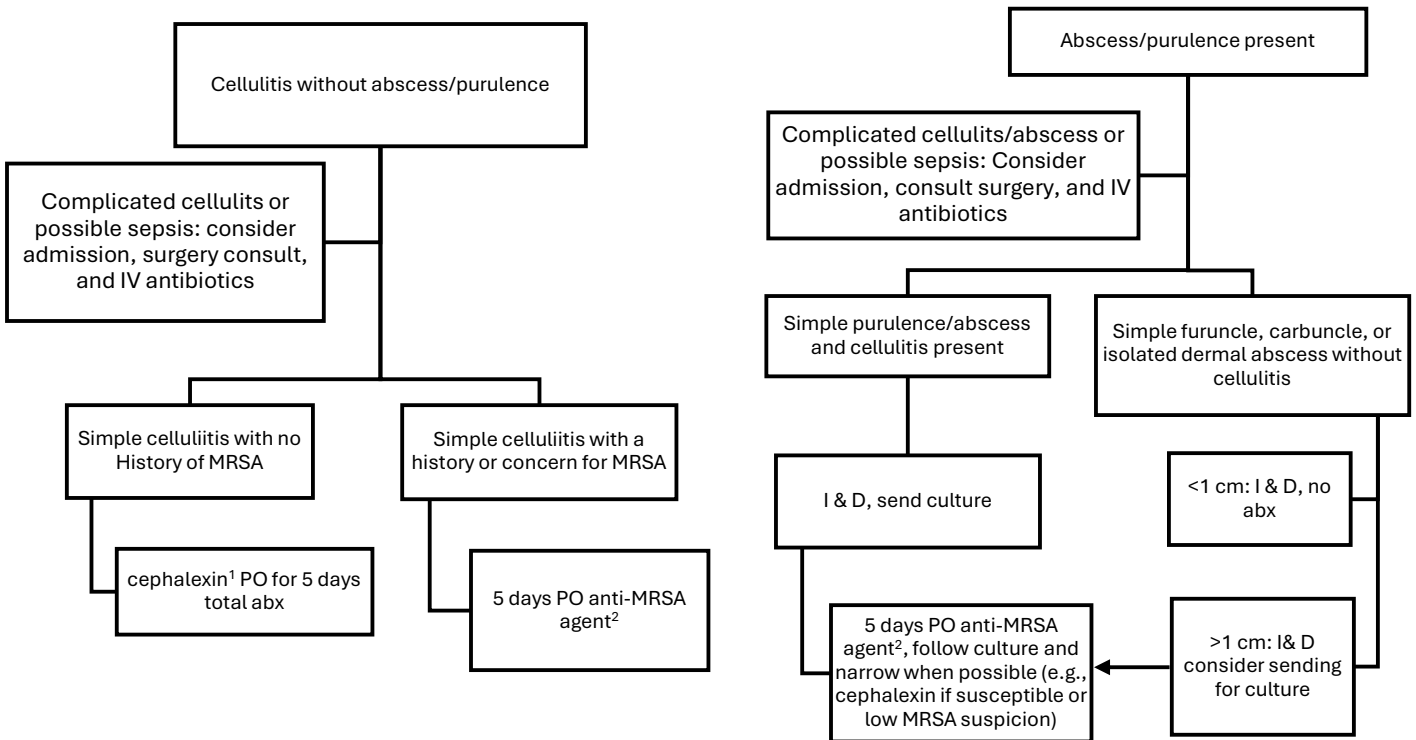
- Immunocompromised patients
- Concern for sepsis
- Infants < 2 months, aside from for SSSS
- Infections of perineum, rectum, or genitourinary tract
- Extensive infections (e.g., necrotizing fasciitis)
- Infections with prior treatment failure
- Hospital-acquired, surgical site & device associated infections
- Pressure ulcers
- Diabetes
- SSTIs in other CPGs: deep neck infections, loxoscelism, musculoskeletal infections, periorbital & preseptal cellulitis, surgical site infections

General Management Summary:

Condition	First-line	Alternatives	Duration	Other Considerations
Furuncles , Carbuncles, Dermal Abscess	- I&D - Topical antibiotics - Clindamycin 10 mg/kg/dose PO q8h (Max: 600 mg/dose)	- TMP/SMX 5 mg/kg/dose PO TMP component q12h (Max: 320 mg/dose TMP) - Cephalexin 16 mg/kg/dose PO q8h (Max: 500 mg/dose) if MSSA	5 days	< 1 cm: I&D only >1 cm: I&D + antibiotics
Cellulitis/ Erysipelas, Non-purulent (Most likely Group A Streptococcus)	- Cephalexin 16 mg/kg/dose PO q8h (Max: 500 mg/dose) - Cefazolin 25 mg/kg/dose IV q8h (Max: 2,000 mg/dose)	- Amoxicillin-clavulanate 25 mg/kg/dose PO amoxicillin component q12h (Max: 875 mg/dose) - Clindamycin 10 mg/kg/dose IV/PO q8h (Max: 600 mg/dose)	5 days	-Consider IV if admitting to hospital -Total size < 5 cm is typically considered simple
MRSA Suspected OR Cellulitis with Purulence	-Drainable abscess: I&D - Clindamycin 10 mg/kg/dose IV/PO q8h (Max: 600 mg/dose)	- TMP/SMX 5 mg/kg/dose TMP component IV/PO q12h (Max: 320 mg/dose TMP) - Doxycycline 2.2 mg/kg/dose IV/PO q12h (Max: 100 mg/dose) - Linezolid <12 years: 10 mg/kg/dose IV/PO q8h (Max: 600 mg/dose); ≥ 12 years 10 mg/kg/dose IV/PO q12h (Max: 600 mg/dose) if	5 days	-Consider IV if admitting to hospital -Total size Total size < 5 cm is typically considered simple
Impetigo	- Mupirocin 2% ointment TID: Single or localized lesions	- Mupirocin + Cephalexin 16 mg/kg/dose PO q8h (Max: 500 mg/dose) - Mupirocin + Clindamycin 10 mg/kg/dose PO q8h (Max: 450 mg/dose): for penicillin allergy	5 days	Systemic antibiotics are usually reserved for numerous/severe lesions
Animal/Human Bites	- Irrigation and cleaning of site - Ampicillin-sulbactam 50 mg/kg/dose of ampicillin IV q6h (Max: 2000 mg amp/dose) - Amoxicillin-clavulanate 25 mg/kg/dose amoxicillin component PO q12h (Max: 875 mg/dose) - Refer to Tennessee Department of Health detailed rabies information: Rabies TN Department of Health	- TMP/SMX 5 mg/kg/dose TMP component IV/PO q12h (max 320 mg/dose TMP) AND Clindamycin 10 mg/kg/dose IV/PO q8h (Max: 600 mg/dose) for animal/human bites OR - Ciprofloxacin 15 mg/kg/dose PO q12h (Max: 500 mg/dose) AND Clindamycin 10 mg/kg/dose IV/PO q8h (Max: 600 mg/dose) for reptile bites	Prophylaxis: 3-5 days Treatment: 5 days	-Recommend antibiotic prophylaxis if hands, face, or joints are involved - Assess need for tetanus and rabies prophylaxis -Consider IV if admitting to hospital
Staphylococcal scalded skin syndrome	- Cefazolin 25 mg/kg/dose IV q8h (Max: 2,000 mg/dose) -step-down: Cephalexin 16 mg/kg/dose PO q8h (Max: 500 mg/dose)	- Nafcillin 35 mg/kg/dose IV q6h (Max: 2,000 mg/dose)- Clindamycin 10 mg/kg/dose IV/PO q8h (Max: 600 mg/dose):	10 days	-Clindamycin only added to beta-lactam in severe/refractory cases. - Obtain cultures as possible to guide therapy

Skin and Soft Tissue Infections: Outpatient Management

Cellulitis +/- Abscess General Management Algorithm



Relevant Descriptions and Terminology:

- Cellulitis +/- abscess ≤ 5 cm in diameter is usually considered simple
- Examples of increased risk for MRSA: Household contact with MRSA, patient history of MRSA infections

Likely Pathogens:

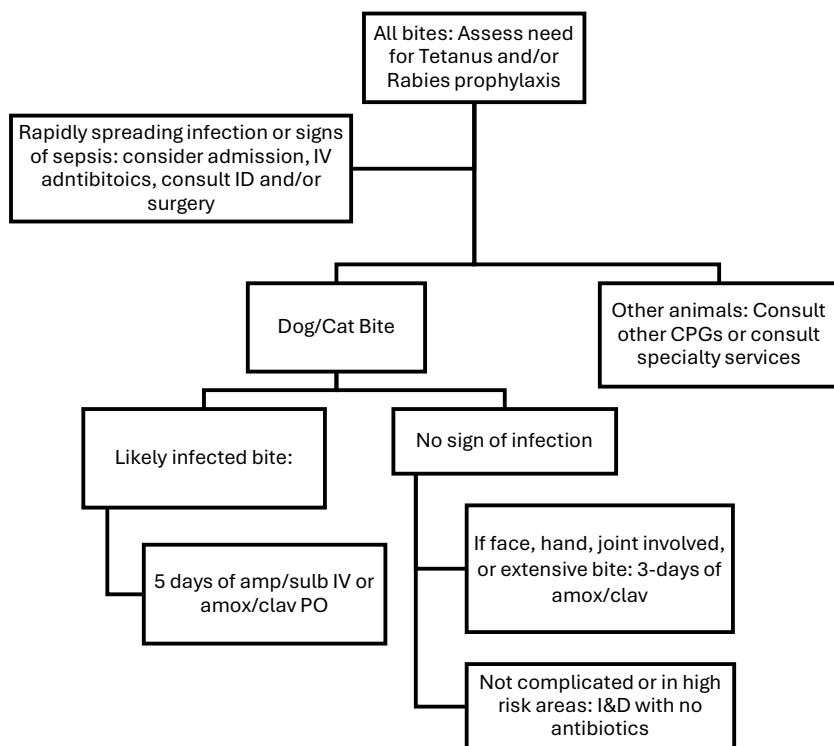
- Non-purulent: *Streptococcus* species predominate, MSSA possible
- Purulence/abscess present: *S. aureus* prevalence is high (MSSA or MRSA, with MRSA up to 50%)

Other Considerations:

- Improvement should occur in 48 hours \rightarrow if not, consider alternative treatment options or diagnoses
- 5-day duration of antibiotics is recommended for previously healthy children who improve within 48-72h of antibiotic therapy. 7-day duration can be considered for children who are slower to respond to initial therapy
- Local antibiogram MRSA has clindamycin has $>90\%$ susceptibility for *S. aureus* and thus is appropriate for empiric *S. aureus* coverage
- ¹Alternatives to cephalexin for non-purulent cellulitis include amoxicillin/clavulanate or clindamycin
- ²Anti-MRSA agents include clindamycin or trimethoprim/sulfamethoxazole as first line options with doxycycline and linezolid as alternatives
- Cellulitis +/- abscess associated with injuries involving water sources: consider addition of gram-negative coverage (e.g., fluoroquinolone) to *S. aureus* coverage empirically
- Oral treatment is preferred

Skin and Soft Tissue Infections: Outpatient Management

Animal Bites General Management Algorithm:



Notable bite pathogens:

- *S. aureus*, *Streptococcus* spp.,
- oral anaerobes, *Pasteurella multocida*, *Eikenella corrodens*

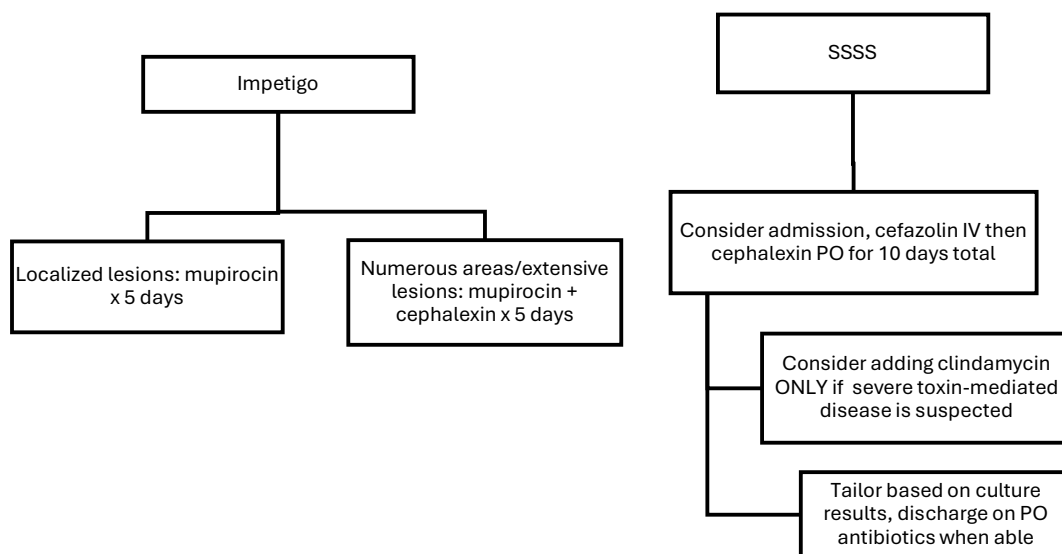
Duration:

- Prophylaxis: 3 days
- Treatment: 5-days; 7-days if slow response to initial therapy

Alternatives to amox/clav include:

- clindamycin + either TMP/SMX (animal/human bites) or ciprofloxacin (reptile bites)

Impetigo and Staphylococcal Scalded Skin Syndrome (SSSS) General Management Algorithm:



Impetigo pathogens:

MSSA or *S. pyogenes*, MRSA is uncommon.

Impetigo Duration: 5 days is recommended, but 7 days could be considered for severe cases

SSSS pathogens: MSSA most common, MRSA is uncommon

SSSS duration: 10 days is appropriate for most SSSS

SSSS general description:

- Generalized macular erythema, skin exfoliation → bullae with skin erosion on contact (i.e., "Nikolski sign")
- Most common in children < 6 years

Skin and Soft Tissue Infections: Outpatient Management

References:

1. American Academy of Pediatrics. Staphylococcus aureus. In: Red Book: 2024-2027 Report of the Committee on Infectious Diseases, 33rd ed, Kimberlin DW, Banerjee R, Barnett ED, Lynfield R, Sawyer MH (Eds), American Academy of Pediatrics, Itasca, IL 2024. p.767.
2. Bula-Rudas FJ, Olcott JL. Human and Animal Bites. *Pediatr Rev.* 2018 Oct;39(10):490-500.
3. Daum, RS, Miller, LGA, Immergluck L, Fritz S, Creech CB, et al. Placebo-Controlled Trial of Antibiotics for Smaller Skin Abscesses. *N Engl J Med.* 2017;376(26):2545.
4. Duong M, Markwell S, Peter J, Barenkamp S. Randomized, controlled trial of antibiotics in the management of community-acquired skin abscesses in the pediatric patient. *Ann Emerg Med.* 2010;55(5):401. Epub 2009 May 5.
5. Gray L, Hansen, AM, Cipriano SD. Pediatric Staphylococcal Scalded Skin Syndrome: A Systematic Review of the Literature to Inform Work-Up and Management. *Pediatric Dermatol.* 2025 Sep-Oct;42(5):978-984.
6. Holmes L, Ma C, Qiao H, Drabik C, Hurley C, Jones D, Judkiewicz S, Faden H. Trimethoprim-Sulfamethoxazole Therapy Reduces Failure and Recurrence in Methicillin-Resistant Staphylococcus aureus Skin Abscesses after Surgical Drainage. *J Pediatr.* 2016 Feb;169:128-134.e1. Epub 2015 Nov 11.
7. Hyun DY, Mason EO, Forbes A, Kaplan SL. Trimethoprim-sulfamethoxazole or clindamycin for treatment of community-acquired methicillin-resistant Staphylococcus aureus skin and soft tissue infections. *Pediatr Infect Dis J.* 2009;28(1):57.
8. Stevens DL, Bisno AL, Chambers HF, et al. Practice guidelines for the diagnosis and management of skin and soft tissue infections: 2014 update by the infectious diseases society of America. *Clin Infect Dis* 2014; 59:147.