**Inpatient Empiric Antibiotic Guidelines for Pediatric Skin and Soft Tissue Infections**

**I. Scope/Definitions**

This guideline applies to the following infections:

* Cellulitis
* Abscesses/furuncles/carbuncles
* Necrotizing Fasciitis
* Pyomyositis
* Animal bite wound infections

It does NOT apply to osteomyelitis (see separate guideline) or to conditions like impetigo that would likely not be admitted for systemic therapy.

Management varies by class and severity of infection, as categorized below.

\*REGARDING ADMISSION\*

If patient taking PO and does not have other criteria for admission (concern for sepsis, rapid spread of cellulitis, need for surgical or imaging intervention, concern for deeper infection), treatment of the infection with clindamycin, Bactrim, or doxycycline need not require admission. Those are all highly bioavailable (~90-100%) agents that should be used PO if possible.

**1. Cellulitis/Abscess**

Workup

* For simple cellulitis and/or abscess, CBC, blood culture, or other labs are **NOT** automatically indicated and should only be sent in more severely ill patients.
* **Any drainage should be sent for GS/Culture**

The resident and floor team should, if relevant, try to review past year (or less if not all available) of microbiology records for cultures to guide empiric therapy more precisely, specifically regarding MRSA or other sensitivities of prior staph infections. The hospital antibiogram can also be used as a guide, though the empiric therapy listed here takes that more general information into account.

Non-antibiotic therapy

* Consider surgery consult for drainage of more complicated abscesses
* Nursing order for warm compresses should be placed to encourage drainage

Antibiotic therapy

Empiric antibiotic therapy would in part be guided by the presence or absence of any methicillin-resistant *Staphylococcus aureus* (MRSA) risk factors, which include the following:

* Participation in contact or mat sports such as football, lacrosse, wrestling, especially if played on turf or if wearable pads are involved
* Known family member or close contact with MRSA
* Prior history of MRSA in the patient

If risk or history of MRSA is **not** present:

Should begin empirically with:

* Cefazolin IV 25-100 mg/kg/day divided q6-q8h

Ifrisk or history of MRSA **is** present:

Antibiotic options include (in order):

1. Clindamycin PO or IV (PO preferred; 100% bioavailable) 10 mg/kg/dose q8h
2. Bactrim PO or IV (PO preferred; near 100% bioavailable) 8 mg/kg/day based on TMP component, div q12h [IV would be 8-12 mg/kg/day div q6-12h]
3. Doxycycline (if ≥ 8 yo) PO or IV (PO preferred; near 100% bioavailable) 4 mg/kg/day div q12h
4. Vancomycin IV 15 mg/kg/dose q6h (1 gm q6h adult); adolescents may require less frequent dosing.

**Overall length of therapy for cellulitis/abscess would be 7-10 days.**

**2. Necrotizing Fasciitis**

Workup

* If suspected, would consult ID and surgery
* Labs should include CBC/diff/plt and Blood Culture as well as ESR, CRP
* Culture any drainage
* Consider X-ray or CT scan of affected area to identify fascial or subcutaneous air

Non-antibiotic therapy

**All true necrotizing fasciitis requires urgent surgical drainage and fasciotomy; early and prompt surgery consult is essential.**

Antibiotic therapy

Should all include coverage for MRSA due to the urgent and extreme nature of this infection, as well as gram-negatives, strep, and anaerobes:

* piperacillin-tazobactam (Zosyn) 100 mg/kg/dose q6-q8 hrs,
* Vancomycin 15 mg/kg/dose q6h

**Overall length of therapy for necrotizing fasciitis TBA based on patient course**

**3. Pyomyositis**

Workup

* If suspected based on degree of pain and illness, would consult ID and surgery
* Labs should include CBC/diff/plt and Blood Culture as well as ESR, CRP
* Culture any drainage
* Consider MRI of affected area to identify abscesses or extent of infection

Non-antibiotic therapy

May require surgical drainage of muscle abscesses if present

Antibiotic therapy

Due to the more severe nature of this infection, empiric therapy should cover MRSA and not risk resistance that could be present to clindamycin or other agents

* Vancomycin 15 mg/kg/dose q6h

**Overall length of therapy for pyomyositis in the absence of osteomyelitis or joint infection will range from 2-3 weeks depending on clinical course and organism.**

**4. Animal bite wound infections**

Workup

Culture is essential in these sorts of infections, and is easily obtained by swabbing the inside of the unhealed bite.

Non-antibiotic therapy

* Warm compresses
* Surgical debridement may be required depending on the severity of the bite

Antibiotic therapy

May vary based on the nature of the animal bite; for common household animals such as cats or dogs, the therapy below is adequate; **for other bites, consider ID consult**.

* Ampicillin-sulbactam 100-200mg/kg/day of ampicillin component div q6h

**Overall length of therapy for an animal bite wound infection will range from 2-3 weeks depending on clinical course and organism.**