Pediatric Skin and Soft Tissue Infection (SSTI) Pathway

Purpose

- ❑ Standardize diagnosis and management of skin and soft tissue infection (SSTI) in pediatric patients in the emergency department and inpatient settings.

Eligibility

Inclusion Criteria

- > 56 days to 21 years old

AND

- Suspect impetigo, cellulitis, or abscess

Exclusion Criteria

- Hospital-acquired, surgical site & device-associated infections
- Immunocompromised
- Medically complex patients
- Critically ill
- Major trauma or pressure injuries
- Secondary wound infections (e.g., animal or human bites, puncture wound
- Failed outpatient therapy
- Patients requiring a subspecialist[3]

Cellulitis/Impetigo[1]

- Clinical exam only
  - Low/no concern for underlying purulence or abscess

→

- Analgesia[2]
- Outline margins
- Add clinical photo to chart

Possible Abscess[1]

- Clinical exam
  - Induration, edema without clear fluctuance
  - No history of purulent discharge
- Ultrasound (bedside/radiology)

Definite Abscess[1]

- Clinical exam
  - Fluctuance, swelling
  - History or presence of purulent discharge

Needs a subspecialist? [3]

- Yes → Consult Subspecialist and off pathway
- No →
  - Sedation/analgesia[2]
  - Loop drainage or I&D with packing
  - Wound culture[4]

Discharge criteria[5] met?

Yes →

Discharge home

- Meets treatment criteria[6]
  - Oral antibiotics[7]
  - 1st dose in ED
- Follow up with PMD in 1-2 days
- Follow up culture to determine definitive therapy

No →

Admit to floor

See inpatient phase

- IV antibiotic[7]
- 1st dose in ED
- Follow up culture to determine definitive therapy

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[1] Definitions of Skin and soft tissue infection (SSTI)

- Impetigo = A superficial bacterial skin infection that affects the dermis. Types include bullous, non-bullous, and ecthyma. Typically seen in ages 2 to 5 years.
  - Non-bullous = most common. Lesions start as papules, then form small vesicles, that subsequently turn into pustules that quickly enlarge, rupture and form a thickened yellow, "golden" crust. Typically, on the face and extremities.
  - Bullous = vesicles enlarge to form flaccid bullae with clear yellow fluid, which later becomes dark and turbid. Usually affects the trunk.
  - Ecthyma = ulcerative form that extends from the epidermis into the dermis. "Punched out" ulcers covered with a "golden" crust with raised violaceous margins.
- Cellulitis = SSTI involving the dermis and subcutaneous fat
- Cutaneous abscess = SSTI characterized by a collection of pus within the dermis or subcutaneous space. Cutaneous abscesses may or may not be associated with cellulitis

[2] Analgesia

SSTI type	Analgesia medication
Cellulitis/ Impetigo	Acetaminophen or Ibuprofen
Simple abscess	As above, plus… Local anesthetic
Large or complicated abscess	As above, plus one of the options below… Fentanyl Intranasal (IN) (≤ 30 kg) or Sufentanil IN (> 30 kg) Nitrous oxide Midazolam PO or IN Ketamine IM or IV

[3] Subspecialist consult

Subspecialist	Location of abscess
Dental/OMFS	Facial cellulitis due to dental infection Dental abscess
ENT	Neck
General surgery	Breast Perianal Perineal Pilonidal (recurrent, complicated) Large, complex
Infectious Disease	Complicated abscess Failed outpatient antibiotic treatment
Ophthalmology	Orbital Periorbital
Orthopedic surgery	Septic arthritis Tenosynovitis Osteomyelitis

[4] Wound culture indications

- Recurrent or extensive infection
- Failed outpatient management
- Systemic symptoms (i.e., fever, chills, tachycardia, anorexia, vomiting, ill-appearance)
- If antibiotic treatment is required[6]

[5] Discharge criteria:

- Well-appearing without multiple systemic symptoms (i.e. fever, chills, tachycardia, anorexia, vomiting)
- Able to tolerate fluids to maintain adequate hydration
- Able to tolerate oral antibiotic (if applicable)
- No concern for subsequent, future inpatient I&D
- No concern for deeper infection
- No need for subspecialty inpatient management
- Adequate follow up, within 24-48 hours

[6] Antibiotics recommended if:

- Cellulitis or impetigo is present
- Single abscess > 2 cm
- I&D unsuccessful
- Presence of significant systemic symptoms (i.e., fever, chills, tachycardia, anorexia, vomiting, ill-appearance)

7 Antibiotic selection

SSTI	First-line antibiotic[a] (MRSA risk factors[c])	Alternative (Allergies, Treatment failure[b])	Treatment duration
Abscess	**PO** Trimethoprim (TMP)-sulfamethoxazole (SMX) 6 mg/kg (based on TMP component) PO q12h, max 160 mg TMP/dose (covers MRSA) OR Doxycycline 2.2 mg/kg PO q12h, max 100 mg/dose (covers MRSA)	**PO** Clindamycin 10 mg/kg PO q8h, max 450 mg/dose	Up to 10 days
	IV Clindamycin 13 mg/kg IV q8h, max 600 mg/dose	**IV** Vancomycin 15 mg/kg IV once, max 1 gm/dose (covers MRSA; Pharmacy will manage upon admission to LPCH)	
Cellulitis	**PO** Cephalexin 25 mg/kg PO q8h, max 500 mg/dose	**PO** Clindamycin 10 mg/kg PO q8h, max 450 mg/dose OR TMP-SMX 6 mg/kg (based on TMP component) PO q12h, max 160 mg TMP/dose (covers MRSA) OR Doxycycline 2.2 mg/kg PO q12h, max 100 mg/dose (covers MRSA)	5 days
	IV Cefazolin 16.5 mg/kg IV q8h, max 1 gm/dose	**IV** Clindamycin 13 mg/kg IV q8h, max 600 mg/dose OR Vancomycin 15 mg/kg IV q6h, max 3.6 gm/day (covers MRSA; Pharmacy will manage upon admission to LPCH)	
Impetigo	Topical mupirocin TID x 5-10 days If numerous lesions or ecthyma, add oral cephalexin 25 mg/kg PO q8h, max 500 mg/dose	Alternative to cephalexin: Clindamycin 6.7 mg/kg PO q8h, max 400 mg/dose OR TMP- SMX 6 mg/kg (based on TMP component) PO q12h, max 160 mg TMP/dose (covers MRSA)	Up to 7 days

[a] If positive history of SSTI, review historical cultures for treatment considerations.

[b] Treatment failure: Worsening symptoms despite > 48 hours of appropriate antibiotic therapy

[c] MRSA risk factors: History of prior MRSA infection or carriage in patient or close/household contact, recurrent skin and soft tissue infections (SSTIs) in patient, known close/household contact with MRSA, use of IV drugs

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