SUMMARY

GOALS
- Early diagnosis and treatment
- Incision and drainage (I&D) if abscess present, with close follow-up (See Attachment A)
- Evidence based use of antibiotics
- Prompt referral of severe infections or necrotizing fasciitis to higher level of care

ALERTS
- Methicillin-resistant Staphylococcus Aureus (MRSA) is resistant to ALL Penicillins, and most Cephalosporins, Macrolides, and Quinolones
  - Methicillin-Sensitive Staphylococcus Aureus (MSSA) and MRSA resistance to Clindamycin is increasing
  - Consider local and institutional susceptibilities in antibiotic selection
- Closely monitor response to antibiotic therapy
- Human bites have high infection risk
- Spider bites rarely cause skin infections, think staph infection instead

DIAGNOSTIC CRITERIA/EVALUATION

The diagnosis of cellulitis, erysipelas, and skin abscess is usually based upon clinical manifestations. See page 5 for clinical descriptions. Treatment of Skin and Soft Tissue Infections (SSTIs) per the Infectious Disease Society of America (IDSA) is based on whether the infection is nonpurulent (cellulitis, erysipelas, necrotizing infections) OR purulent (draining cellulitis, abscess, carbuncles, furuncles); and the clinical severity of the infection (mild, moderate, severe).

Mild (Nonpurulent or Purulent) - No signs of systemic infection

Moderate (Nonpurulent or Purulent) - May have fever, but no other signs of Systemic Inflammatory Response Syndrome (SIRS)

Severe (Nonpurulent) - May be MRSA, if ↑ HR, ↑ RR ↓ BP or T > 38 °C or < 36 °C (SIRS) or immunocompromised, or signs/symptoms of deep infections (Bullae, skin sloughing, hypotension, organ dysfunction), or failed antibiotic treatment

Severe (Purulent) - May be MRSA, if ↑ HR, ↑ RR ↓ BP or T > 38 °C or < 36 °C (SIRS) or immunocompromised, or failed I&D and failed oral and parenteral antibiotic treatment

TREATMENT/MONITORING (SEE TREATMENT ALGORITHMS ON PAGES 2-3)

DIAGNOSIS
1. Nonpurulent Cellulitis, erysipelas - Mild
   - NONPURULENT TREATMENT/MONITORING LIKELY Organisms*: BHS; MSSA
     - Can typically be cared for in the institution
     - Oral Cephalexin OR Clindamycin (if severe beta-lactam allergy)
     - Recheck in 48-72 hours (See page 6)

2. Nonpurulent Cellulitis, erysipelas - Moderate
   - NONPURULENT TREATMENT/MONITORING LIKELY Organisms*: BHS; MSSA
     - Can manage at the institution with CLOSE follow-up
     - Start oral antibiotics: TMP/SMX or Doxycycline or Clindamycin; may consider IV antibiotics (See algorithm page 2)
     - Follow-up every 12-24 hours (See page 6)

3. Nonpurulent Cellulitis, erysipelas - Severe
   - NONPURULENT TREATMENT/MONITORING LIKELY Organisms*: BHS; MSSA
     - TRANSFER urgently to higher level of care (HLOC): Obtain at least one set of blood cultures while arranging transport.
• Give dose of IV antibiotics to cover both staph (Vancomycin 15–20 mg/kg) and gram negative organisms (e.g., piperacillin-tazobactam). (See page 6)

DIAGNOSIS
1. **Purulent** Cellulitis, erysipelas - Mild
   **PURULENT TREATMENT/MONITORING LIKELY Organisms**: BHS; MSSA, MRSA
   • Can typically be cared for in the institution
   • I&D any obvious abscess; start oral antibiotics TMP/SMX or Doxycycline or Clindamycin
   • Recheck in 48-72 hours. (See page 8)

2. **Purulent** Cellulitis, erysipelas - Moderate
   **PURULENT TREATMENT/MONITORING LIKELY Organisms**: BHS; MSSA, MRSA
   • Can manage at the institution with CLOSE follow-up
   • I&D any obvious abscess—send culture and sensitivity (C&S), start oral antibiotics TMP/SMX or Doxycycline or Clindamycin and **recheck in 12-24 hours** (See page 8); may consider IV antibiotics. (See algorithm page 3)

3. **Purulent** Cellulitis, erysipelas - Severe
   **PURULENT TREATMENT/MONITORING LIKELY Organisms**: BHS; MSSA, MRSA
   • **TRANSFER urgently to higher level of care (HLOC)**: Obtain at least one set of blood cultures while arranging transport.
   • Give dose of IV antibiotics to cover both staph (Vancomycin 15–20 mg/kg) and gram negative organisms (e.g., piperacillin-tazobactam). (See page 8)

DIAGNOSIS OTHER
Impetigo
**TREATMENT/MONITORING**
• Limited area: Mupirocin topical ointment; Extensive disease: Oral cephalexin or TMP/SMX or Doxycycline or Clindamycin
• Recheck in 48-72 hours. (See Other Infections on page 9)

Human Bite
**TREATMENT/MONITORING**
• Risk for serious bacterial infection. Start oral antibiotics with **CLOSE follow-up**. Recheck in 12-24 hours. (See Other Infections on page 9)

*Beta-Hemolytic Streptococci=BHS; METHACILLIN-SENSITIVE STAPH AUREUS=MSSA; METHICILLIN-RESISTANT STAPH AUREUS=MRSA
**If 2 doses are listed for a given agent, the higher one is for the patients with higher weights (e.g., > 120kg) or more severe illness.