Alaska Antimicrobial Stewardship Collaborative (A2SC) announces the Alaska specific ***Skin and Soft Tissue Infection Guidelines.*** These clinical guidelines are intended to aid in the selection of antimicrobial therapy for patients residing in Alaska who present with skin and soft tissue infection. Treatment guidelines available for the following Alaska care setting:

- Adult Inpatient Skin and Soft Tissue Infection
- Ambulatory Skin and Soft Tissue Infection

These guidelines will help Alaska physicians and pharmacists ensure patients receive the right antibiotic at the right time and only when necessary. As a companion to the guidelines the 2022 Alaska State Antibiogram is also available to help guide the best antibiotic choice.

Antibiotics save lives, but any time antibiotics are used, they can cause side effects and lead to antibiotic resistance. In U.S. doctors' offices and emergency departments, at least 47 million antibiotic prescriptions each year are unnecessary, which makes improving antibiotic prescribing and use a national priority.

About Alaska Antimicrobial Stewardship Collaborative

The Alaska Antimicrobial Stewardship Collaborative (A2SC) is an active partnership of hospitals and other health care stakeholders dedicated to developing innovative strategies to ensure appropriate antibiotic use. A2SC's goal is a simple one: all patients in Alaska will receive the right antibiotic at the right time and only when necessary.

The emergence of antibiotic-resistant bacteria caused by the misuse and overuse of antibiotics is pushing the healthcare industry to re-evaluate how medicine is practiced. Together we will accelerate positive changes to achieve this critical goal. For more information visit the A2SC webpage.

Alaska Antimicrobial Stewardship Collaborative
Adult Inpatient Skin and Soft Tissue Infection

Complicating Risk Factors

- Infected diabetic or vascular ulcer
- Critical illness
- Concern for necrotizing fasciitis
- Deep tissue infection
- Surgical site infection
- Injection drug use
- Human or animal bite
- Bacteremia
- Periorbital or orbital cellulitis
- Perineal/vulvar/perianal infection
- Pregnancy
- Unhoused

If complicating risk factors are present, treatment varies.
Consider ID consultation if available at local institution.

Diagnostic Studies

- Blood cultures if systemically ill or other immunosuppression
- X-ray only if concern for foreign body or necrotizing fasciitis
- Wound culture of purulent drainage
- **NOT** routinely indicated for initial management of uncomplicated disease:
  - ESR, CRP, Procalcitonin
  - Blood cultures
  - Wound swab/Superficial cultures, fungal or AFB cultures
  - X-ray, CT or MRI

Treatment Options

	Empiric Antibiotic Therapy	Oral Antibiotic Step-down Therapy	Duration
Uncomplicated Skin and Soft Tissue Infections			
Non-purulent cellulitis Common Pathogens: *Beta-hemolytic Streptococci sp.*	• **Cefazolin 2 gm IV q8hr** Beta-Lactam Allergy (Pick one): • **Clindamycin 600 mg IV q8hr OR** • **Linezolid 600 mg PO BID**	• **Amoxicillin 1000 mg PO TID OR** • **Cephalexin 1000 mg PO TID** Beta-Lactam Allergy (Pick one): • **Clindamycin 300 mg PO TID** • **Linezolid 600 mg PO BID**	5 days • 5 days is sufficient for well-drained abscess without surrounding cellulitis • Duration of therapy may be extended for severe or poorly responsive disease
Cutaneous abscess or Purulent cellulitis Common Pathogens: *Staphylococcus aureus*	• I&D (send purulent drainage for culture) • **Vancomycin IV per institution dosing**	Based on susceptibilities (pick one): • **TMP/SMX DS 1 tab PO BID±** • **Clindamycin 300 mg PO TID** • **Linezolid 600 mg PO BID** • **Doxycycline 100 mg PO BID**	
Complicated Skin and Soft Tissue Infections			
Human bite/Animal bite Common Pathogens: *Pasteurella sp* (cats, dogs), *Capnocytophaga spp.* (dogs), *Eikenella corrodens* (human), *Strep spp,* Anaerobes	• **Ampicillin/Sulbactam 3 gm IV q6hr** Beta-Lactam Allergy: • **Levofloxacin 750 mg IV/PO q24hr PLUS** • **Clindamycin 600 mg IV q8hr**	• **Amoxicillin/Clav 875/125 mg PO BID** Beta-Lactam Allergy: • **Levofloxacin 750 mg PO q24hr PLUS** • **Clindamycin 300 mg PO TID**	Prophylaxis with open wound: 3 to 5 days Infected: 7 to 14 days
Necrotizing Fasciitis (including Fournier's Gangrene) Common Pathogens: GAS, *Clostridium perfringens*, MRSA, *Vibrio vulnificus, Klebsiella spp.*	• Prompt surgical consultation • Consider ID consultation if available • **Vancomycin IV per institution dosing PLUS** • **Piperacillin/Tazobactam 4.5 gm IV q6hr PLUS** • **Clindamycin 900 mg IV q8hr**	To be determined based on organism identification/susceptibility	7+ days depending on clinical resolution
Surgical Site Infection Common Pathogens: Dependent on site of infection & geographic location of surgery	• I&D (send tissue/drainage for culture and gram stain) ○ Antimicrobial therapy to be determined by gram stain from I&D, location of surgical site infection & geographic location surgery took place		

± Caution using trimethoprim/sulfamethoxazole in patients with warfarin therapy, advance age, chronic kidney disease, and/or concomitant potassium elevating medications such as ACE inhibitors or ARBs.
Antibiotics with broad-spectrum gram-negative activity are NOT recommended except necrotizing fasciitis, and in most cases should be avoided.

*Approved 202**

Stevens DL, et al. Practice Guidelines for the Diagnosis and Management of SSTI: 2014 Update by IDSA. *CID*. 2014; 59(2):e10-e52.

Alaska Antimicrobial Stewardship Collaborative Ambulatory Skin and Soft Tissue Infection Guideline

Complicating Risk Factors

- Infected diabetic or vascular ulcer
- Deep tissue infection
- Surgical site infection
- Injection drug use
- Human or animal bite
- Periorbital or orbital cellulitis
- Perineal/vulvar/perianal infection
- Pregnancy
- Chronic liver disease/cirrhosis
- Unhoused

If complicating risk factors are present, treatment varies.
Consider ID consultation if available at local institution.

Diagnostic Studies

- Blood cultures if systemically ill or other immunosuppression
- X-ray only if concern for foreign body or necrotizing fasciitis
- Culture of purulent drainage/abscess

NOT routinely indicated for **initial management** of uncomplicated disease:

- ESR, CRP, Procalcitonin
- Blood cultures
- Wound swab/Superficial wound cultures, fungal or AFB cultures
- X-ray, CT or MRI

Treatment Options

	ADULT Antibiotic Therapy	PEDIATRIC Antibiotic Therapy	Duration
Uncomplicated Skin and Soft Tissue Infections			
Non-purulent cellulitis Common Pathogens: *Beta-hemolytic Streptococci sp.*	• **Amoxicillin 1000 mg PO TID OR** • **Cephalexin 1000 mg PO TID** Beta-Lactam Allergy (pick one): • **Clindamycin 300 mg PO TID** • **Linezolid 600 mg PO BID**	• **Amoxicillin 22.5 mg/kg PO BID** (max 2 gm/day) **OR** • **Cephalexin 17 mg/kg PO TID** (max 4 gm/day) Beta-Lactam Allergy (pick one): • **Clindamycin 10 mg/kg PO TID** (max 300 mg/dose) • **Linezolid** (<12 yo) **10 mg/kg PO TID** (max 600 mg/dose) • **Linezolid** (≥12 yo) **10 mg/kg PO BID** (max 600 mg/dose)	**Adults: 5 days** **Pediatrics: 7-14 days** • 5 days is sufficient for well-drained abscess without surrounding cellulitis • Duration of therapy *may be extended* for severe or poorly responsive disease
Cutaneous abscess or Purulent cellulitis→ I&D (send purulent drainage for culture) Common Pathogens: *Staphylococcus aureus*	• **TMP/SMX 800mg/160mg* PO BID** Pick one based on local susceptibilities and allergies: • **Doxycycline 100 mg PO BID** • **Clindamycin 300 mg PO TID** • **Linezolid 600 mg PO BID**	Pick one based on local susceptibilities and allergies: • **TMP/SMX age >2 months: 5 mg/kg TMP** PO BID (max 160mg TMP/dose) • **Clindamycin 10 mg/kg PO TID** (max 450mg/dose) • **Linezolid** (<12 yo) **10 mg/kg PO TID** (max 600 mg/dose) • **Linezolid** (≥12 yo) **10 mg/kg PO BID** (max 600 mg/dose)	
Complicated Skin and Soft Tissue Infections→ Consultation with infectious diseases physician or surgery should be considered if available at local institution			
Human bite/Animal bite Common Pathogens: *Pasteurella sp* (cats, dogs), *Capnocytophaga spp.* (dogs), *Eikenella corrodens* (human), *Streptococcus spp,* Anaerobes	• **Amoxicillin/Clav 875/125 mg PO BID** Beta-Lactam Allergy: • **Levofloxacin 750 mg PO daily PLUS Clindamycin 300 mg PO TID**	• **Amoxicillin/Clav 22.5 mg/kg PO BID** (max 875mg/dose) Beta-Lactam Allergy: • **Clindamycin 10 mg/kg PO TID** (max 300mg/dose) **PLUS TMP/SMX 5 mg/kg TMP PO BID** (max 160mg TMP/dose)	Prophylaxis with open wound: 3 to 5 days Infected: Typically 7-10 days, tailor duration by response
Fish hook/marine injury[3] Acute Presentation: Streptococci sp, Staphylococcus sp, *Vibrio vulnificus*	• **Amoxicillin/Clav 875 mg PO BID PLUS Doxycycline 100 mg PO BID** Beta-Lactam Allergy: • **Clindamycin 300 mg PO TID PLUS Doxycycline 100 mg PO BID**	• **Amoxicillin/Clav 22.5 mg/kg PO BID** (max 875mg/dose) **PLUS Doxycycline 2 mg/kg PO BID** (max 100mg/dose)¥ Beta-Lactam Allergy: • **Clindamycin 10 mg/kg PO TID** (max 450mg/dose) **PLUS Doxycycline 2 mg/kg PO BID** (max 100mg/dose)¥	Prophylaxis is not routinely recommended Infected: Typically 7-10 days, tailor duration by response
IVDU Abscess Do not use if tendon, deep hand, or face involvement	• See Cutaneous abscess or purulent cellulitis box for treatment options	• See cutaneous abscess or purulent cellulitis box for treatment options	Typically 7-10 days, tailor duration by response

*Caution using trimethoprim/sulfamethoxazole in patients with warfarin therapy, advance age, chronic kidney disease, and/or concomitant potassium elevating medications such as ACE inhibitors/ARBs.
¥ Children <8 years old, consider discussing with pediatric Infectious Diseases physician
Antibiotics with broad-spectrum gram-negative activity are **NOT recommended**, and in most cases **should be avoided**.

Approved *******

REFERENCES: 1. CID 2014:59 (15 July) Stevens et al. 2. JClin Microbiol. 2012 Dec; 50(12): 4067-4072. 3. J Travel Med 2014; 21: 207-213. 3. J Travel Med 2014; 21: 207-213. 4. The Sanford Guide to Antimicrobial Therapy. 2018. 54. 48th Ed.