

<p>Skin & soft tissue infection: may involve any or all layers of the skin, fascia & muscle</p> <ul style="list-style-type: none"> • Incidence unknown but there is an increasing frequency → invasive infections, drug-resistant infections • May spread from initial site of infection → complications (sepsis, endocarditis) 	<p>Predisposing factors for SSTIs</p> <ul style="list-style-type: none"> • High concentration of bacteria on skin (>10⁵ CFUs) • Excessive moisture • Inadequate blood supply • Availability of bacterial nutrients • Damage to skin layers allowing for bacterial penetration 	<p>Normal skin flora</p> <p>Gram +ve:</p> <ul style="list-style-type: none"> • CoNS • Micrococci • Corynebacterium spp (diphtheroids) • Propionibacterium <p>Gram -ve:</p> <ul style="list-style-type: none"> • Acinetobacter <p>Fungi</p> <ul style="list-style-type: none"> • Malassezia • Candida
<p>SSTI classifications</p> <ol style="list-style-type: none"> 1. Afebrile; otherwise healthy <i>Management: outpatient; oral/topical abx</i> 2. Febrile, ill appearing; no unstable co-morbidities <i>Management: oral/IV abx; outpatient/short hospitalization</i> 3. Toxic appearance; ≥ 1 co-morbidity <i>Management: hospitalization; IV abx</i> 4. Sepsis or life-threatening infection <i>Management: hospitalization (ICU); IV abx ± surgery</i> 	<p>Goals of therapy</p> <ul style="list-style-type: none"> • Rapid eradication of infection • Prevention of complications (sepsis, bone & joint infections) • Prevent/minimize adverse drug reactions 	

Impetigo: superficial skin infection

- Common in children or during hot & humid weather
- Transmitted from person-to-person
- Non-bullous & bullous forms

PATHOGENS: Staph aureus. Strep pyogenes

Mild x 5 days	Adult & Children	MRSA & MSSA	Mupirocin 2% topically to lesions BID
Mod-severe x 7 days	Adults	MRSA	<ul style="list-style-type: none"> • Cephalexin 250 mg PO QID • Cloxacillin 250 mg PO QID
		MSSA or Pen allergy	<ul style="list-style-type: none"> • Erythromycin 250 mg PO QID • Clindamycin 300 mg PO QID
	Children	MSSA	<ul style="list-style-type: none"> • Cephalexin 25-50 mg/kg/day PO DIV q6h • Avoid cloxacillin (taste)
		MRSA or Pen allergy	<ul style="list-style-type: none"> • Erythromycin 40 mg/kg/day PO DIV q6-8h • Clindamycin 20 mg/kg/day PO DIV TID (avoid due to taste)

Cellulitis: initially affects epidermis & dermis → may spread to superficial fascia → lymphatic system to blood

<p>Risk factors: IVDA, diabetes mellitus, wounds (minor trauma, abrasion, ulcer, surgical site), vascular insufficiency</p>	<p>PATHOGENS: Group A strep; Staph aureus; occasionally other gram +ve or gram -ve bacteria</p>										
<p>Sx: fever, chills, malaise, painful</p> <p>Signs: erythema & edema, non-elevated & poorly marginalized lesions, warm to touch, inflammation, tender lymphadenopathy</p> <p>Lab: blood and wound cultures</p>	<table border="1" style="width: 100%;"> <tr> <td rowspan="2">Mild – moderate x 7-10 days</td> <td>MSSA</td> <td> <ul style="list-style-type: none"> • Cloxacillin 500 mg PO QID • Cephalexin 500 mg PO QID </td> </tr> <tr> <td>MRSA or pen allergy</td> <td> <ul style="list-style-type: none"> • Clindamycin 150-300 mg PO TID </td> </tr> <tr> <td rowspan="2">Mod-severe x 10 days</td> <td>MRSA</td> <td> <ul style="list-style-type: none"> • Cloxacillin 1-2 g IV q6h • Cefazolin 1-2 g IV q8h </td> </tr> <tr> <td>MSSA or Pen allergy</td> <td> <ul style="list-style-type: none"> • Vancomycin 1 g IV q8-12 h (or 1 mg/kg IV q8-12h) • Clindamycin 600 mg IV q8h </td> </tr> </table>	Mild – moderate x 7-10 days	MSSA	<ul style="list-style-type: none"> • Cloxacillin 500 mg PO QID • Cephalexin 500 mg PO QID 	MRSA or pen allergy	<ul style="list-style-type: none"> • Clindamycin 150-300 mg PO TID 	Mod-severe x 10 days	MRSA	<ul style="list-style-type: none"> • Cloxacillin 1-2 g IV q6h • Cefazolin 1-2 g IV q8h 	MSSA or Pen allergy	<ul style="list-style-type: none"> • Vancomycin 1 g IV q8-12 h (or 1 mg/kg IV q8-12h) • Clindamycin 600 mg IV q8h
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Necrotizing fasciitis: life-threatening infection; moves into subcutaneous tissue → destruction of superficial fascia & subcutaneous fat

<p>Type 1</p> <ul style="list-style-type: none"> • After trauma and/or surgery • Slower spread of infection • Synergistic destruction of fat & fascia 	<p>Type 2</p> <ul style="list-style-type: none"> • Minor trauma or injury • Fast spread of infection • Necrosis of subcutaneous tissue & skin • Early onset shock & multi-organ failure • Mortality 20-50%
<p>PATHOGENS</p> <ul style="list-style-type: none"> • Streptococci • Enterobacteriaceae • Anaerobes (bacteriodes, peptostreptococcus) 	
<p>Virulent strain of Strep pyogenes</p>	
<p>SYMPTOMS: fever, chills, shock, pain</p>	
<p>SIGNS: affected area is hot, swollen, erythematous without sharp margins, shiny, very tender, swelling, bullae</p>	
<p>LAB TESTS: WBC + diff (left shift), surgical tissue samples, blood & tissue cultures</p>	
<p>TREATMENT</p>	
<ul style="list-style-type: none"> • Clindamycin 500 mg IV q8h and cefotaxime 2g IV q6h (or ceftriaxone 2g IV q12h) • Imipenem 1g IV q6h <p>x 10 – 14 days</p>	<ul style="list-style-type: none"> • Penicillin 4 MU IV q4h and Clindamycin 600 mg IV q8h <ul style="list-style-type: none"> ○ NOT synergistic or antagonistic ○ Penicillin: cell wall agent ○ Clindamycin: inhibits protein synthesis = INHIBITION OF EXOTOXIN PRODUCTION <p>x 10 – 14 days</p>

Bite wounds

Common bite wounds

- Dog bites: 80% of animal bites; 70% on extremities; infection rates: 10-20%
- Cat bites: 5-15% of animal bites; upper extremities; infection rates: 30-80%
- Human bites: bites or from blows to mouth (clenched fist injuries); more serious/prone to infection (infection complications: 10-50%); irrigate with water

Initiation of therapy

- Cat bites: “significant” (deep – to muscle/bone; over a joint; swollen; unable to adequately flush area; immunocompromised) w/in 12 h (high rate of infection)
- Dog & human bites: moderate/severe; crush injury/edema; >50 yo; puncture wounds; bone/joint involvement; injuries to hand, foot, face, genitalia; splenectomised or immunocompromised pt

PATHOGENS

- Animal: **Pasteurella multocida**; Staph aureus; Strept; Anaerobes
- Human: **Eikenella corrodens**; Staph aureus; Streptococci; Corynebacterium spp; Bacteroides spp; Peptostreptococcus spp

Prophylaxis drug therapy

Significant bites		Amoxicillin-clavulanate 500 mg PO TID or 875 mg PO BID
	Pen allergy	Doxycycline 100 mg PO BID
x 3-5 days		

Treatment: Irrigation & debridement + tetanus vaccine + drug therapy

Mild-moderate		Amoxicillin-clavulanate 500 mg PO TID or 875 mg PO BID
	Penicillin allergy	<ul style="list-style-type: none"> • Doxycycline 100 mg PO BID • Clindamycin 300 mg PO QID + ciprofloxacin 500 mg PO BID • Cefuroxime axetil 500 mg PO BID
Severe		<ul style="list-style-type: none"> • Piperacillin/tazobactam 3.375 g IV q6h • Imipenem 500 mg IV q6h (or meropenem)
x 7-10 days		
x 10-14 days		