Empiric Antibiotic Recommendations for Common Infections
Antimicrobial Stewardship Program

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Children's Healthcare of Atlanta

Treatment guidelines are not intended to replace clinical judgement. Recommendations are intended to be optimal for the majority of patients with these disease states. This document excludes NICU patients, immunocompromised, or children with multiple co-morbidities. Previous culture and susceptibility data should be used when making empiric antibiotic choices.

Bone and Joint Infections	Lower respiratory tract infections
Open fractures/Contaminated wounds Osteomyelitis, acute hematogenous Septic arthritis	Aspiration pneumonia (uncomplicated) Aspiration pneumonia (complicated) Community-acquired pneumonia (uncomplicated) Community-acquired pneumonia (complicated) Atypical pneumonia (*Mycoplasma pneumoniae*)
Central Nervous System Infections	**Skin and soft tissue infections**
Bacterial meningitis Brain abscess HSV encephalitis	Cellulitis (non-purulent) Abscess/Purulent infection Pilonidal cyst/peri-rectal abscess Bite wound Eczema herpeticum Lymphadenitis, acute bacterial Pyomyositis Staphylococcal scalded skin syndrome (SSSS)
HEENT	**Urinary Tract Infections**
Acute otitis media or acute bacterial rhinosinusitis Dental abscess Mastoiditis Orbital cellulitis (post-septal) Periorbital (pre-septal) Pott's puffy tumor Globe injury (including endophthalmitis) Group A Streptococcus pharyngitis Retropharyngeal abscess	Cystitis Pyelonephritis
Intra-abdominal infections	**Miscellaneous**
Appendicitis Cholangitis Clostridioides difficile colitis	Catheter-associated bloodstream infection (CLABSI) Tickborne illness Toxic shock syndrome

Diagnosis	Common Pathogens	Preferred Empiric Drug(s)	Alternative Drug(s) for B-lactam Allergy	Minimal Duration	Comments
Bone and Joint[1]					
Open fractures/ Contaminated wounds[2]	Polymicrobial	**Uncontaminated Type I and Type II:** Cefazolin 30 mg/kg/dose IV every 8 hours (max 2000 mg/dose) **OR** Cephalexin 30 mg/kg/dose PO every 8 hours (max 500 mg/dose)	**Uncontaminated Type I and Type II with Cephalosporin Allergy:** Clindamycin 13 mg/kg/dose PO/IV every 8 hours (max 600 mg/dose)	24 hours	Cefazolin and ceftriaxone are recommended in almost all patients with penicillin or amoxicillin allergies, due to low risk of cross-reactivity. Avoid cefazolin or ceftriaxone in patients with cephalosporin allergies.
		Uncontaminated Type III: Ceftriaxone 50 mg/kg IV (max 2000 mg/dose) every 24 hours	**Uncontaminated Type III Cephalosporin Allergy:** Clindamycin 13 mg/kg/dose PO/IV every 8 hours (max 600 mg/dose) **PLUS** Levofloxacin 10 mg/kg/dose PO/IV (max 750 mg/dose) 6 months – 4 years: twice daily ≥ 5 years: daily	24-72 hours	
		Soil Contaminated Type III: Ceftriaxone 50 mg/kg IV (max 2000 mg/dose) every 24 hours **PLUS** Metronidazole 30 mg/kg IV (max 1500 mg/dose) every 24 hours	**Soil Contaminated Type III with Cephalosporin Allergy:** Clindamycin 13 mg/kg/dose PO/IV every 8 hours (max 600 mg/dose) **PLUS** Levofloxacin 10 mg/kg/dose PO/IV (max 750 mg/dose) 6 months – 4 years: twice daily ≥ 5 years: daily **PLUS**		

Diagnosis	Common Pathogens	Preferred Empiric Drug(s)	Alternative Drug(s) for B-lactam Allergy	Minimal Duration	Comments
			Metronidazole 30 mg/kg IV (max 1500 mg/dose) every 24 hours		
Osteomyelitis, acute hematogenous[3,4]	MSSA, MRSA, *S. pyogenes*, *K. kingae* (Age < 4 years)	**Well-Appearing:** <4 years: Cefazolin 50 mg/kg IV every 8 hours (max 2000 mg/dose) **OR** Cephalexin 50 mg/kg/dose PO three times daily (max: 1000 mg/dose) >4 years: Clindamycin 13 mg/kg/dose PO/IV three times daily (max 600 mg/dose) **Ill-Appearing:** All ages: Cefazolin 50 mg/kg IV every 8 hours (max 2000 mg/dose) **PLUS** Vancomycin with Pharmacokinetic Consult (See Pharmacokinetic Policy for dosing recommendations)	**Cephalosporin Allergy:** Clindamycin* 13 mg/kg/dose PO/IV every 8 hours (max 600 mg/dose) *PO clindamycin is preferred due to high bioavailability for patients able to tolerate PO.	Uncomplicated: 3 weeks Complicated (bacteremia, slow resolution, operative drainage procedure): 4 weeks Severe infection (persistent bacteremia (>72 hours after appropriate antibiotics), multiple drainage/ debridement procedures): 4 weeks from negative cultures, up to 6 weeks	ID consult is recommended. In clinically stable patients, consider delaying antibiotics if bone biopsy is planned. Cefazolin is recommended in almost all patients with penicillin or amoxicillin allergies, due to low risk of cross-reactivity. Avoid cefazolin in patients with cephalosporin allergies.
Septic arthritis[4]	MSSA, MRSA, *S. pyogenes*, *S. pneumoniae*, *K. kingae* (Age < 4 years)	**Well-Appearing:** <4 years: Cefazolin 50 mg/kg IV every 8 hours (max 2000 mg/dose) >4 years: Clindamycin 13 mg/kg/dose PO/IV every 8 hours (max 600 mg/dose)	**Cephalosporin Allergy:** Clindamycin 13 mg/kg/dose PO/IV (max 600 mg/dose) every 8 hours	Uncomplicated: 2 weeks Complicated (bacteremia, slow resolution, multiple joint washout	ID consult is recommended.

Diagnosis	Common Pathogens	Preferred Empiric Drug(s)	Alternative Drug(s) for B-lactam Allergy	Minimal Duration	Comments
		Ill-Appearing: All ages: Cefazolin 50 mg/kg IV every 8 hours (max 2000 mg/dose) **PLUS** Vancomycin with Pharmacokinetic Consult (See Pharmacokinetic Policy for dosing recommendations		procedures, concern for adjacent osteomyelitis): 3 weeks	
Central Nervous System Infections[5,6]					
Bacterial meningitis in Neonates (less than 28 days of age)[7]	*E. coli* *S. agalactiae* (Group B *Streptococcus*) *Listeria monocytogenes*	Ampicillin <7 days PNA: 100 mg/kg/dose every 8 hours >8 days PNA: 75 mg/kg/dose every 6 hours **PLUS, EITHER:** Ceftazidime <7 days PNA: 50 mg/kg/dose every 12 hours >8 days PNA: 50 mg/kg/dose every 8 hours OR Ceftriaxone* 100 mg/kg/dose every 24 hours (SEE COMMENTS)		S. agalactiae: 14 days Listeria, Gram-negative rods: 21 days	*Neonatal patients may receive ceftriaxone under the following criteria[7]: 1. >14 days post-natal age 2. >37 weeks gestational age 3. Total bilirubin <5 mg/dL 4. Not receiving calcium-containing solutions (TPN, etc).
Bacterial meningitis (greater than 28 days of age)	*S. pneumoniae* *Hemophilus influenzae* *Neisseria meningitidis*	Ceftriaxone 50 mg/kg/dose (max: 2000 mg/dose) IV every 12 hours or 100 mg/kg/dose every 24 hours (max: 4000 mg/dose) **PLUS**	**Ceftriaxone Allergy:** Meropenem 40 mg/kg/dose (max 2000 mg/dose) every 8 hours **PLUS** Vancomycin with Pharmacokinetic Consult	Hemophilus, Neisseria: 7 days S. pneumoniae: 10 days	Vancomycin is recommended empirically to cover for ceftriaxone-resistant S. pneumoniae. May be discontinued when S. pneumoniae has been ruled out (ex: no pleocytosis on CSF analysis and S. pneumoniae PCR negative in CSF).

Diagnosis	Common Pathogens	Preferred Empiric Drug(s)	Alternative Drug(s) for B-lactam Allergy	Minimal Duration	Comments
		Vancomycin with Pharmacokinetic Consult (See Pharmacokinetic Policy for dosing recommendations)	(See Pharmacokinetic Policy for dosing recommendations)		Evaluate patient's vaccination history to help prevent recurrences (pneumococcus, Hib, etc.).
Brain abscess/subdural empyema	*S. anginosus* *S. aureus* (MSSA and MRSA) Anaerobes	Vancomycin with Pharmacokinetic Consult (See Pharmacokinetic Policy for dosing recommendations) **PLUS** Ceftriaxone 50 mg/kg/dose (max: 2000 mg/dose) IV every 12 hours or 100 mg/kg/dose every 24 hours (max: 4000 mg/dose) **PLUS** Metronidazole 10 mg/kg/dose PO/IV (max 500 mg/dose) every 8 hours		4 weeks Antibiotic duration may vary based on date and degree of source control.	ID consult is recommended.
HSV encephalitis	Herpes simplex virus	Acyclovir <4 months: 20 mg/kg/dose IV every 8 hours >4 months: 10 mg/kg/dose (max 1000 mg/dose) every 8 hours		21 days	ID consult is recommended.
HEENT					
Acute otitis media or acute bacterial rhinosinusitis[8-10]	*S. pneumoniae* *H. influenzae* *M. catarrhalis* *S. pyogenes*	**First-line < 30 kg:** Amoxicillin 45 mg/kg/dose PO twice daily (max 1000 mg/dose) **First-line > 30 kg:** Amoxicillin 1000 mg/dose twice daily **Second-line:** Amoxicillin-clavulanate ES 45 mg/kg/dose PO twice daily	**Amoxicillin allergy:** Cefdinir 7 mg/kg/dose PO (max 300 mg/dose) twice daily	< 2 years of age: 10 days ≥ 2 years of age: 5 days	Consider amoxicillin-clavulanate ES options in patients with AOM in the previous 30 days or with concomitant conjunctivitis. In patients who cannot tolerate PO therapy, ceftriaxone 50 mg/kg/dose IV (max 2000 mg/dose) once daily for 1-3 days sufficient to complete treatment for AOM.

Diagnosis	Common Pathogens	Preferred Empiric Drug(s)	Alternative Drug(s) for B-lactam Allergy	Minimal Duration	Comments
		(max 1800 mg amoxicillin/dose) using 14:1 ratio			
Dental abscess[11]	S. anginosus Viridans group Streptococcus Oral anaerobes	**First-line:** Amoxicillin 22.5 mg/kg/dose PO (max 875 mg/dose) twice daily **OR** Ampicillin 50 mg/kg/dose IV (max 2000 mg/dose) every 6 hours **If no improvement on amoxicillin >48 hours:** Ampicillin-sulbactam 50 mg/kg/dose IV every 6 hours (max 2000 mg ampicillin/dose) **OR** Amoxicillin-clavulanate 22.5 mg/kg/dose PO (max 875 mg amoxicillin/dose) twice daily	**Non-severe amoxicillin allergy:** Cephalexin 30 mg/kg/dose PO (max 500 mg/dose) three times daily **Severe/Anaphylactic amoxicillin allergy:** Clindamycin 13 mg/kg/dose PO/IV (max 600 mg/dose) three times daily **OR** Azithromycin 10 mg/kg/dose PO (max 500 mg/dose) once daily	3-5 days following source control with maximum of 7 days	
Mastoiditis [12]	*S. pneumoniae, Haemophilus* spp, *S. pyogenes,* MSSA, MRSA, anaerobes Chronic mastoiditis or recurrent AOM: *Pseudomonas* aeruginosa	**Acute mastoiditis:** Ceftriaxone 50 mg/kg/dose IV every 24 hours (max 2000 mg/dose) **OR** Ampicillin/sulbactam 50 mg/kg/dose ampicillin component IV every 6 hours (max: 2000 mg/dose) **OR** Amoxicillin-clavulanate ES 45 mg/kg/dose PO twice daily	**Severe/Anaphylactic amoxicillin allergy:** Clindamycin 13 mg/kg/dose PO/IV every 8 hours (max 600 mg/dose)	2 weeks for most patients. Consider up to 4 weeks depending on incomplete source control and intracranial extension.	ID consult is recommended.

Diagnosis	Common Pathogens	Preferred Empiric Drug(s)	Alternative Drug(s) for B-lactam Allergy	Minimal Duration	Comments
		(max 1800 mg amoxicillin/dose) using 14:1 ratio **<u>Chronic mastoiditis or recurrent AOM:</u>** Cefepime 50 mg/kg/dose IV every 8 hours (max 2000 mg/dose) **<u>If concerned for CNS involvement:</u>** Ceftriaxone 50 mg/kg/dose IV every 12 hours (max: 2000 mg/dose) or 100 mg/kg/dose every 24 hours (max: 4000 mg/dose) **PLUS** Vancomycin with Pharmacokinetic Consult (See Pharmacokinetic Policy for dosing recommendations)			
Orbital cellulitis (post-septal)[13,14]	*S. pneumoniae, Haemophilus* spp*, S. pyogenes,* MSSA, MRSA, oral anaerobes	Ampicillin/sulbactam 50 mg/kg/dose ampicillin component IV every 6 hours (max: 2000 mg/dose) **OR** Amoxicillin-clavulanate ES 45 mg/kg/ dose PO twice daily (max 1800 mg amoxicillin/dose) using 14:1 ratio **<u>If concerned for MRSA:</u>** Ampicillin/sulbactam 50 mg/kg/dose ampicillin component IV every 6 hours (max: 2000 mg/dose)	**<u>Non-severe penicillin allergy:</u>** Ceftriaxone 50 mg/kg IV every 24 hours **<u>Severe/Anaphylactic penicillin allergy or cephalosporin allergy:</u>** Clindamycin 13 mg/kg/dose PO/IV q8 (max 600 mg/dose)	10 – 14 days for uncomplicated infection with source control.	Consider ID consult if concerned for CNS involvement, bone infection, or incomplete source control.

Diagnosis	Common Pathogens	Preferred Empiric Drug(s)	Alternative Drug(s) for B-lactam Allergy	Minimal Duration	Comments
		PLUS Clindamycin* 13 mg/kg/dose PO/IV q8 (max 600 mg/dose) **<u>If concerned for CNS involvement:</u>** Ceftriaxone 50 mg/kg/dose (max: 2000 mg/dose) IV every 12 hours or 100 mg/kg/dose every 24 hours (max: 4000 mg/dose) **PLUS** Vancomycin* with Pharmacokinetic Consult (See Pharmacokinetic Policy for dosing recommendations) **PLUS** Metronidazole 10 mg/kg PO/IV every 8 hours (max: 500 mg) *Obtain MRSA PCR prior to starting anti-MRSA therapy			
Periorbital (pre-septal) cellulitis[15]	*S. pyogenes* If abscess or history of *S. aureus* infection: MSSA, MRSA	**<u>PO therapy (preferred if tolerating):</u>** Cephalexin 30 mg/kg/dose PO every 8 hours (max: 1000 mg/dose) **OR** Cefazolin 30 mg/kg IV every 8 hours (max 2000 mg/dose)	**<u>Allergy or concern for *S. aureus*:</u>** Clindamycin 13 mg/kg/dose PO/IV q8 (max 600 mg/dose)	5-7 days	Pre-septal cellulitis is more likely caused by skin flora as opposed to post-septal. Post-septal cellulitis is more likely to be caused by respiratory flora (see Orbital Cellulitis section above).
Pott's puffy tumor	*S. anginosus* *S. pyogenes* *S. aureus*	Vancomycin* with Pharmacokinetic Consult (See		4-6 weeks	ID consult strongly recommended.

Diagnosis	Common Pathogens	Preferred Empiric Drug(s)	Alternative Drug(s) for B-lactam Allergy	Minimal Duration	Comments
	Anaerobes	Pharmacokinetic Policy for dosing recommendations) **PLUS** Ceftriaxone 100 mg/kg/day divided 1-2 times daily (max 4g/day) **PLUS** Metronidazole 10 mg/kg/dose (max 500 mg/dose) every 8 hours *Obtain MRSA PCR prior to starting anti-MRSA therapy		Antibiotic duration may vary based on date and degree of source control.	
Globe injury[18]	*S. aureus* Coagulase-negative *Staphylococcus* spp. *Pseudomonas aeruginosa*	Vancomycin with Pharmacokinetic Consult (See Pharmacokinetic Policy for dosing recommendations) **PLUS** Ceftazidime 50 mg/kg/dose IV (max: 2000 mg/dose) every 8 hours	**Cephalosporin allergy or oral stepdown:** Levofloxacin <5 years: 10 mg/kg/dose PO (max 750 mg/dose) twice daily ≥ 5 years: 10 mg/kg/dose PO (max 750 mg/dose) once daily **PLUS** *Linezolid <12 years: 10 mg/kg/dose PO (max 600 mg/dose) three times a day >12 years: 10 mg/kg/dose PO (max 600 mg/dose) twice daily *Linezolid requires ID/Antimicrobial Stewardship approval for use.	7 days total (IV plus PO)	Urgent surgical evaluation is strongly recommended within 24 hours of presentation. IV antibiotics may be continued for at least 48 hours prior to switching to PO. Intravitreal antibiotics may be administered at surgery/ophthalmology discretion.

Diagnosis	Common Pathogens	Preferred Empiric Drug(s)	Alternative Drug(s) for B-lactam Allergy	Minimal Duration	Comments
Group A Streptococcus pharyngitis[19]	*S. pyogenes*	Amoxicillin 50 mg/kg/dose (max 1000 mg/dose) once daily x10 days	**Non-severe amoxicillin allergy:** Cephalexin 30 mg/kg/dose PO (max 500 mg/dose) three times daily **OR** Cefdinir 7 mg/kg/dose PO (max 300 mg/dose) twice daily **Severe/Anaphylactic amoxicillin allergy:** Clindamycin 13 mg/kg/dose PO/IV (max 600 mg) three times daily **OR** Azithromycin 10 mg/kg/dose PO (max 500 mg/dose) once daily for 3 days	10 days	
Retropharyngeal abscess[20]	*S. pyogenes* *S. anginosus* Oral anaerobes *S. aureus*	**Mild-Moderate illness:** Ampicillin/sulbactam 50 mg/kg/dose ampicillin component IV every 6 hours (max: 2000 mg/dose) **OR** Amoxicillin/clavulanate 22.5 mg/kg/dose PO (max 875 mg/dose) twice daily **Severe illness:** Ampicillin/sulbactam 50 mg/kg/dose ampicillin component IV every 6 hours (max: 2000 mg/dose) **PLUS**	**Allergy or concern for *S. aureus*:** Clindamycin 13 mg/kg/dose PO/IV q8 (max 600 mg/dose) **Severe illness with Allergy:** Vancomycin with Pharmacokinetic Consult (See Pharmacokinetic Policy for dosing recommendations) **PLUS** Ceftriaxone 50 mg/kg/dose IV every 24 hours (max 2000 mg/dose) **PLUS**	10-14 days, dependent upon source control.	

Diagnosis	Common Pathogens	Preferred Empiric Drug(s)	Alternative Drug(s) for B-lactam Allergy	Minimal Duration	Comments
		Vancomycin with Pharmacokinetic Consult (See Pharmacokinetic Policy for dosing recommendations)	Metronidazole 10 mg/kg/dose (max 500 mg/dose) every 8 hours		
Intra-abdominal infections[21]					
Appendicitis[22]	*E. coli* *Klebsiella spp.* *Proteus spp.* Gram negative anaerobes	Ceftriaxone 75 mg/kg/dose IV every 24 hours (max 2000 mg/dose) **PLUS** Metronidazole 30 mg/kg/dose IV (max 1500 mg/dose) every 24 hours	**Cephalosporin allergy:** Ciprofloxacin 10 mg/kg/dose IV (max 400 mg/dose) every 12 hours **PLUS** Metronidazole 30 mg/kg/dose IV (max 1500 mg/dose) **Metronidazole allergy:** Consult Infectious Disease or Antimicrobial Stewardship	Dependent upon severity and surgical source control.	Antibiotics should be tailored to culture and susceptibility results. Enteral transition is encouraged when able. Metronidazole 30 mg/kg should not be given orally due to intolerance. Consider 10-15 mg/kg/dose twice daily (max 500 mg/dose) when transitioning to PO, in combination with other antibiotics.
Cholangitis	*E. coli* *Klebsiella spp.* *Proteus spp.* Gram negative anaerobes	Ceftriaxone 75 mg/kg/dose IV every 24 hours (max 2000 mg/dose) **PLUS** Metronidazole 10 mg/kg/dose IV (max 500 mg/dose) every 24 hours	**Non-severe cephalosporin allergy or metronidazole allergy:** Piperacillin-tazobactam 100 mg/kg/dose piperacillin component (max 4000 mg/dose) IV every 6 hours **Severe cephalosporin allergy:** Ciprofloxacin 10 mg/kg/dose IV (max 400 mg/dose) every 12 hours **PLUS** Metronidazole 10 mg/kg/dose IV (max 500 mg/dose)	Dependent upon severity and surgical source control. Typically, 7-14 days.	Antibiotics should be tailored to culture and susceptibility results. Enteral transition is encouraged when able.
Clostridioides difficile colitis[23-25]	*C. difficile*	**First-line in patients who have not previously received oral vancomycin:**	**Second episode:**	10 days	Recommend ID consult for guidance in patients with recurrent C. difficile.

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		Vancomycin 10 mg/kg/dose PO (max 125 mg/dose) four times daily **OR** Metronidazole* 7.5 mg/kg/dose PO (max 500 mg/dose) three times daily *Metronidazole should only be used for non-severe cases in settings where vancomycin is unavailable.	**Fidaxomicin 16 mg/kg/dose (max 200 mg/dose) twice daily **OR** Vancomycin Pulse Taper Regimen **Fidaxomicin requires Infectious Diseases, Antimicrobial Stewardship, or Gastroenterology approval.		
Lower respiratory tract infections[26]					
Aspiration pneumonia, (uncomplicated)	*S pneumoniae* *H. influenzae*	Ampicillin 50 mg/kg/dose IV every 6 hours (max 2000 mg/dose) every 24 hours **If not fully immunized *(S. pneumoniae, H. influenzae):*** Ceftriaxone 50 mg/kg/dose IV every 24 hours (max 2000 mg/dose)	**Ampicillin allergy:** Ceftriaxone 50 mg/kg/dose every 24 hours (max 2000 mg/dose) **Cephalosporin allergy:** Clindamycin 13 mg/kg/dose IV three times daily (max 600 mg/dose)	5 days	Aspiration of oral contents may cause chemical irritation known as aspiration pneumonitis. Antibiotics are only indicated in patients with respiratory distress, signs/symptoms of infection (i.e. fever), and radiographic changes consistent with pneumonia.
Aspiration pneumonia (complicated) Presence of lung abscess, empyema, or necrotizing pneumonia.	*S. pneumoniae* *H. influenzae* Oral anaerobes	Ampicillin-sulbactam 50 mg/kg/dose ampicillin component (max 2 gm/dose) IV every 6 hours	Ceftriaxone 75 mg/kg/dose IV every 24 hours (max 2000 mg/dose) **PLUS** Clindamycin 13 mg/kg/dose IV three times daily (max 600 mg/dose)	7 from source control or resolution of fever	Empiric anaerobic coverage for aspiration pneumonia is associated with adverse events with no improvement in outcomes. Consider anaerobic coverage only in the setting of empyema, lung abscess, or necrotizing pneumonia.
Community-acquired pneumonia (uncomplicated)	*S pneumoniae* *H. influenzae* *M. catarrhalis* Respiratory viruses	**If <30 kg:** Amoxicillin 45 mg/kg/dose PO twice daily (max 1000 mg/dose) **If ≥30 kg:** Amoxicillin 1000 mg/dose three times daily	Clindamycin 13 mg/kg/dose PO/IV three times daily (max 600 mg/dose)	5 days	

Diagnosis	Common Pathogens	Preferred Empiric Drug(s)	Alternative Drug(s) for B-lactam Allergy	Minimal Duration	Comments
		OR - if patient cannot tolerate enteral administration Ampicillin 50 mg/kg/dose IV every 6 hours (max 2000 mg/dose) every 24 hours **<u>If not fully immunized *(S. pneumoniae, H. influenzae):*</u>** Ceftriaxone 50 mg/kg/dose IV every 24 hours (max 2000 mg/dose) **OR** Amoxicillin-clavulanate ES 45 mg/kg/ dose PO twice daily (max 1800 mg amoxicillin/dose) using 14:1 ratio			
Community-acquired pneumonia (complicated) Presence of pleural effusion, empyema, abscess, or necrotizing pneumonia.	*S pneumoniae* *S pyogenes* *MSSA* *MRSA*	**<u>Moderate illness:</u>** Ceftriaxone 75 mg/kg/dose IV every 24 hours (max 2000 mg/dose) **<u>SEVERE ILLNESS OR SEPTIC SHOCK:</u>** Ceftriaxone 75 mg/kg/dose IV every 24 (max 2000 mg/dose) **PLUS** Clindamycin* 13 mg/kg/dose PO/IV three times daily (max 600 mg/dose) **OR** Vancomycin* with Pharmacokinetic Consult (See	<u>Levofloxacin</u> <5 years: 10 mg/kg/dose PO/IV (max 750 mg/dose) twice daily <u>≥</u> 5 years: 10 mg/kg/dose PO/IV (max 750 mg/dose) once daily **<u>SEVERE ILLNESS OR SEPTIC SHOCK:</u>** Levofloxacin (dose above) **PLUS** Clindamycin* 13 mg/kg/dose PO/IV three times daily (max 600 mg/dose) **OR**	Small pleural effusion (no chest tube): 7 days Large pleural effusion or empyema: 7 days from drainage or resolution of fever in undrained effusions Necrotizing PNA or abscess: 14-21 days	Consider ID consult for large pleural effusion, empyema, or necrotizing PNA.

Diagnosis	Common Pathogens	Preferred Empiric Drug(s)	Alternative Drug(s) for B-lactam Allergy	Minimal Duration	Comments
		Pharmacokinetic Policy for dosing recommendations) *Obtain MRSA PCR prior to starting anti-MRSA therapy	Vancomycin* with Pharmacokinetic Consult (See Pharmacokinetic Policy for dosing recommendations *Obtain MRSA PCR prior to starting anti-MRSA therapy		
Atypical pneumonia[26] (*Mycoplasma pneumoniae)*	*Mycoplasma pneumoniae*	Azithromycin 10 mg/kg/dose PO/IV daily x 3 days (max 500 mg/dose) Alternative dosing (not preferred): Azithromycin 10 mg/kg/dose PO/IV daily x 1 dose (max 500 mg/dose) followed by 5 mg/kg/dose PO daily on days 2-5 (max 250 mg/dose)	**Alternative:** Levofloxacin <5 years: 10 mg/kg/dose PO/IV (max 750 mg/dose) twice daily ≥5 years: 10 mg/kg/dose PO/IV (max 750 mg/dose) once daily **OR** Doxycycline 2.2 mg/kg/dose (max 100 mg/dose) PO twice daily	3 days (high-dose regimen) 5 days (standard-dose azithromycin or an alternative)	Levofloxacin or doxycycline may be used in cases of azithromycin allergy or concern for azithromycin-resistant Mycoplasma.
Skin and soft tissue infections[27]					
Cellulitis (non-purulent)	*S. pyogenes* Other B-hemolytic *Streptococcus* spp MSSA	Cephalexin 30 mg/kg/dose (max 500 mg/dose) three times per day **OR** Cefazolin 30 mg/kg/dose (max 2000 mg/dose) every 8 hours	Clindamycin 13 mg/kg/dose PO (max 600 mg/dose) three times per day	5 days Duration should not be dependent upon the resolution of erythema alone.	Consider enteral therapy upfront if able to tolerate. Routine blood cultures, superficial skin swabs, or skin biopsies are not recommended due to low yield. Anti-MRSA coverage is not routinely indicated unless history of MRSA colonization, penetrating injuries/large open wounds, toxic appearance, or necrotizing infection. If necrotizing fasciitis, duration of therapy is dependent on surgical debridement/source control. Recommend ID consult if concern for necrotizing infection.

Diagnosis	Common Pathogens	Preferred Empiric Drug(s)	Alternative Drug(s) for B-lactam Allergy	Minimal Duration	Comments
Skin abscess/purulent wound	MRSA MSSA *S. pyogenes*	Clindamycin 13 mg/kg/dose (max 600 mg/dose) PO three times per day **OR** TMP-SMX 6 mg/kg/dose trimethoprim component (max 160 mg TMP/dose) PO twice daily	Doxycycline 2.2 mg/kg/dose (max 100 mg/dose) PO twice daily	5-7 days May extend to 10 days if slow clinical improvement.	Consider enteral therapy upfront if able to tolerate. Incision and drainage (I&D) are recommended if applicable. Sending purulent material for culture and susceptibility is recommended.
Pilonidal cyst/peri-rectal abscess	Often polymicrobial Most common: *E. coli* *Bacteroides* spp. *Enterococcus faecalis* *S. aureus*	Amoxicillin-clavulanate 22.5 mg amoxicillin/kg/dose (max 875-125 mg/dose) PO twice daily **OR** Ampicillin-sulbactam 50 mg/kg/dose ampicillin component (max 2 gm/dose) IV every 6 hours	Cefdinir 7 mg/kg/dose PO (max 300 mg/dose) twice daily **PLUS** Metronidazole 10 mg/kg/dose PO (max 500 mg/dose) twice daily		
Bite wound	*Pasteurella multocida* *Streptococcus* spp MRSA/MSSA *Capnocytophaga canimorsum* *Eikenella corrodens* (human bites) Oral anaerobes	Amoxicillin-clavulanate 22.5 mg/kg/dose (max 875-125 mg/dose) PO twice daily Amoxicillin-clavulanate 7:1 formulation is preferred, do not use Augmentin ES for bite wounds. **OR** Ampicillin-sulbactam 50 mg/kg/dose ampicillin component (max 2 gm/dose) IV every 6 hours	**Oral (preferred):** Clindamycin 13 mg/kg/dose PO three times per day **PLUS EITHER:** TMP-SMX 6 mg/kg/dose trimethoprim component PO (max 160 mg trimethoprim) twice daily **OR** Cefdinir 7 mg/kg (max 300 mg/dose) PO twice daily **OR** Ciprofloxacin 10 mg/kg/dose PO twice daily (max 500 mg/dose)	Prophylaxis*: 3 days Treatment: 5-7 days	Consider amoxicillin de-labeling in patients with remote history of penicillin allergy. *Consider prophylaxis for non-infectious-appearing wound if: -Severe wound with edema or crush injury -Puncture wound, especially to bone or joint capsule -Bite injury to face, hands, feet, or genitals - immune compromise or asplenia

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			IV (if unable to tolerate oral): Ceftriaxone 50 mg/kg/dose (max 2000 mg/dose) every 24 hours **PLUS** Clindamycin 13 mg/kg/dose (max 900 mg/dose) IV every 8 hours		
Staphylococcal scalded skin syndrome (SSSS)[28-30]	MSSA	Cefazolin 50 mg/kg IV (max 2000 mg/dose) every 8 hours **OR** Cephalexin 50 mg/kg/dose PO (max 1000 mg/dose) three times daily	**Cephalexin allergy or severe amoxicillin allergy:** Clindamycin 13 mg/kg PO/IV (max 600 mg) every 8 hours	5-7 days	Addition of clindamycin for toxin-mediated suppression is not routinely recommended unless necrotizing fasciitis or toxic shock syndrome. If added, clindamycin should be discontinued after 72 hours and clinical improvement.
Pyomyositis	Group A *Streptococcus* MSSA MRSA	Clindamycin 13 mg/kg/dose PO/IV (max 600 mg/dose) **If severe, rapidly progressing, or history of MRSA:** Vancomycin with Pharmacokinetic Consult (See Pharmacokinetic Policy for Dosing Recommendations)		10-14 days with adequate source control.	
Lymphadenitis, acute bacterial[31]	Group A *Streptococcus* MSSA MRSA	Cephalexin 30 mg/kg/dose PO (max 1000 mg/dose) three times daily **OR** Cefazolin 30 mg/kg IV (max 2000 mg/dose) every 8 hours	**Cephalexin allergy or severe amoxicillin allergy:** Clindamycin 13 mg/kg/dose PO (max 600 mg/dose) three times daily **OR** TMP/SMX 6 mg/kg/dose trimethoprim component PO	7 days	

Diagnosis	Common Pathogens	Preferred Empiric Drug(s)	Alternative Drug(s) for B-lactam Allergy	Minimal Duration	Comments
			twice daily (max 800/160 mg TMP per dose)		
Eczema herpeticum[32]	Herpes simplex virus	**Initial therapy or <2 years:** Acyclovir 10 mg/kg/dose IV every 8 hours Transition to enteral therapy as quickly as possible is recommended to minimize the risk of peripheral IV extravasation. **Step-down therapy if >2 years:** Acyclovir 20 mg/kg/dose PO (max 800 mg/dose) four times daily **OR** Valacyclovir 20 mg/kg/dose (max 1000 mg/dose) twice daily		10 days	Oral valacyclovir suspension is difficult to obtain outpatient. Compounded liquid must be sent to a compounding pharmacy.
Urinary Tract Infections (UTI)[33]					
Uncomplicated Cystitis	*E. coli* *Klebsiella spp.* *Proteus mirabilis* *Enterococcus faecalis*	**First line:** Cephalexin 30 mg/kg/dose PO twice daily (max 500 mg/dose) **OR** *Nitrofurantoin 1.5 mg/kg/dose PO four times daily (max 100 mg/dose) **Uncomplicated cystitis only*	**Allergy or resistance to first-line agents:** TMP-SMX 6 mg trimethoprim/kg/dose PO twice daily (max 160 mg trimethoprim/dose)	Patients > 2 months 3 – 5 days Patients <2 months should be treated as if pyelonephritis.	Uncomplicated cystitis includes patients WITHOUT urological abnormalities, history of kidney transplant, or urinary catheterization. Empiric antibiotics should be selected based on history if possible.
Pyelonephritis/complicated UTI	*E coli* *Klebsiella spp.* *Proteus mirabilis* *E faecalis*	Ceftriaxone 50 mg/kg/dose IV every 24 hours (max 2000 mg/dose) **Preferred oral options:**	**Amoxicillin allergy:** TMP-SMX 6 mg trimethoprim/kg/dose PO twice daily (max 160 mg trimethoprim/dose)	5-7 days	Empiric antibiotics should be selected based on history if possible.

Diagnosis	Common Pathogens	Preferred Empiric Drug(s)	Alternative Drug(s) for B-lactam Allergy	Minimal Duration	Comments
		Cephalexin 30 mg/kg/dose PO three times daily (max 1000 mg/dose) **OR** Amoxicillin-clavulanate* 15 mg/kg/dose PO three times daily (max 500 mg/dose) *Amoxicillin-clavulanate 7:1 formulation is preferred, do NOT use Augmentin ES	**OR** **Last line:** Ciprofloxacin 10 mg/kg/dose PO twice daily (max 500 mg/dose)		
Miscellaneous					
Community-onset catheter-associated bloodstream infection (CLABSI)[34]	MSSA, MRSA, Coagulase-negative *Staphylococcus* (CoNS), Enteric Gram-negative bacilli (*E coli, Klebsiella*, etc.)	Cefepime 50 mg/kg IV every 8 hours (max 2000 mg/dose) **If ill-appearing/septic:** Add Vancomycin with Pharmacokinetic Consult (See Pharmacokinetic Policy for dosing recommendations)		Duration depends upon line retention, organism, and clinical status.	Recommend ID consult for persistent bacteremia.
Tickborne illness[35]	*Ehrlichia, Rickettsia*	Doxycycline 2.2 mg/kg/dose PO twice daily (max 100 mg/dose)		7 – 14 days	Duration may be longer if disseminated disease (carditis, encephalitis, etc.). ID consult is recommended, especially in disseminated disease.
Toxic shock syndrome[36]	*S. pyogenes, S aureus*	Ceftriaxone 75 mg/kg/dose (max: 2000 mg/dose) IV every 24 hours **PLUS** Clindamycin 13 mg/kg/dose IV every 8 hours (max: 600 mg/dose) **PLUS** Vancomycin with Pharmacokinetic Consult (See	**Alternative:** Ceftriaxone 75 mg/kg/dose (max: 2000 mg/dose) IV every 24 hours **PLUS** *Linezolid <12 years: 10 mg/kg/dose PO/IV (max 600 mg/dose) three times a day	Duration depends on clinical status and should be decided on a case-by-case basis.	Recommend ID consult.

Diagnosis	Common Pathogens	Preferred Empiric Drug(s)	Alternative Drug(s) for B-lactam Allergy	Minimal Duration	Comments
		Pharmacokinetic Policy for dosing recommendations)	>12 years: 10 mg/kg/dose PO/IV (max 600 mg/dose) twice daily *Linezolid requires ID/Antimicrobial Stewardship approval for use.		

Diagnosis	Common Pathogens	Preferred Empiric Drug(s)	Alternative Drug(s) for B-lactam Allergy	Minimal Duration	Comments

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