

Norton Children's Hospital Emergency Department Antimicrobial Guidelines

Diagnosis	Common Pathogens	Outpatient preferred and alternative agents and duration
Respiratory Tract		
Acute Otitis Media	<i>Streptococcus pneumoniae</i> , <i>Haemophilus influenzae</i> , and <i>Moraxella catarrhalis</i>	<p>1st Line Treatment</p> <ul style="list-style-type: none"> Amoxicillin: 80-90 mg/kg/day divided BID (max: 4,000 mg/day) <p>Alternate Treatment</p> <ul style="list-style-type: none"> Amoxicillin-Clavulanate (600mg-42.9mg/ 5mL): 80-90 mg/kg/day divided BID (max: 4,000 mg/day) Cefdinir: 14 mg/kg/day divided BID (max: 600 mg/day) Ceftriaxone: 50 mg/kg/day (max: 1,000mg) for 1 to 3 days <ul style="list-style-type: none"> Single dose of ceftriaxone is effective for uncomplicated otitis media. Three doses of Ceftriaxone are recommended for treatment failure. <p>Duration</p> <ul style="list-style-type: none"> <2 years: 10 days 2-5 years: 7 days ≥6 years old: 5 days
Acute Sinusitis	<i>Streptococcus pneumoniae</i> , <i>Haemophilus influenzae</i> , <i>Moraxella catarrhalis</i> , Group A Streptococcus	<p>1st Line Treatment</p> <ul style="list-style-type: none"> Amoxicillin: 80-90 mg/kg/day divided BID (max: 4,000 mg/day) <p>Alternate Treatment</p> <ul style="list-style-type: none"> Amoxicillin-Clavulanate (600mg-42.9mg/ 5mL): 80-90 mg/kg/day divided BID (max: 4,000 mg/day) Cefdinir: 14 mg/kg/day divided BID (max: 600 mg/day) <p>Duration: 5 to 7 days</p>
Chronic Sinusitis	<i>Streptococcus pneumoniae</i> , <i>Haemophilus influenzae</i> , <i>Moraxella catarrhalis</i> , Group A Streptococcus, <i>Pseudomonas aeruginosa</i> , MSSA or MRSA, Anaerobes	<p>1st Line Treatment</p> <ul style="list-style-type: none"> Amoxicillin-Clavulanate (600mg-42.9mg/ 5mL): 80-90 mg/kg/day divided BID (max: 4,000 mg/day) <p>Alternate Treatment</p> <ul style="list-style-type: none"> Levofloxacin: 10-20mg/kg/day divided BID or QD (max: 500mg/day) Clindamycin: 30-40 mg/kg/day divided TID (max: 1,800 mg/day) + Ciprofloxacin: 20-40mg/kg/day divided BID (max: 1,500 mg/day) <p>Duration: 7 to 10 days</p>
Pharyngitis	Group A Streptococcus	<p>1st Line Treatment</p> <ul style="list-style-type: none"> Amoxicillin: 50mg/kg once a day or divided BID (max: 1,000 mg/day) <p>Alternate Treatment</p> <ul style="list-style-type: none"> Cephalexin: 40mg/kg/day divided BID (max: 500 mg/dose) Clindamycin: 21 mg/kg/day divided TID (max: 300 mg/dose) <p>Duration: 10 days</p>

Respiratory Continued		
Pre-Septal Cellulitis	<i>Staphylococcus aureus</i> , <i>Streptococcus pyogenes</i> , <i>Haemophilus influenzae</i> , Anaerobes	<p>1st Line Treatment</p> <ul style="list-style-type: none"> Amoxicillin-Clavulanate (600mg-42.9mg/ 5mL): 80-90 mg/kg/day divided BID (max: 4,000 mg/day) <p>Alternate Treatment</p> <ul style="list-style-type: none"> Clindamycin: 30 -40 mg/kg/day divided TID (max: 1,800 mg/day) <p>Duration: 5 to 10 days</p>
Tonsillar or Para-Pharyngeal Abscess	Group A Streptococcus, Oral Anaerobes, Polymicrobial	<p>1st Line Treatment</p> <ul style="list-style-type: none"> Amoxicillin-Clavulanate (600mg-42.9mg/ 5mL): 80-90 mg/kg/day divided BID (max: 4,000 mg/day) <p>Alternate Treatment</p> <ul style="list-style-type: none"> Clindamycin: 30-40 mg/kg/day divided TID (max: 1,800 mg/day) <p>Duration: 10 to 14 days</p>
Pneumonia		
CAP	<i>Streptococcus pneumoniae</i> , <i>Haemophilus influenzae</i> , MRSA or MSSA, Group A Streptococcus	<p>1st Line Treatment</p> <ul style="list-style-type: none"> Amoxicillin: 80-90 mg/kg/day divided BID (max: 4,000 mg/day) or 90 mg/kg/day divided TID (max: 3,000mg/day) <p>Alternate Treatment</p> <ul style="list-style-type: none"> Amoxicillin-Clavulanate <ul style="list-style-type: none"> 600mg-42.9mg/ 5mL oral suspension: 80-90 mg/kg/day divided BID (max: 4,000 mg/day) or 90 mg/kg/day divided TID (max: 3,000mg/day) 875/125 mg tablet: 80-90 mg/kg/day divided BID (max: 875 mg/dose) or 80-90 mg/kg/day divided TID (max: 875 mg/dose) 1000/62.5 mg ER tablet: 80-90 mg/kg/day divided BID (max: 4,000 mg/day) or 90 mg/kg/day divided TID (max: 3,000mg/day) <ul style="list-style-type: none"> *** Requires PA *** Levofloxacin <ul style="list-style-type: none"> ≥6 months to <5 years: 16-20 mg/kg/day divided BID (max:750mg/day) ≥5 years: 8-10 mg/kg once a day (max:750 mg/day) <ul style="list-style-type: none"> *** Levofloxacin oral solution often requires a PA, please utilize tablets that can be crushed whenever possible *** If able to round doses to tablet size/adult sized patients: <ul style="list-style-type: none"> Cefpodoxime 10 mg/kg/day PO divided BID (max: 400 mg/day) Cefuroxime 30 mg/kg/day PO divided BID (max: 1000 mg/day) <ul style="list-style-type: none"> *** Please confirm availability at Norton Outpatient Pharmacy prior to sending prescription *** <p>Duration: 5-7 days</p>

Pneumonia Continues		
	<i>Mycoplasma pneumoniae, Chlamydia pneumoniae</i>	<p>1st Line Treatment</p> <ul style="list-style-type: none"> Azithromycin: 10mg/kg once on Day 1 (max: 500 mg/dose), followed by 5mg/kg (max: 250 mg/dose) once daily on Days 2 to 5 <p>Alternate Treatment</p> <ul style="list-style-type: none"> Doxycycline: 4 mg/kg/day divided BID for 10 days (max: 100 mg/<u>dose</u>)
Skin, Soft Tissue, and Musculoskeletal		
Cellulitis	MSSA or MRSA, Group A streptococcus	<p>1st Line Treatment</p> <ul style="list-style-type: none"> Purulent <ul style="list-style-type: none"> Clindamycin: 30-40 mg/kg/day divided TID (max: 1,800mg/day) Non- Purulent <ul style="list-style-type: none"> Cephalexin: 75mg/kg/day divided TID (max: 500mg/dose) <p>Alternate Treatment</p> <ul style="list-style-type: none"> Bactrim: 8-12 mg TMP/kg/day divided BID (max: 320 mg/<u>dose</u>) + Cephalexin: 50-75 mg/kg/day divided TID (max: 500 mg/<u>dose</u>) <p>Duration: 5 to 7 days</p>
Impetigo	MSSA or MRSA, Group A streptococcus	<p>1st Line Treatment</p> <ul style="list-style-type: none"> Topical 2% mupirocin: Apply BID or TID for 5 days <p>Alternate Treatment</p> <ul style="list-style-type: none"> Cephalexin: 50-75 mg/kg/day divided TID (max: 500 mg/<u>dose</u>) Clindamycin: 30-40 mg/kg/day divided TID (max: 1,800 mg/day) <p>Duration: 7 days</p>
Skin Abscess	MSSA or MRSA	<p>1st Line Treatment</p> <ul style="list-style-type: none"> Clindamycin: 30-40 mg/kg/day divided TID (max: 1,800 mg/day) <p>Alternate Treatment</p> <ul style="list-style-type: none"> Bactrim: 8-12 mg TMP/kg/day divided BID (max: 320mg/<u>dose</u>) <p>Duration: 5 to 7 days</p>
Human Bite	<i>Eikenella corrodens</i> , Oral Anaerobes, Polymicrobial	<p>1st Line Treatment</p> <ul style="list-style-type: none"> Amoxicillin- Clavulanate (400mg-57mg/ 5mL): 50 mg/kg/day divided BID (max: 875mg/<u>dose</u>) <p>Alternate Treatment</p> <ul style="list-style-type: none"> Clindamycin: 30 -40mg/kg/day divided TID (max: 1,800 mg/day) +Bactrim: 8-12 mg of TMP/kg/day divided BID (Max: 160mg/<u>dose</u>) <p>Duration:</p> <ul style="list-style-type: none"> Prophylaxis: 3 to 5 days Treatment: 7 to 14 days

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Skin, Soft Tissue, and Musculoskeletal Continued

Animal Bite	<i>Eikenella corrodens</i> , Oral Anaerobes, Polymicrobial, <i>Pasteurella Multocida</i>	<p>1st Line Treatment</p> <ul style="list-style-type: none"> Amoxicillin- Clavulanate (400mg-57mg/ 5mL): 50 mg/kg/day divided BID (max: 875/dose) <p>Alternate Treatment</p> <ul style="list-style-type: none"> Clindamycin: 30 -40 mg/kg/day divided TID (max: 1,800 mg/day) +Bactrim: 8-12 mg of TMP/kg divided BID (Max: 160mg/dose) <p>Duration</p> <ul style="list-style-type: none"> Prophylaxis: 3 to 5 days Treatment: 7 to 14 days
Lymphadenitis	MSSA or MRSA, Group A Streptococcus	<p>1st Line Treatment</p> <ul style="list-style-type: none"> Amoxicillin- Clavulanate (400mg-57mg/ 5mL): 50 mg/kg/day divided BID (max: 875mg/dose) Clindamycin: 30 -40 mg/kg/day divided TID (max: 1,800 mg/day) <p>Duration: 5 to 7 days</p>
Puncture Wound of the Foot	MSSA or MRSA, Group A Streptococcus, <i>Pseudomonas aeruginosa</i>	<p>1st Line Treatment</p> <ul style="list-style-type: none"> Levofloxacin <ul style="list-style-type: none"> ≥6 months to <5 years: 16-20 mg/kg/day divided BID (max:750 mg/day) ≥5 years: 8-10 mg/kg once a day (max:750 mg/day) <p>Alternate Treatment</p> <ul style="list-style-type: none"> Clindamycin: 30-40 mg/kg/day divided TID (max: 1,800 mg/day) + Ciprofloxacin: 20-40 mg/kg/day divided BID (max: 1,500 mg/day) <p>Duration:</p> <ul style="list-style-type: none"> Prophylaxis: 3 to 5 days Treatment: 7 to 10 days
Odontogenic Infection	Oral flora	<p>1st Line Treatment</p> <ul style="list-style-type: none"> Amoxicillin: 50 mg/kg/day divided TID (max: 500 mg/dose) <p>Alternate Treatment</p> <ul style="list-style-type: none"> Amoxicillin- Clavulanate (400mg-57mg/ 5mL): 50 mg/kg/day divided BID (max: 875mg/dose) Clindamycin: 30 -40mg/kg/day divided TID (max: 1,800 mg/day) <p>Duration: 7 days</p>
Herpes	HSV	<p>1st Line Treatment</p> <ul style="list-style-type: none"> Acyclovir <ul style="list-style-type: none"> Orolabial <ul style="list-style-type: none"> 20mg/kg/dose QID (max: 800mg/dose) for 5 to 7 days Genital <ul style="list-style-type: none"> <12 years: 20 mg/kg/dose TID (max: 400 mg/dose) for 7 to 10 days ≥ 12 years: 400 mg/dose TID for 7 to 10 days Mucocutaneous <ul style="list-style-type: none"> 20 mg/kg/dose QID (max: 800mg/dose) for 5 to 7 days

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Genitourinary Tract

Cystitis	Enteric gram- negatives (<i>Escherichia Coli, Klebsiella, Enterobacter, Proteus</i>)	<p>1st Line Treatment</p> <ul style="list-style-type: none"> Cephalexin: 75 mg/kg/day divided TID (max: 500 mg/<u>dose</u>) <p>Alternate Treatment</p> <ul style="list-style-type: none"> Amoxicillin- Clavulanate (400mg-57mg/ 5mL): 50 mg/kg/day divided BID (max: 875mg/<u>dose</u>) Bactrim: 8-12 mg of TMP/kg/day divided BID (max: 160mg/<u>dose</u>) Adolescent
Pyelonephritis	Enteric gram- negatives (<i>Escherichia Coli, Klebsiella, Enterobacter, Proteus</i>)	<p>1st Line Treatment</p> <ul style="list-style-type: none"> Cephalexin: 75 mg/kg/day divided TID (max:1,000 mg/<u>dose</u>) <p>Alternate Treatment</p> <ul style="list-style-type: none"> Amoxicillin- Clavulanate (400mg-57mg/ 5mL): 50 mg/kg/day divided BID (max: 875mg/<u>dose</u>) Ciprofloxacin: 20-40 mg/kg/day divided BID (max: 1,500 mg/day) Bactrim: 8-12 mg of TMP/kg/day divided BID (max: 160mg/<u>dose</u>) <p>Duration: 10 days</p>
Pelvic Inflammatory Disease (uncomplicated)	<i>Neisseria gonorrhoea, Chlamydia trachomatis</i> , Enteric gram- negatives (<i>Escherichia Coli, Klebsiella, Enterobacter, Proteus</i>)	<p>1st Line Treatment</p> <ul style="list-style-type: none"> Ceftriaxone: 500mg in a single dose + Doxycycline: 100mg BID for 14 days + Metronidazole: 500mg BID for 14 days
C. difficile	<i>Clostridioides difficile</i>	<p>1st Line Treatment</p> <ul style="list-style-type: none"> Initial (non-severe) <ul style="list-style-type: none"> Metronidazole: 22.5-30mg/kg/day divided TID or QID (max: 500mg/dose) <ul style="list-style-type: none"> *Liquid formulation hard to find* Vancomycin 40mg/kg/day divided QID (max: 125mg/<u>dose</u>) <ul style="list-style-type: none"> *Liquid formulation hard to find* CANNOT open capsules Initial (severe) <ul style="list-style-type: none"> Vancomycin 40mg/kg/day divided QID (max: 500mg/<u>dose</u>) <ul style="list-style-type: none"> *Liquid formulation hard to find* CANNOT open capsules <p>Alternate Treatment</p> <ul style="list-style-type: none"> Fidaxomicin: 32mg/kg/day divided BID (max:200mg/dose) <p>Duration: 10 days</p>

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Fractures

Open fracture prophylaxis

MSSA, MRSA, Streptococcus, Anaerobes, Enteric gram- negatives (*Escherichia Coli*, *Klebsiella*, *Enterobacter*, *Proteus*)

- Grade 1
 - First Line:
 - Cefazolin IV: 30 mg/kg (max:<120kg: 2,000 mg/**dose**; ≥120kg: 3,000 mg/**dose**)
 - Alternative:
 - Vancomycin IV: 15mg/kg (max:1500mg/**dose**)
 - Clindamycin IV: 10 mg/kg (max: 900 mg/**dose**)
- Grade 2
 - First Line:
 - Cefazolin IV: 30 mg/kg (max:<120kg: 2,000 mg/**dose**; ≥120kg: 3,000 mg/**dose**)
 - Alternative:
 - Vancomycin IV: 15mg/kg (max:1500mg/**dose**)
 - Clindamycin IV: 10 mg/kg (max: 900 mg/**dose**)
- Grade 3 or any of the above with significant contamination:
 - First Line:
 - Piperacillin/tazobactam: 85 mg/kg (max:3,375 mg)
 - Alternative:
 - Cefazolin: 30 mg/kg (max:<120kg: 2,000 mg/**dose**; ≥120kg: 3,000 mg/**dose**) + Gentamicin 2.5 mg/kg
 - * Add penicillin G to this regimen if farm related injury for fecal/clostridial contamination; 100,000 units/kg (max: 4 million units)

The policies set forth in this policy library do not establish a standard to be followed in every case. It is impossible to anticipate all possible solutions that may exist and to prepare policies for each. These policies should be considered guidelines with the understanding that departures from them may be required at times. Accordingly, it is recognized that those individuals employed in providing healthcare are expected to use their own judgment in determining what is in the best interests of the patient based on the circumstances existing at the time. If a policy contains references to clinical literature or other resources, such as Lippincott, Ovid, and/or Elsevier, these resources are only intended to support the reasoning for adoption of certain guidelines contained herein. It is not an endorsement of any article or text as authoritative. Norton Healthcare specifically recognizes there may be articles or texts containing other opinions on point that may be helpful and valid which would support other care or actions, given a particular set or circumstances. No literature is ever intended to replace the education, training and experience or exercise of judgment of the healthcare providers.

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Contact: adam.isacoff@nortonhealthcare.org