



# Prescribing Guidelines for Outpatient Antimicrobials in Otherwise Healthy Children



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## Prescribing Antimicrobials for Common Illnesses

When treating common illnesses such as ear infections and strep throat, it is important to know how best to use prescription antimicrobial drugs. The continued misuse and overuse of common antimicrobials is contributing to antimicrobial resistance and other health care challenges. This tool is designed to help guide you in the prescription of antimicrobial drugs for common infections in otherwise healthy children.

### Group A Streptococcal (GAS) Pharyngitis

Group A streptococcal pharyngitis, also known as strep throat, is characterized by sore throat, fever, tonsillar exudates and swollen lymph nodes in the neck. Strep throat may also be viral in cause, and it is important to distinguish between viral pharyngitis and GAS pharyngitis before beginning treatment.

Diagnosis requires confirmation by rapid testing or culture. It is important to remember the following key points in diagnosing GAS pharyngitis:

- Do not test if there is a viral presentation of upper respiratory tract infection signs and symptoms, including cough, nasal congestion, conjunctivitis, hoarseness, diarrhea or oropharyngeal lesions
- Do not treat empirically

GAS Treatment Options	
<b>Penicillin VK</b>	<27 kg: 250 mg/dose orally, every 12 hours for 10 days >27 kg: 500 mg/dose orally, every 12 hours for 10 days
<b>Amoxicillin</b>	50 mg/kg/dose orally per day (max 1000 mg/dose) for 10 days
<b>Penicillin Allergic (nonanaphylactic)</b>	
<b>Cephalexin</b>	20 mg/kg/dose orally every 12 h for 10 days (max 500 mg/dose)
<b>Penicillin Allergic (anaphylactic)</b>	
<b>Clindamycin</b>	7 mg/kg/dose orally three times a day (max 600 mg/dose) for 10 days
<b>Azithromycin</b>	12 mg/kg/dose orally per day (max 500 mg/dose) for 5 days

## Acute Otitis Media (AOM)

Acute otitis media is inflammation of the middle ear with fluid in the middle ear accompanied by ear pain, a perforated eardrum and drainage. A diagnosis of AOM is appropriate in children who present with at least one of the following:

- Moderate to severe bulging of the tympanic membrane
- New onset of otorrhea not due to acute otitis externa

AOM Treatment Options	
<b>Amoxicillin</b>	90 mg/kg/day (max 4000 mg/day) orally, divided every 12 hours
<b>Amoxicillin/clavulanate ES (Augmentin™ ES)</b>	90 mg/kg/day (max 4000 mg/day) orally, divided every 12 hours
Penicillin Allergic	
<b>Cefdinir</b>	14 mg/kg/dose (max 600mg/dose) orally, once a day (approved for use from 6 months of age)
<b>Ceftriaxone</b>	50 mg/kg (max 1 g/dose) intramuscular injection per day for 1 to 3 days

Augmentin™ is preferred for patients who have taken antibiotics in the last 30 days, have a history of otitis media unresponsive to amoxicillin and have concurrent conjunctivitis. Concurrent conjunctivitis suggests *Haemophilus influenzae*, in which case Augmentin™ will treat conjunctivitis and eye drops are not needed.

The duration of oral therapy for these treatment options is dependent upon the age of the patient and the severity of their symptoms:

- <2 years or severe symptoms, treat for 10 days
- 2-5 years and mild to moderate symptoms, treat for 7 days
- >5 years and mild to moderate symptoms, treat for 5-7 days

## Sinusitis

Another common illness in otherwise healthy individuals is sinusitis. The diagnosis of sinusitis should be based on one of three clinical scenarios:

- Persistent illness with any nasal drainage or daytime cough for greater than 10 days without improvement
- Worsening or new onset nasal drainage, daytime cough or fever after initial improvement (“double sickening”)
- Severe onset with  $\geq 102$  °F temperature and purulent nasal discharge for at least three consecutive days

<b>Sinusitis Treatment Options</b>	
<b>Amoxicillin</b>	90 mg/kg/day (max 4000 mg/day) orally, divided every 12 hours
<b>Amoxicillin/clavulanate ES (Augmentin™ ES)</b>	90 mg/kg/day (max 4000 mg/day) orally, divided every 12 hours
<b>Penicillin Allergic</b>	
<b>Clindamycin + cefdinir</b>	10 mg/kg/dose (max 600 mg/dose) orally, three times a day + 14 mg/kg/dose (max 600 mg/day) orally, once a day
<b>Levofloxacin</b>	max dose 500 mg/day <5 years: 10 mg/kg/dose every 12 hours >5 years: 10 mg/kg/dose every 24 hours

## Community-Acquired Pneumonia (CAP)

Community-acquired pneumonia (CAP) infections can be either viral or bacterial in cause. Respiratory viruses that cause lower respiratory tract inflammation are much more common in those between 3 months and 5 years of age. *Streptococcus pneumoniae* is the predominant bacterial cause of CAP in children.

CAP Treatment Options	
<b>Amoxicillin</b>	90 mg/kg/day orally (max 4000 mg/day) divided three times a day
<b>Penicillin Allergic (nonanaphylactic)</b>	
<b>Cefdinir</b>	14 mg/kg/day (max 600 mg/day) orally, once or twice a day
<b>Penicillin Allergic (anaphylactic)</b>	
<b>Levofloxacin</b>	max dose 750 mg/day <5 years: 10 mg/kg/dose every 12 hours >5 years: 10 mg/kg/dose every 24 hours

For patients over 6 years of age, if an atypical respiratory pathogen such as *Mycoplasma pneumoniae* is suspected, adding azithromycin to treatment with amoxicillin may be reasonable (consider running a mycoplasma PCR, which can be ordered through ChildLab).

## Choosing Augmentin™ Formulations

Augmentin™ suspension formulations are not interchangeable because each formulation has differing ratios of clavulanate. It is important to remember that too much clavulanate results in profound diarrhea and not enough will result in treatment failure. Selecting the appropriate dosage based on the patient's age, weight and indication is critical to ensuring optimal efficacy and tolerability.

A dosing chart is provided. Doses are based on the amoxicillin component. The target dose of clavulanic acid is 6.4 mg/kg/day. Doses less than 6.4 mg/kg/day will result in treatment failure. Doses above 10 mg/kg/day will result in profound diarrhea. Occasionally, prescribing practices may deviate from the chart. Please consult a pharmacist for additional assistance.

Augmentin™ Dosage Guidelines		
Indication	<40 kg	>40 kg
Neonatal infection (≤3 months old)	Augmentin™ 250 mg/5 mL suspension, 30 mg/kg/day divided twice daily	Not applicable
Less severe infections (≥3 months old)	Augmentin™ 400 mg/5 mL suspension, 25-45 mg/kg/day divided twice daily	Augmentin™ 500 or 875 mg tablet <b>OR</b> 400 mg/5 mL, 500-875 mg divided twice daily
Otitis media, pneumonia or refractory sinusitis (≥3 months old)	Augmentin™ ES 600 mg/5 mL suspension, 80-100 mg/kg/day divided twice or three times a day	Augmentin™ XR 1000 mg tablet <b>OR</b> Augmentin™ ES 600 mg/5 mL, 2000 mg divided twice daily

**For additional consults or assistance, please contact  
PFKPharmacy@NationwideChildrens.org**

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## Referrals and Consultations

Online: [NationwideChildrens.org](http://NationwideChildrens.org)

Phone: (614) 722-6600 or (877) 722-6220 | Fax: (614) 722-4000

Physician Direct Connect Line for 24-hour urgent physician consultations:  
(614) 355-0221 or (877) 355-0221.



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