

Therapeutic Alternatives to Amoxicillin for Common Pediatric Conditions

Amoxicillin suspension products may be in short supply in some parts of Canada. Before selecting an alternative for amoxicillin, ensure antibiotic therapy is necessary. Viral infections are common and antibiotic therapy is inappropriate to treat these infections. Infections for which antibiotics are inappropriate include bronchitis, viral pharyngitis, COVID-19 and others. Consider offering a “viral illness prescription” for [children](#) and [adults](#) with viral infections, which validates their symptoms, explains why antibiotics are inappropriate, and provides management strategies.

If antibiotics are required, amoxicillin capsules continue to be available in Canada; children able to safely swallow capsules should be given capsules where dosing permits. In cases where safety or ability to swallow is uncertain and dosing permits, experts suggest that it is reasonable to open the capsule and mix the contents with a small amount of soft, cold or room temperature food such as applesauce; however, palatability may be an issue.^{[1][2][3]} The amount of food used should be ≤15 mL (1 tbsp) to reduce the chance of waste. The following table presents therapeutic alternatives to amoxicillin for common pediatric conditions. Choose agents with the narrowest spectrum.

Indication	Amoxicillin Dosing ^[a]	Duration of Therapy	Therapeutic Alternatives to Amoxicillin ^{[b][c]}		Clinical Comment
			First Line	Alternatives	
Acute otitis media ^[4]	Children: Standard dose: 45–60 mg/kg/day divided Q8H High dose: 75–90 mg/kg/day divided Q12H; maximum 4 g/day	≥2 y: 5 days <2 y: 10 days	Cefuroxime axetil ^[d] 30 mg/kg/day divided Q8–12H (same duration as amoxicillin)	If initial therapy fails (no symptomatic improvement after 48–72 h): amoxicillin/clavulanate: ^[d] • ≤35 kg: 45–60 mg/kg/day (amoxicillin component); 7:1 formulation; 400 mg/5 mL) divided Q8H x 10 days; maximum 500 mg/dose • >35 kg, 500/125 mg tablet Q8H x 10 days	Reassess patients who fail to respond to therapy within 48–72 h. See guidelines and/or <i>Acute Otitis Media in Childhood</i> chapter ^[e] for more information. When amoxicillin is available, reserve standard-dose amoxicillin for the limited number of children at low risk of being infected with drug-resistant bacteria. ^[f]
Acute rhinosinusitis ^{[5][6][7]}	Children: Standard dose: 40–50 mg/kg/day divided Q8H; maximum 1500 mg/day High dose: 80–90 mg/kg/day divided Q8–12H; maximum 2–3 g/day Adults: Standard dose: 500 mg Q8H High dose: 1 g Q8H	5–10 days	Clindamycin ^[d] 20–30 mg/kg/day divided Q6–8H (maximum 1.2–1.8 g/day) <i>in combination with cefixime</i> ^[d] 8 mg/kg/day divided Q12H (maximum 400 mg/day) x 10 days; or Cefuroxime axetil ^{[d][e]} 30 mg/kg/day divided Q12H x 10 days	If initial therapy fails (no symptomatic improvement after 48–72 h): ^[8] amoxicillin/clavulanate ^[d] (7:1 formulation; 400 mg/5 mL) 90 mg/kg/day (amoxicillin) divided Q12H (maximum 3 g/day) x 10 days If all other treatments have been ruled out and the benefits exceed the risks, levofloxacin or moxifloxacin could be considered.	Acute rhinosinusitis is often viral in etiology; guidelines recommend initiating antibiotics only if symptom duration is >7 days. Reassess patients who fail to respond to therapy within 48–72 h. See guidelines and/or <i>Acute Rhinosinusitis</i> chapter ^[e] for more information. When amoxicillin is available, reserve standard-dose amoxicillin for the limited number of children at low risk of being infected with drug-resistant bacteria. ^[f] If patient has failed standard-dose amoxicillin, combine amoxicillin/clavulanate with amoxicillin (if available) to increase the total dose of amoxicillin while minimizing diarrhea due to the clavulanate. If patient has failed high-dose amoxicillin therapy, amoxicillin/clavulanate alone is adequate to cover beta-lactamase-producing organisms.

Indication	Amoxicillin Dosing ^[9]	Duration of Therapy	Therapeutic Alternatives to Amoxicillin ^{[b][c]}		Clinical Comment
			First Line	Alternatives	
Community-acquired pneumonia ^[9]	Children: Standard dose: 40–50 mg/kg/day divided Q8H High dose: 80–90 mg/kg/day divided Q8H; maximum 4 g/day Adults: Standard dose: 500 mg Q8H High dose: 1 g TID	7–10 days	Cefuroxime ^[d] or cefprozil ^[d] (not a Health Canada–approved indication; no dosing information provided by guidelines)	For suspected or proven <i>M. pneumoniae</i> or <i>C. pneumoniae</i> : • Clarithromycin ^[d] 15 mg/kg/day divided Q12H x 7 days; or • Azithromycin ^[d] 10 mg/kg once daily x 1 day then 5 mg/kg once daily x 4 days, maximum 500 mg/day; or • Doxycycline ^[8] (if ≥8 y): 4 mg/kg/day divided Q12H x 5–7 days	Reassess patients who fail to respond to therapy within 48–72 h. Continue for 48–72 h after patient is asymptomatic or evidence of eradication of infection is obtained. Duration of therapy is usually 7–10 days; severe or persistent infections may require several weeks of therapy. See guidelines and/or <i>Community-Acquired Pneumonia</i> chapter ^[e] for more information. When amoxicillin is available, reserve standard-dose amoxicillin for the limited number of children at low risk of being infected with drug-resistant bacteria. ^[f]
Group A streptococcal pharyngitis ^{[10][11]}	Children and Adults: 50 mg/kg/day divided Q12–24H x 10 days; maximum 1 g/day	10 days	Penicillin V: • ≤27 kg: 300 mg Q8–12H (or 40 mg/kg/day divided Q12H) ^[8] x 10 days • >27 kg: 600 mg Q8–12H x 10 days	If history of beta-lactam allergy or not susceptible to penicillin V: • Cephalexin ^[d] 40 mg/kg/day divided Q12H (maximum 1 g/day) x 10 days; or • Cefadroxil 30 mg/kg once daily (maximum 1 g/day) x 10 days; or • Clindamycin ^[d] 21 mg/kg/day divided Q8H (maximum 900 mg/day) x 10 days; or • Clarithromycin ^[d] 15 mg/kg/day divided Q12H (maximum 500 mg/day) x 10 days; or • Azithromycin ^[d] 12 mg/kg once daily (maximum 500 mg/day) x 5 days	Group A streptococcal pharyngitis is a self-limiting disease and antibiotics are often not required; see guidelines and/or <i>Group A Streptococcal Pharyngitis</i> chapter ^[e] for more information. Reassess patients who fail to respond to therapy within 48–72 h.
Infective endocarditis, prevention ^{[12][13]}	Children: 50 mg/kg x 1 dose Adults: 2 g x 1 dose	1 dose, 30–60 min before procedure	• Cephalexin ^[d] 50 mg/kg (maximum: 2 g) x 1 dose; or • Azithromycin ^[d] 15 mg/kg (maximum: 500 mg) x 1 dose; or • Clarithromycin ^[d] 15 mg/kg (maximum: 500 mg) x 1 dose; or • Doxycycline (if ≥8 y): • <45 kg: 2.2 mg/kg (maximum 100mg) x 1 dose • >45 kg: 100 mg x 1 dose		See guidelines and/or <i>Infective Endocarditis</i> chapter ^[e] (see Prevention section) for more information, such as for whom prophylaxis is recommended.

Indication	Amoxicillin Dosing ^[a]	Duration of Therapy	Therapeutic Alternatives to Amoxicillin ^{[b][c]}		Clinical Comment
			First Line	Alternatives	
Lyme disease, treatment ^{[14][15]}	Children: 50 mg/kg/day divided Q8H; maximum 1.5 g/day Adults: 500 mg Q8H	Recommendations on duration of treatment vary based on age of patient, indication and chosen antibiotic. For amoxicillin (in children): · Erythema migrans (single or multiple; first line): 14 days · Carditis with first-degree heart block (PR interval <30 ms) (first line): 14–21 days · Arthritis (first line): 28 days · Facial nerve palsy (second line): 14–21 days	· Doxycycline 4–4.4 mg/kg/day divided Q12H (maximum 200 mg/day); or · Cefuroxime ^[d] 30 mg/kg/day divided Q12H (maximum 1 g/day)	Azithromycin ^[d] 10 mg/kg/day (maximum 500 mg/day) once daily	In 2018, the American Academy of Pediatrics published updated recommendations for the treatment of Lyme disease in children; of note, doxycycline is <i>not</i> discouraged in children <8 y in these recommendations. ^[14] For more information, including duration of therapy for each form of Lyme disease when using amoxicillin alternatives, see guidelines and/or <i>Lyme Disease</i> chapter. ^[e]

Abbreviations: AOM = acute otitis media

^a Alternatively, amoxicillin capsules (250 mg, 500 mg) may be opened and sprinkled over food (e.g., applesauce); however, palatability may be an issue.^{[11][21]}

^b Only therapeutic options with available oral dosing are presented.

^c If appropriate, culture and sensitivity tests should be done to ensure that the most effective antibiotic regimen is used.

^d Suspension product approved by Health Canada; however, product may be in short supply. Alternative therapy may be required.

^e Available in print or online at cps.pharmacists.ca (subscription required).

^f Risk factors for drug-resistant bacteria include daycare attendance, recent antibiotic use (<3 months), recent episode of AOM, treatment failure or early recurrence.

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