

Outpatient Oral Pediatric Drugs: Dose and Volume for Oral Liquids^a

Drug	Mg/dose or Liquid Strength	Age Kg	2 mo	3 mo	4-5 mo	6 mo	12 mo	15 mo	21 mo	2 yo	3 yo	4 yo	5 yo	
			-Lb	5	6	7	8	9	10	11	12	14	16	18
			Freq											
Analgesics^b														
acetaminophen ^c	mg	q 4 h	80	80	80	120	120	120	160	160	160	240	240	
	32 mg/mL*		2.5	2.5	2.5	3.75	3.75	3.75	5	5	5	7.5	7.5	
ibuprofen ^d	mg	q 6 h	--	--	--	75	75	75	100	100	100	150	150	
	40 mg/mL*		--	--	--	1.875	1.875	1.875	--	--	--	--	--	
	20 mg/mL*		--	--	--	--	--	--	5	5	5	7.5	7.5	
Antimicrobial Agents														
amoxicillin standard dose	25 mg/mL	q 12 h	3	5	6	7	--	--	--	--	--	--	--	
	40 mg/mL		--	--	4	4.4	5	5.6	6	7	8	9	10	
	50 mg/mL		--	--	3	3.6	4	4.6	5	5.4	6	7.2	8	
	80 mg/mL		--	--	2	2.2	2.6	2.8	3	3.4	3.8	4.4	5	
amoxicillin high-dose ^e	50 mg/mL	q 12 h	--	5	6	7	8	9	10	--	--	--	--	
	80 mg/mL		--	3	3.4	4	5	5.6	6	7	8	9	10	
Augmentin standard dose	40 mg/mL	q 12 h	2	3.4	4	4.4	5	5.6	6	7	8	9	10	
	80 mg/mL		--	--	2	2.2	2.6	2.8	3	3.4	3.8	4.4	5	
Augmentin ES ^g	120-8.6 mg/mL	q 12 h	--	2.2	2.6	3	3.4	3.8	4	4.4	5	6	7	
azithromycin ^f	20 mg/mL	q 24 h	1.2 [†]	1.4 [†]	1.8 [†]	2	2.2	2.4	--	--	--	--	--	
	40 mg/mL		--	--	--	--	--	--	1.4	1.5	1.75	2	2.25	
cefadroxil	50 mg/mL	q 12 h	1.5	1.8	2.1	2.4	2.7	3	3.3	3.6	4.2	4.8	5.4	
	100 mg/mL		0.75	0.9	1	1.2	1.4	1.5	1.7	1.8	2.1	2.4	2.7	
cefdinir	25 mg/mL	q 12 h	--	--	--	2.25	2.5	2.8	3.1	3.4	3.9	4.5	5	
cefixime	20 mg/mL	q 24 h	2	2.4	2.8	3.2	3.6	4	4.4	4.8	5.6	6.4	7.2	
	40 mg/mL		--	--	--	--	--	--	--	--	--	3.2	3.6	
cefepodoxime	10 mg/mL	q 12 h	2.4	3	3.6	4	4.6	5	--	--	--	--	--	
	20 mg/mL		--	--	--	--	--	2.6	2.8	3	3.6	4	4.6	
cefprozil	25 mg/mL	q 12 h	--	3.6 [†]	4 [†]	5	--	--	--	--	--	--	--	
	50 mg/mL		--	--	2.4	2.8	3	3.4	3.6	4.2	5	5.4	--	
cefuroxime	25 mg/mL	q 12 h	--	3.6	4.2	5	--	--	--	--	--	--	--	
	50 mg/mL		--	--	2.4	2.8	3	3.4	3.6	4.2	5	5.4	--	
cephalexin	25 mg/mL	q 6 h	--	2.4 [†]	2.8 [†]	3.2 [†]	3.6	4	4.4	4.8	--	--	--	
	50 mg/mL		--	--	--	1.6	1.8	2	2.2	2.4	2.8	3.2	3.6	
clarithromycin	25 mg/mL	q 12 h	1.6 [†]	1.8 [†]	2.2 [†]	2.4	2.8	3	3.4	3.6	4	4.8	--	
	50 mg/mL		--	--	--	--	--	--	--	--	2	2.4	2.8	
nitrofurantoin	5 mg/mL	q 6 h	1.6	1.8	2.2	2.4	2.8	3	3.4	3.6	4.2	4.8	5.4	
TMP-SMX ^g	8-20 mg/mL	q 12 h	2.6	3	3.6	4	4.6	5	5.6	6	7	8	9	
Antihistamines and Corticosteroids														
cetirizine ^{h, L}	1 mg/mL*	q 24 h	--	--	--	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	
fexofenadine ⁱ	6 mg/mL*	q 12 h	--	--	--	2.5 [†]	2.5 [†]	2.5 [†]	2.5 [†]	5	5	5	5	
desloratadine	0.5 mg/mL	q 24 h	--	--	--	2	2.5	2.5	2.5	2.5	2.5	2.5	2.5	
diphenhydramine ^L	2.5 mg/mL	q 6 h	--	--	--	3.2 [†]	3.6 [†]	4 [†]	5 [†]	5 [†]	6 [†]	6 [†]	7 [†]	
levocetirizine	0.5 mg/mL	q 24 h	--	--	--	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	
loratadine ^L	1 mg/mL*	q 24 h	--	--	--	--	--	--	5	5	5	5	5	
prednisolone ^k	3 mg/mL	q 24 h	1.7	2	2.3	2.7	3	3.3	3.7	4	4.7	5.3	6	
prednisone ^k	1 mg/mL	q 24 h	5	6	7	8	9	10	11	12	14	16	18	

Abbreviations: freq = dosing frequency; lb = pounds; mo = months old; yo = years old; OTC = over-the-counter; TMP-SMX = cotrimoxazole (Bactrim, Septra).

*Available OTC

† Dosing at this age/weight not recommended by manufacturer

^a This table has been revised to provide the volume of oral liquids in milliliters (mL) instead of teaspoons (tsp). The FDA, AAP, and others recommend that the volume of liquid doses be measured only in mLs to avoid confusion and dosing errors (Pediatrics Apr 2015;135(4):784). The AAP recommends writing the volume in mLs on the dosing instructions and providing an oral dosing dispenser that measures the appropriate volume in mLs. Round the volume of oral liquid drugs to the nearest 0.1, 0.5, or 1 mL, considering the margin of safe and effective dose of that drug. In order to avoid 10-fold dosing errors, include leading zeros before decimals for doses less than 1 mL (e.g., 0.5 mL) and do not include trailing zeros after decimals when dosing in whole number units. Oral dosing syringes are available as 1 or 3 mL with 0.1 mL graduations, or 5, 6, or 10 mL with 0.2 mL graduations.

^b Acetaminophen with codeine was removed from this table because codeine is now contraindicated to treat pain or relieve cough in children younger than 12 years old due to the risk of life-threatening respiratory depression in ultra-rapid metabolizers of cytochrome P450 2D6.

^c Acetaminophen: Infant susp (40 mg/mL); OTC use for up to 3 yo) dosing syringes usually measure 1.25, 2.5, 3.75 and 5 mL; children's susp (40 mg/mL); OTC use for 2 yo or older) dosing cups usually measure 5, 7.5, 10, 12.5, and 15 mL. Doses given here do not match age-based dosing from the manufacturer.

^d Ibuprofen: Infant susp (40 mg/mL); OTC use for 6 to 23 mo) dosing syringes usually measure 0.625, 1.25, and 1.875 mL. For infants with age 6 mo and older and wt 5 to 7 kg, use 50 mg (1.25 mL). Children's susp (20 mg/mL); OTC use for 2 yo or older) dosing cup measures 5 (1 tsp), 7.5 (1.5 tsp), 10 (2 tsp), 12.5 (2.5 tsp), and 15 mL (3 tsp). Note: Some dosing cups still measure in teaspoons.

^e Available as generic only; contains amoxicillin 600 mg-clavulanate 43.9 mg/5 mL (120-8.6 mg/mL).

^f Give a double dose of azithromycin on the first day; treat for 5 days total.

^g TMP-SMX (cotrimoxazole; Bactrim, Septra) contains 8 mg trimethoprim-40 mg sulfamethoxazole/mL (40-200 mg/5 mL)

^h Cetirizine, age 12 to 23 mo: can increase to 2.5 mg two times per day. Age 2 yo or older: can increase dose to 2.5 mg two times per day or 5 mg once daily.

ⁱ Fexofenadine Rx is FDA-approved for chronic idiopathic urticaria in age 6 to 23 mo. OTC formulation is for allergy relief in age 2 yo or older.

^j Diphenhydramine dose for managing a severe allergic reaction is 1 to 2 mg/kg/dose.

^k Asthma guidelines recommend that children ≤5 yo be treated for asthma exacerbations with prednisone or prednisolone 1 to 2 mg/kg/day for up to 5 days, with max of 20 mg/day for ≤2 yo and 30 mg/day for 3 to 5 yo. The dose given here is 1 mg/kg/day. Note: Prednisolone and prednisone are unpalatable; more concentrated formulations may be available that reduce the volume of the dose.

^L OTC antihistamine liquid products usually have a dosing cup that measures 2.5 and 5 mL doses.

^l OTC doses: acetaminophen ~12 mg/kg; ibuprofen ~8 mg/kg; amoxicillin age <3 mo 30 mg/kg/day; amoxicillin or Augmentin (amoxicillin-clavulanate) standard-dose 45 mg/kg/day; amoxicillin high-dose 80-90 mg/kg/day; Augmentin ES 90 mg/kg/day; azithromycin 10 mg/kg on day 1, then 5 mg/kg for 5 days; cefadroxil 30 mg/kg/day; cefdinir 14 mg/kg/day; cefixime 8 mg/kg/day; cefepodoxime 10 mg/kg/day; cefuroxime axetil 30 mg/kg/day; cephalexin 40 mg/kg/day; clarithromycin 15 mg/kg/day; cindamycin 30 mg/kg/day; nitrofurantoin 6 mg/kg/day; TMP-SMX 1 mL/kg/day; diphenhydramine: 1 to 2 mg/kg/dose; prednisone/prednisolone 1 mg/kg/day.