

Antiretroviral Drugs & TMP/SMZ Pediatric Dosing Chart for Use in Resource-constrained Settings (see back for notes)

Weight	Abacavir (Ziagen®)		Stavudine (Zerit®, d4T)	Lamivudine (Epivir®, 3TC)		Zidovudine (Retrovir®, ZDV, AZT)		Didanosine (Videx®, DDI)	Nevirapine (Viramune®, NVP)				Efavirenz (Stocrin®, Sustiva®, EFV)		Lopinavir/ritonavir (Kaletra®)		Nelfinavir (Viracept®)	Indinavir (Crixivan®)	Trimethoprim/sulfamethoxazole TMP/SMZ (Septrin®, Bactrim®, various)				
	8 mg/KG twice daily		1 mg/KG twice daily	4 mg/KG twice daily		240 mg/m ² twice daily		120 mg/m ² twice daily	Induction dose: 4 mg/KG once daily for first 14 days, then give maintenance dose→		Maintenance dose		Dose as shown once daily		< 15 KG = 12 mg lop/KG ≥ 15 KG = 10 mg lop/KG twice daily (lop = lopinavir; r = ritonavir)		60 mg/KG twice daily	500 mg/m ² every 8 hours	~4 mg/KG once daily (For prophylaxis against opportunistic illnesses. Doses for treatment of bacterial and protozoal infections are higher than listed here)				
KG	Liquid 20 mg/ml	Tablet 300 mg	Capsules 15, 20, 30 mg	Liquid 10 mg/ml	Tablet 150 mg	Liquid 10 mg/ml	Capsule 100 mg	Chewable tablets 25, 50, 100 mg	Liquid 10 mg/ml	Tablet 200 mg	Liquid 10 mg/ml	Tablet 200 mg	Liquid 10 mg/ml	Tablet 200 mg	Liquid 30 mg/ml	Capsules 50, 100, 200 mg	Liquid 80 mg lopinavir/ml ⁵	Capsule 133.3/33 .3 mg lopinavir /r	Tablet 250 mg	Capsule 200 mg	Liquid 8 mg/ml	Single-strength (SS) Tablet 80mg TMP/400mg SMZ	
5 – 6.9	2 ml			2 ml		7 ml			2 ml		4 ml								2 tabs ⁷	1 cap	3 ml		
7 – 9.9	3 ml		15 mg	3 ml		9 ml	1 cap	25mg + 25mg	3 ml		6 ml						1.5 ml		2 tabs ⁷	1 cap	4 ml	½ SS tab	
10 – 11.9	4 ml		15 mg or (20 mg ¹)	4 ml		12 ml	1 cap	25mg + 25mg	4 ml		8 ml	½ tab			9 ml	200 mg	2 ml		2 tabs	1 cap	5 ml	½ SS tab	
12 – 14.9	5 ml		15 mg or (20 mg ¹)	5 ml		14 ml	1 cap	50mg + 25mg	5 ml		9 ml	½ tab			9 ml	200 mg	2 ml		3 tabs	1 cap	7 ml	1 SS tab	
15 – 16.9	6 ml		15 mg or (20 mg ¹)	6 ml	½ tab	15 ml	2 caps	50mg + 25mg	6 ml		10 ml	½ tab			10 ml	200 mg + 50 mg	2.5 ml	1 cap	3 tabs	2 caps	8 ml	1 SS tab	
17 – 19.9	7 ml	½ tab	20 mg	7 ml	½ tab	17 ml	2 caps	50mg + 50mg	7 ml		13 ml	1 tab AM + ½ tab PM ⁴			10 ml	200 mg + 50 mg	2.5 ml	2 caps ⁶	4 tabs	2 caps	9 ml	1 SS tab	
20 – 24.9	9 ml	½ tab	20 mg	9 ml	½ tab	20 ml	2 caps	50mg + 50mg	9 ml	½ tab	16 ml	1 tab AM + ½ tab PM ⁴	9 ml	½ tab	12 ml	200 mg + 100 mg	3 ml	2 caps	5 tabs	2 caps	11 ml	1 SS tab	
25 – 29.9	25 – 27.9 KG	11 ml	½ tab	30 mg	11 ml	1 tab ²	3 caps or 300 mg tab	100mg + 25mg	11 ml	½ tab	20 ml	1 tab	11 ml	½ tab	15 ml	200 mg + 100 mg + 50 mg	3.5 ml	2 caps	5 tabs	2 caps	14 ml	2 SS tabs	
	28 – 29.9 KG	12 ml	1 tab																				
30 – 34.9	13 ml		1 tab	30 mg	13 ml	1 tab	3 caps or 300 mg tab	100mg + 25mg	13 ml	1 tab ³			13 ml	1 tab AM + ½ tab PM ⁴	30 – 32.9 KG	15 ml	200 mg + 100 mg + 50 mg	4 ml	3 caps	5 tabs	3 caps	17 ml	2 SS tabs
															33 – 34.9 KG	17 ml	200 mg + 200 mg						
35 – 40	15 ml	1 tab	30 mg	15 ml	1 tab	30 ml	3 caps or 300 mg tab	100mg + 25mg	15 ml	1 tab ³			15 ml	1 tab AM + ½ tab PM ⁴	17 ml	200 mg + 200 mg	5 ml	3 caps	5 tabs	3 caps	20 ml	2 SS tabs	

Pediatric Antiretroviral and Cotrimoxazole Dosing

Pediatric Dosing in Resource-Constrained Settings



Developed collaboratively by:

**Global AIDS Program
Division of HIV/AIDS Prevention**
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Home-based AIDS Care Program – Tororo, Uganda
*Global AIDS Program, CDC - Uganda
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Abacavir – Tablets may be swallowed whole or crushed and dispersed in water or onto a small amount of food and immediately ingested.

Stavudine – Capsules may be opened and dispersed in water or onto a small amount of food and immediately ingested. Stavudine capsules are not recommended for use in children < 7 KG since dose size from smallest capsule would be too large. Stavudine oral solution is stable at room temperature for 24 hours or under refrigeration for 30 days. In settings where households do not have access to refrigeration, the oral solution should not be used.¹ In the event that 15 mg capsules are not available, consider giving the 20 mg capsule to children in the 10-16.9 KG range. Though these may result in doses higher than the recommended 1mg/kg dose, higher doses than this have been used in clinical trials and were generally well tolerated. However for children < 10 KG a capsule size larger than 15 mg is not advised.

Lamivudine – Tablets are not scored, but can be divided into two equal halves with a pill splitter in the pharmacy. Tablets may be crushed and dispersed in water or onto a small amount of food and immediately ingested. Oral solution should be used in children < 15 KG since accurate dosing with tablets is not practical in smaller children. Oral solution is stable at room temperature.² The dose changes from ½ to 1 tablet as a child enters this weight range, however, lamivudine has few adverse effects and this dose should be generally well tolerated.

Zidovudine – Capsules may be opened and dispersed in water or onto a small amount of food and immediately ingested. Tablets may be crushed and dispersed in water or onto a small amount of food and immediately ingested. Oral solution should be used in children < 7 KG since accurate dosing with capsules is not practical in smaller children. Oral solution is stable at room temperature. Weight based doses were determined by using body surface area values calculated from typical heights for weight.

Didanosine – Must use 2 tablets with each dose to provide adequate antacid to buffer stomach acid to allow absorption. The tablets may be dispersed in water before administering. Alternatively, the tablets may be chewed and swallowed. Must be administered on an empty stomach at least 30 minutes before or 2 hours after eating. Oral suspension requires addition of antacid and water and is stable at room temperature for only 24 hours or under refrigeration for 30 days. In settings where households do not have access to refrigeration, the oral suspension should not be used. If taken with indinavir, the drugs must be separated by one hour. Weight based doses were determined by using body surface area values calculated from typical heights for weight.

Nevirapine – Tablet is scored and may be divided into equal parts. Tablet may be crushed and dispersed in water or onto a small amount of food and immediately ingested. Oral solution is stable at room temperature. Nevirapine induction dose is 4 mg/KG once daily for 14 days and if no rash develops is followed by a maintenance dose of for children < 8 yrs old of 7mg/KG twice daily or for children ≥ 8 yrs old of 4 mg/KG twice daily.³ SEE University of Maryland Guide for more precise surface area-based dosing to prevent underdosing. Consider using liquid for the induction dose in children in this weight range to give a more precise dose.⁴ If using tablets for children in this weight range, this chart suggests 1 tablet in the AM and ½ tablet in the PM to yield a dose that approximates that of the liquid—the half-life of nevirapine is long enough that the fluctuation in drug levels from this staggered dose is considered clinically acceptable.

Efavirenz – Capsules may be opened and dispersed in water or onto a small amount of food and immediately ingested. Oral solution is stable at room temperature. Dose for oral solution is greater than that for capsules or tablets. The dose and pharmacokinetics of the oral solution is not as well established as with the capsules and tablet. Thus, although the liquid may be available in some areas, it is advisable to use the capsule or tablet forms when possible.

Lopinavir/ritonavir – Dose is calculated based on lopinavir component. Capsules may NOT be opened or crushed and must be swallowed whole, but may be used for children who can swallow capsules. Capsules or oral solution should be taken with food. Capsules and oral solution must be refrigerated until dispensed. After removing from refrigeration capsules and oral solution are only stable for 60 days at room temperature (up to 25° C). Where temperatures are expected to exceed 25°C, the feasibility of dispensing smaller amounts and giving more frequent refills should be considered (for instance, no more than monthly supplies dispensed at one time). Lopinavir/ritonavir is not recommended for children < 6 months old.⁴ The amount of solution has been rounded up to nearest ½ ml from manufacturer's recommendation for easier measurement.⁶ In the 17 – 19.9 KG range, two capsules twice daily would result in a dose that is ~40-60% higher than recommended, however, using only one capsule twice daily would result in a dose that is ~20-30% lower than recommended. Consider using liquid for children in this weight range.

Nelfinavir – Tablets may be crushed and dispersed in water or onto a small amount of food and immediately ingested. Must be taken with food to improve absorption. Oral powder for administration requires complicated administration technique that may not be practical in resource-poor settings.⁷ Doses for children < 2 years of age are not well established. The dose listed for children < 10 KG is within a range of up to 75 mg/kg/dose twice daily that has been used for small children by some clinicians.

Indinavir – Capsules may be opened and dispersed in water or onto a small amount of food and immediately ingested. Must be taken on an empty stomach (1 hour before or 2 hours after a meal). Patients must drink lots of water during the day while taking indinavir to prevent development of kidney problems. If taking didanosine, the drugs must be separated by one hour. Weight based doses were determined by using body surface area values calculated from typical heights for weight.

Trimethoprim/sulfamethoxazole – Recommendations for prophylaxis against opportunistic infections for HIV-infected children are to give 5 mg/kg given twice daily for 3 consecutive days/week. Considering the dosage strength of the TMP/SMZ suspension and in efforts to support medication adherence, dosing children once daily every day of the week may be a simpler alternative. The dose of 4 mg/kg is an easy conversion from the child's weight to the milliliters of suspension because the 8 mg/ml dosage strength of the TMP/SMZ suspension allows the dose to be calculated as ½ ml of suspension per KG. Doses are higher for treatment of bacterial and protozoal infections and other sources should be consulted.