



# ANTIRETROVIRAL DRUG DOSING CHART FOR CHILDREN 2022



Compiled by Child and Adolescent Committee of SA HIV Clinicians Society in collaboration with the Department of Health

	Abacavir + Lamivudine (ABC + 3TC)	Abacavir (ABC)	Lamivudine (3TC)	Zidovudine (AZT)	Dolutegravir (DTG)	Dolutegravir when on Rifampicin	Lopinavir/ritonavir (LPV/r)	Abacavir + Lamivudine + Lopinavir/ritonavir	Lopinavir/ritonavir when on rifampicin (and for 2 weeks after stopping rifampicin)	# Atazanavir (ATV) + Ritonavir (RTV)	Efavirenz (EFV)	Target dose				
Target dose	As for individual medicines <b>ONCE daily</b>	8 mg/kg/dose <b>TWICE daily</b> OR If ≥ 10kg: 16 mg/kg/dose <b>ONCE daily</b>	4 mg/kg/dose <b>TWICE daily</b> OR If ≥ 10kg: 8 mg/kg/dose <b>ONCE daily</b>	180-240 mg/m <sup>2</sup> /dose <b>TWICE daily</b>	By weight band <b>ONCE daily</b>	By weight band <b>TWICE DAILY</b>	300/75 mg/m <sup>2</sup> /dose LPV/r <b>TWICE daily</b>	By weight band <b>TWICE daily</b>	LPV/r std dose + super-boosting with ritonavir (RTV) powder <b>TWICE daily</b> (≥0.75xLPV dose bd) <b>OR</b> Double-dose LPV/r tabs <b>ONLY</b> if able to swallow whole LPV/r tabs <b>TWICE daily</b>	By weight band <b>ONCE daily</b>	By weight band <b>ONCE daily</b>	Target dose				
Available formulations	Dispersible tablet FDC: ABC/3TC 120/60 mg Tablets FDC: ABC/3TC 600/300 mg ABC/3TC/DTG 600/300/50 mg	Sol. 20 mg/ml Tabs 60 mg (scored, dispersible), 300 mg (not scored)	Sol. 10 mg/ml Tabs 150 mg (scored)	Sol. 10 mg/ml, Tabs 100, 300 mg (not scored), FDC: AZT/3TC 300/150 mg	Dispersible tabs (DT) 10 mg, Film coated (FC) tabs 50 mg, FDC: TLD 300/300/50 mg OR ABC/3TC/DTG 600/300/50 mg <b>DT AND FC TABLETS ARE NOT BIOEQUIVALENT</b>	Dispersible tabs (DT) 10 mg, Film coated (FC) tabs 50 mg, FDC: TLD 300/300/50 mg <b>OR</b> ABC/3TC/DTG 600/300/50 mg <b>DT AND FC TABLETS ARE NOT BIOEQUIVALENT</b>	Sol. 80/20 mg/ml Adult tabs 200/50 mg, Paed tabs 100/25 mg <b>TABLETS MUST BE SWALLOWED WHOLE</b> Pellets 40/10 mg per capsule <b>ONLY FOR USE IF NOT TOLERATING LPV/r SOLUTION. CAPSULES ARE NOT RECOMMENDED &lt; 6 MONTHS OF AGE</b>	Caps 30/15/40/10 mg <b>IF PATIENT IS ON RIFAMPICIN TB TREATMENT, ADD RTV POWDER (next column)</b>	Oral powder 100 mg/packet Adult tabs 200/50 mg, Paed tabs 100/25 mg	ATV caps 150, 200 mg; RTV tabs 100 mg; FDC: ATV/RTV 300/100 mg <b>ATV CAPSULES, RTV TABLETS AND FDC TABLETS MUST BE SWALLOWED WHOLE</b>	Caps/tabs 50, 200, 600 mg; FDC: TEE 300/200/600 mg; <b>TABLETS MUST BE SWALLOWED WHOLE</b>	Available formulations				
Wt. (kg)	Consult with a clinician experienced in paediatric ARV prescribing for neonates (< 28 days of age) and infants weighing < 3kg											Wt. (kg)				
3 - 5.9	1 x 120/60 mg tab od	3 ml bd <b>OR</b> 1 x 60 mg tab bd	3 ml bd	6 ml bd	0.5 x 10 mg DT od	0.5 x 10 mg DT bd	* 1 ml bd <b>OR</b> 2 capsules bd	2 capsules bd	LPV/r std dose (see purple column) + oral RTV powder 100 mg (1 packet) bd	Do not use double-dose LPV/r tabs	Not recommended	Not recommended	3 - 5.9			
6 - 9.9	1.5 x 120/60 mg tabs od	4 ml bd <b>OR</b> 1.5 x 60 mg tab bd	4 ml bd	9 ml bd	1.5 x 10 mg DT od	1.5 x 10 mg DT bd	* 1.5 ml bd <b>OR</b> 3 capsules bd	3 capsules bd	LPV/r std dose (see purple column) + oral RTV powder 200 mg (2 packets) bd	3 x 100/25 mg <b>paed tabs</b> bd	ATV 1 x 200 mg cap od + RTV 1 x 100 mg tab or 100 mg oral powder (1 packet) od	1 x 200 mg cap/tab nocte	6 - 9.9			
10 - 13.9	2 x 120/60 mg tabs od	<b>Once daily dosing &gt; 10 kg</b> 4 x 60 mg tabs od <b>OR</b> 12 ml od	<b>Once daily dosing &gt; 10 kg</b> 12 ml od	12 ml bd	2 x 10 mg DT od	2 x 10 mg DT bd	2 ml bd <b>OR</b> 4 capsules bd <b>OR</b> 2 x 100/25 mg <b>paed tabs</b> am + 1 x 100/25 mg <b>paed tab</b> pm	4 capsules bd					14 - 19.9			
14 - 19.9	2.5 x 120/60 mg tabs od	5 x 60 mg tabs od <b>OR</b> 1 x 300 mg tab od	1 x 150 mg tab od	2 x 100 mg tabs am + 1 x 100 mg pm <b>OR</b> 15 ml bd	2.5 x 10 mg DT od	2.5 x 10 mg DT bd	2.5 ml bd <b>OR</b> 5 capsules bd <b>OR</b> 2 x 100/25 mg <b>paed tabs</b> bd <b>OR</b> 1 x 200/50 mg <b>adult tab</b> bd	5 capsules bd					20 - 24.9			
20 - 24.9	3 x 120/60 mg tabs od	1 x 300 mg tab + 1 x 60 mg tab od <b>OR</b> 6 x 60 mg tabs od	2 x 150 mg tabs od	2 x 100 mg tabs bd <b>OR</b> 20 ml bd	3 x 10 mg DT od <b>OR</b> 1 x 50 mg FC tab od	3 x 10 mg DT bd <b>OR</b> 1 x 50 mg FC tab bd	3 ml bd <b>OR</b> 6 capsules bd <b>OR</b> 2 x 100/25 mg <b>paed tabs</b> bd <b>OR</b> 1 x 200/50 mg <b>adult tab</b> bd	6 capsules bd	LPV/r std dose (see purple column) + oral RTV powder 300 mg (3 packets) bd	6 x 100/25 mg <b>paed tabs</b> bd <b>OR</b> 3 x 200/50 mg <b>adult tabs</b> bd	1 x ATV/RTV 300/100mg FDC od <b>OR</b> ATV 2 x 150 mg caps od + RTV 1 x 100 mg tab or 100 mg oral powder (1 packet) od	2 x 200 mg caps/tabs nocte	20 - 24.9			
25 - 29.9	1 x 600/300 mg tab od <b>OR</b> ABC/3TC/DTG FDC (600/300/50 mg) if eligible od	2 x 300 mg tabs od		1 x 300 mg bd <b>OR</b> 1 x AZT/3TC 300/150 mg tab bd	1 x 50 mg FC tab od <b>OR</b> FDC: ABC/3TC/DTG if eligible od	1 x 50 mg FC tab od <b>OR</b> FDC: ABC/3TC/DTG if eligible od + 50 mg DTG FC tab 12 hours later	1 x 50 mg FC tab od <b>OR</b> FDC: TLD if eligible od + 50 mg DTG FC tab 12 hours later <b>OR</b> FDC: ABC/3TC/DTG if eligible od + 50 mg DTG FC tab 12 hours later	3.5 ml bd <b>OR</b> 7 capsules bd <b>OR</b> 3 x 100/25 mg <b>paed tabs</b> bd <b>OR</b> 1 x 200/50 mg <b>adult tab</b> bd + 1 x 100/25 mg <b>paed tab</b> bd					Not recommended	8 x 100/25 mg <b>paed tabs</b> bd <b>OR</b> 4 x 200/50 mg <b>adult tabs</b> bd	2 x 200 mg caps/tabs nocte <b>OR</b> FDC: TEE if eligible od	25 - 29.9
30 - 39.9					25 - 29.9											
≥ 40			≥ 40													

\* Avoid LPV/r solution in any full-term infant <14 days of age and any premature infant <42 weeks post conceptual age (corrected gestational age) or obtain expert advice.  
 † Children weighing 25-29.9 kg may also be dosed with LPV/r 200/50 mg adult tabs: 2 tabs am + 1 tab pm.  
 ‡ Atazanavir + ritonavir should not be used in children/adolescents on treatment with Rifampicin, obtain expert advice.  
 No dosage adjustments are required for children receiving treatment with Efavirenz and Rifampicin.

Weight (kg)	3 - 5.9	6 - 13.9	14 - 24.9	≥ 25
<b>Cotrimoxazole Dose</b>	2.5 ml od	5 ml or ½ tab	10 ml or 1 tab od	2 tabs od
<b>Multivitamin Dose</b>	2.5 ml od	2.5 ml od	5 ml od	10 ml od

od = once a day; nocte = at night; bd = twice a day; am = in the morning; pm = in the evening; std = standard; FDC = fixed dose combination; TLD = tenofovir/lamivudine/dolutegravir; TEE = tenofovir/emtricitabine/efavirenz

# ARV DOSING CHART FROM BIRTH TO 28 DAYS OF AGE<sup>‡</sup>

Birth weight ≥ 2 kg and gestational age ≥ 35 weeks\*

	Lamivudine (3TC)		Zidovudine** (AZT)		Nevirapine (NVP)	
Target dose	2 mg/kg/dose TWICE daily (BD)		4 mg/kg/dose TWICE daily (BD)		6 mg/kg/dose TWICE daily (BD)	
Available formulation	10 mg/ml		10 mg/ml		10 mg/ml	
Weight (kg)	Dose in ml	Dose in mg	Dose in ml	Dose in mg	Dose in ml	Dose in mg
≥2 - <3	0.5 ml BD	5 mg BD	1 ml BD	10 mg BD	1.5 ml BD	15 mg BD
≥3 - <4	0.8 ml BD	8 mg BD	1.5 ml BD	15 mg BD	2 ml BD	20 mg BD
≥4 - <5	1 ml BD	10 mg BD	2 ml BD	20 mg BD	3 ml BD	30 mg BD

- Dosing is based on the birth weight of the child. It is not necessary to change the dose before 28 days of age if for example if the weight decreases in the first week or two of life.
- Caregivers administering ARV medication to the child must be supplied with a syringe (2 ml or 5 ml) for each of the 3 ARVs and shown how to prepare and administer the prescribed dose. If required, bottles and syringes should be colour coded with stickers and a sticker of the relevant colour used to mark the correct dose on the syringe.

<sup>‡</sup>Refer to the protocol for initiation of ART in HIV-infected neonates in the HIV guidelines which includes guidance on ARV management after 28 days of age  
<sup>\*</sup>Consult with a clinician experienced in paediatric ARV prescribing or the National HIV & TB Health Care Worker Hotline for neonates with birth weight < 2 kg or gestational age < 35 weeks  
<sup>\*\*</sup>If infant is found to have significant anaemia or neutropenia prior to or during treatment with AZT, discuss with a clinician experienced in paediatric ARV prescribing or any of the helplines listed below about switching to ABC

## PRACTICAL ADVICE ON ADMINISTRATION OF ARV DRUGS

ARV Drug	Formulations (as used in dosing chart)	Can tablets/capsules be split/crushed/opened if unable to swallow?	Comment
<b>Abacavir (ABC)</b>	Oral solution: 20 mg/ml Tablets: 60 mg, 300 mg FDC tablets: ABC/3TC 120/60 mg; ABC/3TC 600/300 mg; ABC/3TC/DTG 600/300/50 mg FDC capsules: ABC/3TC/LPV/r 30/15/40/10 mg	Tablets: <b>YES</b>  FDC 120/60 mg tablet is a dispersible tablet. May be split/crushed.	Hypersensitivity reaction (fever, rash, GIT & respiratory symptoms) may occur during first 6 weeks of therapy, very uncommon in black African patients. Symptoms typically worsen in the hours immediately after the dose and after each subsequent dose. Caregivers or patients should discuss symptoms early with the clinician rather than stopping therapy. Stop ABC permanently if hypersensitivity reaction has occurred.
<b>Lamivudine (3TC)</b>	Oral solution: 10 mg/ml Tablets: 150 mg; FDC tablets: ABC/3TC 120/60 mg; ABC/3TC 600/300 mg, TLD 300/300/50 mg ABC/3TC/DTG 600/300/50 mg FDC capsules: ABC/3TC/LPV/r 30/15/40/10 mg	FDC capsules should be opened and contents added to a small amount of food or dispersed in a liquid.	Well tolerated, adverse-effects uncommon. Pure red cell aplasia causing anaemia can occur but is very rare.
<b>Zidovudine (AZT)</b>	Oral solution: 10 mg/ml Tablets: 100 mg, 300 mg Capsules: 100 mg FDC tablet: AZT/3TC 300/150 mg	Tablets & FDC: <b>YES</b> Capsules: Can be opened and added to a small amount of soft food/liquid and ingest immediately.	Avoid or use with caution in neonates or children with anaemia (Hb <8 g/dl) due to potential to cause bone marrow suppression.
<b>Tenofovir (TDF)</b>	Tablets: 300 mg FDC tablets: TDF/FTC 300/200 mg, TEE 300/200/600 mg, TLD 300/300/50 mg	Tablet and FDC tablets: <b>YES</b>	TDF may be prescribed for adolescents ≥ 10 years of age AND ≥ 30 kg body weight after ensuring adequate renal function by checking eGFR/creatinine using the appropriate formula (refer to HIV guidelines). TDF is usually prescribed as part of an FDC tablet: TDF/FTC, TDF/FTC/EFV or TDF/3TC/DTG. To assess for TDF-induced nephrotoxicity, do creatinine and eGFR at months 3, 6 and 12 and thereafter repeat every 12 months.
<b>Lopinavir/ritonavir (LPV/r)</b>	Oral solution: 80/20 mg/ml Capsules: Pellets 40/10 mg per capsule Tablets: 200/50 mg, 100/25 mg FDC capsules: ABC/3TC/LPV/r 30/15/40/10 mg	Tablets: <b>NO</b> <b>Must be swallowed whole and not divided, crushed or chewed.</b> Capsules: Can be opened and added to a small amount of soft food/liquid and ingest immediately.	Oral solution should be refrigerated/stored at room temperature (if <25°C) for up to 6 weeks. Preferably administer oral solution with food as increases absorption. Strategies to improve tolerance and palatability of oral solution: coat mouth with peanut butter, dull taste buds with ice, follow dose with sweet foods. Many drug-drug interactions. <sup>#</sup> LPV/r 40/10 mg capsules should be opened, and contents (pellets) of each capsule poured onto a spoon of soft food and fed to child. Don't try and dissolve pellets in food or water as they will develop a bad taste. ABC/3TC/LPV/r capsules should be opened and contents (granules) of each capsule poured onto a spoon of soft food or dissolved in water and fed to child. Capsules should never be swallowed whole. Discard capsule casing after contents have been emptied from it.
<b>Ritonavir (RTV)</b>	Oral powder: 100 mg/packet Tablets: 100 mg		Each 100 mg packet of RTV powder should be mixed with a small amount of water or soft food and immediately ingested. Many drug-drug interactions. <sup>#</sup>
<b>Atazanavir (ATV)</b>	Capsules: 150 mg, 200 mg FDC tablets: ATV/RTV 300/100 mg	Capsules: Can be opened and added to a small amount of soft/food/liquid and ingested immediately. FDC tablets: <b>NO</b> <b>Must be swallowed whole and not divided, crushed or chewed.</b>	ATV is used in combination with RTV. May cause unconjugated hyperbilirubinaemia resulting in jaundice but this does not indicate hepatic toxicity and not a reason to discontinue the drug unless it is worrying the patient. Consider drug-drug interactions. <sup>#</sup>
<b>Dolutegravir (DTG)</b>	Dispersible tablet (DT): 10 mg Film coated (FC) tablets: 50 mg FDC tablets: TLD 300/300/50 mg FDC tablets: ABC/3TC/DTG 600/300/50 mg	Dispersible tablets: <b>YES</b> Film coated tablets (including FDCs): <b>YES</b>	Iron supplements decrease DTG concentrations if taken together on an empty stomach. To prevent this, DTG and iron supplements can be taken at the same time if taken with food. May be helpful to administer as a morning dose rather than an evening dose if insomnia occurs with evening dosing. May raise creatinine levels by up to 15% without affecting renal function. Consider drug-drug interactions. <sup>#</sup> DTG DT and DTG FC tablets are not bioequivalent; 30 mg of DTG DT corresponds to 50 mg DTG FC tablets. DTG 50 mg FC tablets are preferred for children who have reached 20 kg (unless they cannot swallow tablets).
<b>Efavirenz (EFV)</b>	Capsules: 50 mg, 200 mg Tablets: 50 mg, 200 mg, 600 mg FDC tablets: TEE 300/200/600 mg	Tablets: <b>NO</b> <b>Must be swallowed whole and not divided, crushed or chewed.</b> Capsules: <b>YES</b> . Open and add to small amount of soft food and ingest immediately.	Best given at bedtime to reduce CNS side-effects, especially during first 2 weeks. Consider drug-drug interactions. <sup>#</sup>

FDC = fixed dose combination; eGFR = estimated glomerular filtration rate; GIT = gastrointestinal tract; TEE = Tenofovir/Emtricitabine/Efavirenz; TLD = Tenofovir/Lamivudine/Dolutegravir; <sup>#</sup>EML-Antiretroviral interactions table (<http://www.mic.uct.ac.za>) OR [www.hiv-druginteractions.org/](http://www.hiv-druginteractions.org/) checker OR the Liverpool HIV iChart application for smart phones, or any of the helplines: National HIV and TB Health Care Worker Hotline: 0800 212 506 or Right to Care Paediatric and Adolescent HIV Helpline: 082 352 6642 and KZN Paediatric Hotline: 0800 006 603

### NEED HELP?

Contact the TOLL-FREE National HIV & TB Health Care Worker Hotline at 0800 212 506 / 021 406 6782  
 Alternatively "whatsapp" or send an SMS or "Please Call Me" to 071 840 1572

