

# ANTIRETROVIRAL DRUG DOSING CHART FOR CHILDREN 2021

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

	Abacavir (ABC)	Lamivudine (3TC)	Abacavir + Lamivudine (ABC + 3TC)	Zidovudine (AZT)	Lopinavir/ritonavir (LPV/r)	Lopinavir/ritonavir when on rifampicin (and for 2 weeks after stopping rifampicin)	# Atazanavir (ATV) + Ritonavir (RTV)	Dolutegravir (DTG)	Dolutegravir when on Rifampicin	Efavirenz (EFV)	Target dose						
<b>Target dose</b>	8 mg/kg/dose <b>TWICE</b> daily <b>OR</b> If $\geq 10$ kg: 16 mg/kg/dose <b>ONCE</b> daily	4 mg/kg/dose <b>TWICE</b> daily <b>OR</b> If $\geq 10$ kg: 8 mg/kg/dose <b>ONCE</b> daily	As for individual medicines <b>ONCE</b> daily	180-240 mg/m <sup>2</sup> /dose <b>TWICE</b> daily	300/75 mg/m <sup>2</sup> /dose LPV/r <b>TWICE</b> daily	LPV/r std dose + super-boosting with ritonavir (RTV) powder <b>TWICE</b> daily ( $\geq 0.75 \times$ LPV dose bd) <b>OR</b> Double-dose LPV/r tabs <b>ONLY</b> if able to swallow whole LPV/r tabs <b>TWICE</b> daily	By weight band <b>ONCE</b> daily	By weight band <b>ONCE</b> daily	By weight band <b>TWICE</b> DAILY	By weight band <b>ONCE</b> daily	Target dose						
<b>Available formulations</b>	Sol. 20 mg/ml Tabs 60 mg (scored, dispersible), 300 mg (not scored), FDC: see column on Abacavir + Lamivudine	Sol. 10 mg/ml Tabs 150 mg (scored), FDC: see column on Abacavir + Lamivudine	Dispersible tablet FDC: ABC/3TC 120/60 mg Tablets FDC: ABC/3TC 600/300 mg	Sol. 10 mg/ml, Tabs 100, 300 mg (not scored), FDC: AZT/3TC 300/150 mg	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</b> <b>CAPSULES ARE NOT RECOMMENDED &lt; 6 MONTHS OF AGE</b> <b>CAPSULES MUST NOT BE SWALLOWED WHOLE</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>	Tablets 50mg, FDC: TLD 300/300/50 mg	Tablets 50 mg	Caps/tabs 50, 200, 600 mg; FDC: TEE 300/200/600 mg <b>TABLETS MUST BE SWALLOWED WHOLE</b>	Available formulations						
<b>Wt. (kg)</b>	Consult with a clinician experienced in paediatric ARV prescribing for neonates (<28 days of age) and infants weighing <3kg										<b>Wt. (kg)</b>						
3-3.9	2 ml bd	2 ml bd	1 x 120/60 mg tab od	6 ml bd	<b>CHOOSE ONLY ONE OPTION:</b>		LPV/r std dose (see purple column) + oral ritonavir powder 100 mg (1 packet) bd	Do not use double-dose LPV/r tabs	Avoid ATV capsules when <15 kg or <6 years	Not currently recommended: dosing & formulations not available	Not currently recommended: dosing & formulations not available	3-3.9					
4-4.9	3 ml bd	3 ml bd			* 1 ml bd <b>OR</b> 2 capsules bd	* 1.5 ml bd <b>OR</b> 2 capsules bd						* 1.5 ml bd <b>OR</b> 3 capsules bd	4-4.9				
5-5.9			4 ml bd	4 ml bd									1.5 x 120/60 mg tabs od	9 ml bd	* 1.5 ml bd <b>OR</b> 3 capsules bd	5-5.9	
6-6.9																4 ml bd	4 ml bd
7-7.9	OR	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	3x100/25 mg <b>paed tabs</b> 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	LPV/r std dose (see purple column) + oral ritonavir powder 200 mg (2 packets) bd	4x100/25 mg <b>paed tabs</b> bd <b>OR</b> 2x200/50 mg <b>adult tabs</b> bd						7-7.9					
8-8.9												2.5 x 120/60 mg tabs od	2x100 mg tabs am + 1x100 mg tab pm <b>OR</b> 15 ml bd	3 ml bd <b>OR</b> 6 capsules bd <b>OR</b> 2x100/25 mg <b>paed tabs</b> bd <b>OR</b> 1x200/50 mg <b>adult tab</b> bd	LPV/r std dose (see purple column) + oral ritonavir powder 200 mg (2 packets) bd		
9-9.9	10-10.9	Choose only one option	Choose only one	3 x 120/60 mg tabs od	2x100 mg tabs bd <b>OR</b> 20 ml bd	3.5 ml bd <b>OR</b> 7 capsules bd <b>OR</b> 3x100/25 mg <b>paed tabs</b> bd <b>OR</b> 1x200/50 mg <b>adult tab</b> bd + 1x100/25 mg <b>paed tab</b> bd										LPV/r std dose (see purple column) + oral ritonavir powder 300 mg (3 packets) bd	6x100/25 mg <b>paed tabs</b> bd <b>OR</b> 3x200/50 mg <b>adult tabs</b> bd
10-10.9												6 ml bd <b>OR</b> 2x60 mg tabs bd	12 ml od <b>OR</b> 4x60 mg tabs od	6 ml bd	12 ml od		
11-13.9	8 ml bd <b>OR</b> 2.5x60 mg tabs bd	5x60 mg tabs od <b>OR</b> 1x300 mg tab od <b>OR</b> 8 ml bd	1x150 mg tab bd <b>OR</b> 8 ml bd	1x150 mg tab od <b>OR</b> 15 ml od	2.5 x 120/60 mg tabs od	2x100 mg tabs am + 1x100 mg tab pm <b>OR</b> 15 ml 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	LPV/r std dose (see purple column) + oral ritonavir powder 200 mg (2 packets) bd	4x100/25 mg <b>paed tabs</b> bd <b>OR</b> 2x200/50 mg <b>adult tabs</b> bd	1x200 mg cap/tab + 2 x 50 mg caps/tabs nocte	14-14.9	
14-14.9	10 ml bd <b>OR</b> 3x60 mg tabs bd	1x300 mg tab + 1x60 mg tab <b>OR</b> 1x300 mg tab + 2x60 mg tabs od	1x150 mg tab bd <b>OR</b> 15 ml bd	2x150 mg tab od <b>OR</b> 30 ml od	3 x 120/60 mg tabs od	2x100 mg tabs bd <b>OR</b> 20 ml bd	3 ml bd <b>OR</b> 6 capsules bd <b>OR</b> 2x100/25 mg <b>paed tabs</b> bd <b>OR</b> 1x200/50 mg <b>adult tab</b> bd	LPV/r std dose (see purple column) + oral ritonavir powder 200 mg (2 packets) bd	6x100/25 mg <b>paed tabs</b> bd <b>OR</b> 3x200/50 mg <b>adult tabs</b> bd	1x50 mg tab od	1x50 mg tab bd	15-16.9					
15-16.9												1x300 mg tab bd	2x300 mg tabs od	1x150 mg tab bd	2x150 mg tabs od	1x600/300 mg tab od	1xAZT/3TC 300/150 mg tab bd
17-19.9	1x300 mg tab bd	2x300 mg tabs od	1x150 mg tab bd	2x150 mg tabs od	1x600/300 mg tab od	1xAZT/3TC 300/150 mg tab bd	5 ml bd <b>OR</b> 10 capsules bd <b>OR</b> 4x100/25 mg <b>paed tabs</b> bd <b>OR</b> 2x200/50 mg <b>adult tabs</b> bd	8x100/25 mg <b>paed tabs</b> bd <b>OR</b> 4x200/50 mg <b>adult tabs</b> bd	1xATV/RTV 300/100mg FDC od <b>OR</b> ATV 2x150 mg caps od + RTV 1x100 mg tab od	1x50 mg tab od <b>OR</b> FDC: TLD if eligible od	1x50 mg tab bd <b>OR</b> FDC: TLD if eligible od + 50 mg 12 hours after TLD dose						
20-22.9	1x300 mg tab bd	2x300 mg tabs od	1x150 mg tab bd	2x150 mg tabs od	1x600/300 mg tab od	1xAZT/3TC 300/150 mg tab bd	5 ml bd <b>OR</b> 10 capsules bd <b>OR</b> 4x100/25 mg <b>paed tabs</b> bd <b>OR</b> 2x200/50 mg <b>adult tabs</b> bd	LPV/r std dose (see purple column) + oral ritonavir powder 300 mg (3 packets) bd	8x100/25 mg <b>paed tabs</b> bd <b>OR</b> 4x200/50 mg <b>adult tabs</b> bd	1xATV/RTV 300/100mg FDC od <b>OR</b> ATV 2x150 mg caps od + RTV 1x100 mg tab od	1x50 mg tab od <b>OR</b> FDC: TLD if eligible od	1x50 mg tab bd <b>OR</b> FDC: TLD if eligible od + 50 mg 12 hours after TLD dose	23-24.9				
23-24.9													1x300 mg tab bd	2x300 mg tabs od	1x150 mg tab bd	2x150 mg tabs od	1x600/300 mg tab od
25-29.9	1x300 mg tab bd	2x300 mg tabs od	1x150 mg tab bd	2x150 mg tabs od	1x600/300 mg tab od	1xAZT/3TC 300/150 mg tab bd	5 ml bd <b>OR</b> 10 capsules bd <b>OR</b> 4x100/25 mg <b>paed tabs</b> bd <b>OR</b> 2x200/50 mg <b>adult tabs</b> bd	LPV/r std dose (see purple column) + oral ritonavir powder 300 mg (3 packets) bd	8x100/25 mg <b>paed tabs</b> bd <b>OR</b> 4x200/50 mg <b>adult tabs</b> bd	1xATV/RTV 300/100mg FDC od <b>OR</b> ATV 2x150 mg caps od + RTV 1x100 mg tab od	1x50 mg tab od <b>OR</b> FDC: TLD if eligible od	1x50 mg tab bd <b>OR</b> FDC: TLD if eligible od + 50 mg 12 hours after TLD dose	30-34.9				
30-34.9													1x300 mg tab bd	2x300 mg tabs od	1x150 mg tab bd	2x150 mg tabs od	1x600/300 mg tab od
35-39.9	1x300 mg tab bd	2x300 mg tabs od	1x150 mg tab bd	2x150 mg tabs od	1x600/300 mg tab od	1xAZT/3TC 300/150 mg tab bd	5 ml bd <b>OR</b> 10 capsules bd <b>OR</b> 4x100/25 mg <b>paed tabs</b> bd <b>OR</b> 2x200/50 mg <b>adult tabs</b> bd	LPV/r std dose (see purple column) + oral ritonavir powder 300 mg (3 packets) bd	8x100/25 mg <b>paed tabs</b> bd <b>OR</b> 4x200/50 mg <b>adult tabs</b> bd	1xATV/RTV 300/100mg FDC od <b>OR</b> ATV 2x150 mg caps od + RTV 1x100 mg tab od	1x50 mg tab od <b>OR</b> FDC: TLD if eligible od	1x50 mg tab bd <b>OR</b> FDC: TLD if eligible od + 50 mg 12 hours after TLD dose	≥40				
≥40													1x300 mg tab bd	2x300 mg tabs od	1x150 mg tab bd	2x150 mg tabs od	1x600/300 mg tab od

\* 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.

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

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	2 tabs od
<b>Multivitamin Dose</b>	2.5 ml od	2.5 ml od	5 ml od	10 ml od

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

Birth weight ≥2.5kg 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	10mg/ml		10mg/ml		10mg/ml	
Weight (kg)	Dose in ml	Dose in mg	Dose in ml	Dose in mg	Dose in ml	Dose in mg
≥2.5 - <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 NDOH 2019 ART Clinical Guidelines which includes guidance on ARV management after 28 days of age

\*Consult with a clinician experienced in paediatric ARV prescribing or the National HIV & TB Health Care Worker Hotline for neonates with birth weight <2.5 kg or gestational age <35 weeks

## PRACTICAL ADVICE ON ADMINISTRATION OF ARV DRUGS

ARV Drug	Formulations (as used in dosing chart)	Can tablets be split/crushed if unable to swallow?	Comment
<b>Abacavir (ABC)</b>	Oral solution: 20 mg/ml Tablets: 60 mg, 300 mg FDC tablet: ABC/3TC 120/60 mg; ABC/3TC 600/300 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	Limited data on the 600/300 mg FDC, preferably swallow whole or use individual drugs.	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: <b>YES</b> . Open and add 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, TDF/3TC/EFV 300/300/600 mg, TLD 300/300/50 mg	Data is lacking: preferably swallow whole or use individual drugs.	TDF may be prescribed for adolescents ≥10 years of age AND ≥35 kg body weight after ensuring adequate renal function by checking eGFR/creatinine using the appropriate formula (refer to 2019 ART Clinical Guidelines). TDF is usually prescribed as part of an FDC tablet: TDF/FTC, TDF/FTC/EFV, TDF/3TC/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	Tablets: <b>NO</b>  <b>Must be swallowed whole and not divided, crushed or chewed.</b>	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> <b>Capsules should be opened</b> , and contents (pellets) should be poured over soft food and fed to child. Don't chew or try and dissolve pellets as they will develop a bad taste. <b>Capsules should never be swallowed whole</b> . Throw capsule casing away after the pellets 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 and 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>	Tablets: 50 mg FDC tablets: TLD 300/300/50 mg	Tablet: <b>YES</b> Data on crushing FDC tablet is lacking: swallow whole or use individual drugs.	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>
<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; #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**

