Antiretroviral / HIV Drug Dosing for Children and Adolescents 2022-23 - Imperial College Healthcare NHS Trust

(NOT for neonatal vertical transmission post exposure prophylaxis – see BHIVA guidelines. All neonatal doses assume term delivery, seek specialist advice if <37 weeks CGA)

OD = Once a day, BD = Twice a day, QDS = Four times a day

Agent	Recommended dosage, class side effects and contraindications & warnings	Formulations	Additional information	Intake Advice
Nucleoside Reverse Transcriptase Inhibitors (NRTI): lactic acidosis, mitochondrial toxicity				
Lamivudine (3TC) *Also see FDCs*	**Liquid**: (**<28 days**)**:** 2mg/kg BD, (**≥28 days to <3 months**)**:** 4mg/kg BD, (**≥3 months**)**:** 5mg/kg BD or 10mg/kg OD (max dose 300mg/day). Well tolerated round up doses. **Tablet**: (**14-19kg**)→75mg BD *or* 150mg OD, (**>20-24kg**)→75mg AM + 150mg PM *or* 225mg OD, (**≥25kg**)→300mg OD Nausea, diarrhoea, headache, fatigue	**Tab**: 150mg (scored), 300mg 100mg (*Zeffix*) (orange) Generic tabs scored, appearance varies **Liq**: 10mg/ml (*Epivir*) (1-month expiry)	Reduce dose in renal impairment (seek advice). Tablets can be crushed and mixed with small amount of water or food.	With or without food
Emtricitabine (FTC) *Also see FDCs*	**Liquid: (<4 months):** 3mg/kg OD, (**≥4 months**)**:** 6mg/kg OD of the oral solution. (max. dose 240mg OD) **≥33kg:** Capsule 200mg OD; oral solution: 240mg OD Headache, diarrhoea, nausea, rash, skin discolouration on palms and soles	**Cap**: 200mg (blue/white) ≡ 240mg liquid **Liq**: 10mg/ml – Fridge (Discard 45 days after opening) - **not** bioequivalent to caps. Liquid can be stored at room temp after opening	Reduce dose in renal impairment (seek advice). Do not give with lamivudine.Capsules contents can be dispersed in water.	With or without food
Abacavir (ABC) *Also see FDCs*	***Test HLA-B*5701 before starting, do not give abacavir if HLA-B*5701 +ve.*** Hypersensitivity reactions usually occur within first 6 weeks of therapy. **If occurs, not to be given again** **Liquid: (<28 days):** 2mg/kg BD, (**≥28 days to <3 months**)**:** 4mg/kg BD (**≥3 months**) 8mg/kg BD *or* 16mg/kg OD. Max dose: 600mg per day. Well tolerated round up doses. **Tablet**: **(14-19kg)**→150mg BD *or* 300mg OD, **(>20-24kg)**→150mg AM + 300mg PM *or* 450mg tab OD, **(≥25kg)**→600mg OD Nausea, fever, headache, diarrhoea, rash, fatigue, respiratory symptoms	**Tab**: 300mg scored **Liq**: 20mg/mL (2 *month expiry)*	Tablets can be crushed and mixed with small amount of water or food	With or without food
Zidovudine (AZT)	**Liquid: (<28 days):** 4mg/kg BD, (**≥28 days**)**:** (**4-9kg**)→12mg/kg BD, (**>9-30kg**)→9mg/kg BD. Max dose 300mg BD. **Capsule:** (**≥28kg**)→250mg BD **IV dosing**: 80mg/m^2 QDS (alternatively total daily dose of 320 mg/m^2 may be given in 2 divided doses). Granulocytopenia and/or anaemia, nausea, headache, myopathy, hepatitis, nail pigmentation, neuropathy, lipodystrophy	**Cap**: 250mg **Liq**: 10mg/ml (1-month expiry) **IV**: 10mg/ml (200mg/20ml vial)	Capsules contents can be dispersed in water (sticky/bitter taste)	With or without food
Nucleotide Reverse Transcriptase inhibitors (NtRTI): As NRTI's				
Tenofovir alafenamide fumarate (TAF)	**TAF is preferred NtRTI in all patients ≥6years & ≥25kg (Expected MHRA license ≥14kg in Biktarvy Paediatric 2023)** Nausea, headache, dizziness, abnormal dreams, diarrhoea, vomiting, abdominal pain, flatulence, rash, fatigue, **exacerbations of viral hepatitis on discontinuation, weight gain**	Only available as fixed-dose combinations – see NRTI & NtRTI FDC section below		
Tenofovir disoproxil (TD)	***All doses based on Tenofovir Disoproxil (TD)*** ****No data for <2 years of age**** **Tablet: (17-21kg)**→123mg OD, **(22-27kg)**→163mg OD, **(28-34kg)**→204mg OD **(≥35kg)**→245mg OD. **Granules: (2–12yrs)** 6.5mg/kg OD - **1 scoop (scp) = 33mg** (**10-11kg**)→2 scp, (**12-13kg**)→2.5 scp, (**14-16kg**)→3 scp, (**17-19kg**)→3.5 scp, (**19-21kg**)→4 scp, (**22-23kg**)→4.5 scp, (**24-26kg**)→ 5 scp, (**27-28kg**)→5.5 scp (**29-31kg**)→6 scp, (**32-33kg**)→6.5 scp, (**34kg**)→7 scp, (**≥35kg**)→7.5 scp Headache, nausea, vomiting, renal tubular dysfunction, bone demineralisation, exacerbations of viral hepatitis on discontinuation. **Important: Renal function, blood and urine monitoring.**	**Tab**: TD 245mg (blue) **Paed tab TD (TDF)**: 123mg (150mg), 163mg (200mg), 204mg (250mg) (white) **Granules**: TD 33mg per scoop (TDF 40mg per scoop). Only use scoop provided. **245mg tenofovir disoproxil (TD) ≡ 300mg tenofovir disoproxil fumarate (TDF)**	Careful monitoring with boosted PI regimens for renal toxicity. Tablets can be cut or crushed and dispersed in water, but bitter taste. Orange juice can be used to mask taste.	Take with food. Granules should be mixed with soft food and not liquids
NRTI & NtRTI fixed dose combinations (FDCs) for use with third agent: Cross-reference with component drugs for side-effects and advice				
ABC + 3TC *Generic (Kivexa®)*	***Test HLA-B*5701 before starting, do not give abacavir if HLA-B*5701 positive*** **≥25kg**: 1 tablet OD	**Tab**: ABC 600mg/3TC 300mg	Do not cut/crush	With or without food
FTC + TAF ('F/TAF') *Descovy®*	**MHRA Licensed ≥12 years or ≥35kg** *(trial evidence from ≥6yrs & ≥25kg – refer to PVC)* **Prescribed *with* regimen including RTV/COB:** one 200mg/10mg tablet OD; **Non-boosted regimen:** one 200mg/25mg tablet OD	**Tab:** FTC 200mg/ TAF10mg (grey) FTC 200mg/ TAF 25mg (blue)	Can be cut. Crushing results in bitter taste (not recommended)	With or without food
TD + FTC *Generic (Truvada®)*	**≥35kg:** 1 tablet OD	**Tab**: TD 245mg/FTC 200mg	See tenofovir disoproxil information	
Integrase Inhibitors: Seek advice from a pharmacist for all integrase inhibitors if patient requires oral cations (e.g. calcium/magnesium/iron/aluminium/zinc), including multivitamin/mineral products				
Dolutegravir (DTG) *Also see FDCs*	***MUST SPECIFY FORMULATION WHEN PRESCRIBING - Film coated tablets are not bioequivalent to dispersible tablets*** **Dispersible tablet: ≥4 wks (3-5kg)**→5mg OD, **(6-9kg)**→15mg OD, **(10-13kg)**→20mg OD, **(14-19kg)**→25mg OD, **(≥20kg)**→30mg OD **Film coated tablet: (≥20kg)**→50mg OD. **Integrase resistance:** 50mg BD *(refer to PVC)* Insomnia, mood changes, headache, hepatitis, rash, weight gain	**Film coated tablets**: 50mg tabs (yellow) (Can be cut/crushed) **Dispersible tablets for oral suspension**: 5mg tabs	With inducers of CYP3A/UGT1A e.g. EFV, NVP, rifampicin use standard dolutegravir dose **BD** Avoid antacids/mineral supplements containing polyvalent cations 6 hours before & 2 hours after taking – seek advice	Take with food as preference to enhance exposure
Raltegravir (RAL) *Isentress®*	***MUST SPECIFY FORMULATION WHEN PRESCRIBING - Film coated tablets are not bioequivalent to sachets/chewable tablets*** **Granules: <7 days: (2-<3kg)**→4mg OD, **(3-<4kg)**→5mg OD, **(4-<5kg)**→7mg OD **7-27 days: (2-<3kg)**→8mg BD, **(3-<4kg)**→10mg BD, **(4-<5kg)**→15mg BD **≥28 days: (≥3kg)**→25mg BD, **(4-5kg)**→30mg BD, **(6-7kg)**→40mg BD, **(8-10kg)**→60mg BD, **(11-13kg)**→80mg BD, **(14-19kg)**→100mg BD **Chewable tablets: (11-13kg)**→3 x 25mg chewable tabs BD, **(14-19kg)**→1 x 100mg chewable tab BD, **(20-27kg)**→1½ x 100mg chewable tabs BD, **(28-39kg)**→2 x 100mg chewable tabs BD, **(≥40kg)**→3 x 100mg chewable tabs BD **Film coated tablet: (≥25kg)**: 400mg BD**;** **Once-daily formulation: (≥40kg)**: 1200mg OD (2x600mg film coated tablets) Nausea, dizziness, insomnia, mood changes, rash, pancreatitis, elevated liver enzymes	**100mg granules for oral suspension (sachets):** Recommended dilution 10mg/ml but can be individualised if large volumes prohibitive. **Chewable tabs**: 25mg & 100mg (can be halved). **Film coated tablets**: 400mg (pink - can be cut/crushed) 600mg (yellow – do **not** cut/crush)	**Once-daily formulation:** Do not co-prescribe with rifampicin, unboosted atazanavir or aluminium, magnesium and calcium containing antacids or supplements Take with or without food	**Twice-daily formulations**: Avoid antacids/mineral supplements containing polyvalent cations 4 hours before & after taking – seek advice
Non-nucleoside Reverse Transcriptase Inhibitors (NNRTI):				
Nevirapine (NVP)	**<4 weeks**: 6 mg/kg BD (no lead-in dosing), **≥4 weeks: (3-5.9kg)**→50mg BD, **(6-9.9kg)**→80mg BD, **(10-13.9kg)**→100mg BD, **(14-19.9kg)**→130mg BD, **(20-24.9kg)**→150mg BD, **(>25kg) 200mg BD *or* 400mg OD**. Convert total daily dose to OD dose if stable and fully suppressed. Rash, hepatitis, Steven-Johnson – usually within first 6 weeks, can occur up to 18weeks. **Check hepatic function at 2, 4, and 8 weeks.**	**Tab**: 200mg **Liq**: 10mg/ml (Shake well, 6-month expiry) **Prolonged-release tabs**: 100mg, 400mg	Normal release tabs can be cut or dissolved in water. Do not cut prolonged-release tabs.	With or without food. PR tablet remnant reported in stool – not clinically significant.
Rilpiverine (RPV) *Edurant®* *Also see FDCs*	**≥12 years & ≥35kg:** 25mg OD Headache, dizziness, mood changes, diarrhoea	**Tab:** 25mg (white/off-white)	Do not cut/crush. Avoid in VL>100,000 copies/ml. Avoid PPIs and rifampicin	Take with food
Doravirine (DOR) *Pifeltro®*	**12 years & ≥35kg:** 100mg OD Headache, dizziness, mood changes, nausea, diarrhea, rash, transaminitis	**Tab:** 100mg (white)	Do not cut/crush. Seek advice with mycobacterial co-infection	With or without food.

Agent	Recommended dosage, class side effects and contraindications & warnings	Formulations	Additional information	Intake Advice
Pharmacokinetic boosters – Not to be used as an antiretroviral alone. Check for additional drug interactions when switching from ritonavir to cobicistat: www.hiv-druginteractions.org				
Ritonavir (RTV)	**Child: For boosting other protease inhibitors, refer to PI section** Nausea, diarrhoea, flushing, rash	**Tab**: 100mg (white) **Powder for oral suspension**: 100mg	Do not cut/crush	Take with food
Cobicistat (COB) *Tybost®* *Also see FDCs*	**≥6 years & >25kg:** 150mg OD Nausea, sleep disturbance, headache, dizziness, vomiting, diarrhoea, abdominal pain, flatulence, dry mouth, rash	**Tab**: 150mg (orange) Also see FDCs.	Do not cut/crush. Avoid in pregnancy	Take with food
Protease Inhibitors (PI): Lipodystrophy, hyperlipidaemia, diabetes mellitus, important interactions with a range of other drugs: www.hiv-druginteractions.org				
Darunavir (DRV) *Also see FDCs*	**≥3years no DRV-resistance mutations: (10kg)**→360mg OD + RTV 64mg OD**, (11kg)**→400mg + RTV 64mg OD**, (12kg)**→420mg + RTV 80mg OD**, (13kg)**→460mg + RTV 80mg OD, **(14kg)**→500mg + RTV 96mg**, (15-34kg)**→600mg OD + RTV 100mg OD (**≥35kg)** →800mg OD + RTV 100mg OD ***≥3 years with DRV-resistance mutations: (10kg)**→200mg BD + RTV 32mg BD, **(11kg)**→220mg BD + RTV 32mg BD, **(12kg)**→ 240mg BD + RTV 40mg BD, **(13kg)**→260mg BD + RTV 40mg BD, **(14kg)**→280mg BD + RTV 48mg BD, **(15-24 kg)**→375mg BD + RTV 50mg BD, **(25-34 kg)**→400 mg BD + RTV 100mg BD, **(≥35kg)**→600mg BD + RTV 100mg BD* Rash, nausea, diarrhoea, headache. **Contains sulphonamide moiety–check allergies especially Co-trimoxazole (Septrin)**	**Tab**: 75mg (white), 150mg (white), 400mg (light orange), 600mg (orange) & 800mg (dark red) **Liq:** 100mg/ml	Tablets can be cut/crushed if necessary. Do not use DRV in children aged <3 years or weighing <10 kg.	Take with food. Some patients may be allergic to iron oxide in 800mg tablet formulation. 400mg tablets can be used.
Atazanavir (ATV)	**≥6years: (≥15-34kg)**→200mg OD + RTV 100mg OD (**≥35kg): 300mg OD** with RTV 100mg OD Nausea, headaches, rash, jaundice	**Caps**: 150mg, 200mg, 300mg	Do not open capsules. Avoid PPIs.	Take with food.
Lopinavir/ritonavir (LPV/RTV)	***PLEASE SPECIFY FORMULATION WHEN PRESCRIBING*** **Liquid:** (3-5 kg)→1ml BD, (6-9kg)→1.5ml BD, (10-13kg)→2ml BD, (14-19kg)→2.5ml BD, (20-24kg)→3ml BD **Paed tablet: (10-13kg)**→2 tabs morning + 1 tab night, (**14-24kg**)→2 tabs BD, (**25-34kg**)→3 tabs BD, (**≥35kg**)→4 tabs BD **Adult tablet**: (**≥35kg**) 2 tablets BD [= 4 paed tablets BD = 5ml BD of solution] Cautious use with hepatic insufficiency. Diarrhoea, headache, nausea, vomiting	**Tab (adult):** LPV/RTV 200/50mg (yellow) **Tab (paed):** LPV/RTV 100/25mg (yellow) **Liq**: 5ml = LPV/RTV 400/100mg (clear) – Fridge (contains 42% ethanol and propylene glycol) - caution in neonates.	Do NOT use once daily **Liq:** Once opened can store out of fridge - discard 42 days after opening	**Liq**: Take with food **Tab**: With or without food (no data in <18 years of age)
ATV + COB *Evotaz®*	**≥12 years & ≥35kg**: 1 tablet OD ***Approval required by PVC before prescribing (NHS England)***	**Tab**: ATV 300mg/COB 150mg (pink)	Do not cut/crush	Take with food
DRV + COB *Rezolsta®*	**≥12 years & ≥35kg**: 1 tablet OD ***Approval required by PVC before prescribing (NHS England)***	**Tab**: DRV 800mg/COB 150mg (pink)	Do not cut/crush	Take with food
Long-acting injectable formulations				
Cabotegravir (CAB)/ Rilpivirine (RPV) Combination therapy	**MHRA licensed ≥18 years. FDA licensed from ≥12 years & ≥35kg** **Initiation phase (oral lead in *or* direct to injection), followed by continuation phase:** Refer to "BHIVA guidance on long-acting cabotegravir/rilpiverine (LA-CAB/RPV) for antiretroviral therapy" for full information	**Tab:** RPV 25mg (white/off-white), CAB (*Vocabria*) 30mg (white) **Inj:** CAB (*Vocabria*) 600mg (3ml), RPV (*Rekambys*) 900mg (3ml)	Do not cut/crush tabs. Injections may be given up to 7 days before or after the scheduled date.	**RPV:** See RPV **CTG:** With or without food
Single-pill FDCs: Always cross-reference with component drugs for full side-effects and additional information				
DTG + 3TC + ABC *Triumeq® / Triumeq PD®*	***Test HLA-B*5701 before starting, do not give abacavir if HLA-B*5701 +ve*** ***MUST SPECIFY FORMULATION WHEN PRESCRIBING - Film coated tablets are not bioequivalent to dispersible tablets*** **Paediatric dispersible tablet*: (≥10-13kg)**→4 tabs OD, **(≥14-19kg)**→5 tabs OD, **(≥20-24kg)**→6 tabs OD **Adult film-coated tablet: ≥25kg**: 1 tablet OD	**Paediatric dispersible Tab*:** DTG 5mg/3TC 30mg/ABC 60mg (**Expected 2023)* **Adult film-coated Tab:** DTG 50mg/3TC 300mg/ABC 600mg (pale grey/purple)	Dispersible tablets to be mixed with 20mls water before taking. Adult tablets can be cut/crushed.	Take with food as preference to enhance exposure
BIC + TAF + FTC **Bictegravir (BIC)** *Biktarvy®*	**Paediatric tablet*: ≥14kg to 24kg:** 1 paediatric tablet OD *(refer to PVC)* **Adult tablet (MHRA Licensed ≥18 years): ≥6 years & ≥25kg**:1 adult tablet OD *(refer to PVC)* Bictegravir: headache, diarrhoea, nausea, rash, mood changes, weight gain	**Paediatric Tab*:** BIC 30mg/TAF 15mg/FTC 120mg (**Expected 2023)* **Adult Tab:** BIC 50mg/TAF 25mg/FTC 200mg (Purplish-brown)	Do not cut/crush Avoid antacids/mineral supplements with polyvalent cations 2 hours after taking	With or without food
RPV + TAF + FTC *Odefsey®*	**≥12 years or ≥35kg**: 1 tablet OD with food	**Tab:** RPV25mg/TAF 25mg/FTC 200mg (grey)	Do not cut/crush. See RPV section for full information	Take with food. See RPV section for full information
RPV + TD + FTC *Eviplera ®*	**≥12 years & ≥35kg**: 1 tablet OD	**Tab:** RPV 25mg/TD 245mg/FTC 200mg (pink)		
TD + FTC + Efavirenz (EFV) *Generic (Atripla®)*	**≥ 35kg:** 1 tablet OD Efavirenz: Mood changes, vivid dreams (common but usually short lived), hypercholesterolemia, rash, gynaecomastia	**Tab**: TD 245mg/FTC 200 mg/EFV 600mg	Do not cut/crush	Take on empty stomach
DRV+COB+TAF+FTC *Symtuza®*	**≥12 years & ≥35kg**: 1 tablet OD ***Approval required by PVC before prescribing (NHS England)***	**Tab**: DRV 800mg/COB 150mg/TAF 10mg/FTC 200mg (Yellow/yellow-brown)	Can be cut. Avoid crushing (seek advice)	Take with food
ELV+COB+TAF+FTC *Genvoya®*	**≥6 years & ≥25kg: 1 tablet OD**	**Tab:** ELV 150mg/COB 150mg/TAF 10mg/ FTC 200mg (light green)	Can be cut. Avoid crushing (seek advice) Avoid antacids/ mineral supplements with polyvalent cations 4 hours before & after taking	Take with food
RPV + DTG *Juluca®*	**MHRA Licensed ≥18 years: ≥12 years & ≥35kg**: 1 tablet OD *(refer to PVC)*	**Tab:** RPV 25mg/DTG 50mg (pink)	Can be cut/crushed	Take with food
3TC + DTG *Dovato®*	**≥12 years & ≥25kg:** 1 tablet OD	**Tab:** 3TC 300mg/DTG 50mg (white)	Can be cut/crushed	With or without food
DOR + 3TC + TD *Delstrigo®*	**≥12 years & ≥35kg:** 1 tablet OD	**Tab**: DOR 100mg/3TC 300mg/TD 245mg (yellow)	Do not cut/crush	With or without food.
Supportive care				
Co-trimoxazole *Septrin®*	***PCP prophylaxis: Daily dosing preferred*** **(3-5kg)**→ 120mg OD**, (6-13kg)**→ 240mg OD**, (≥14kg)**→ 480mg OD	**Tab**:480mg (white) **Liq**: 240mg/5ml(paed), 480mg/5ml(adult)		With or without food

The PAEDIATRIC VIRTUAL CLINIC (PVC) takes place monthly; Please refer (ART initiation, simplification, resistance, TB, MAI, hepatitis etc) by Email: caroline.foster5@nhs.net

***** Prescribers retain responsibility for all prescribing decisions, including funding arrangements. Prescribing should be in line with CHIVA/BHIVA/PENTA/EACS guidelines, NHS England commissioning, local policy and formulary restrictions may apply*****

***Important information*:** Doses may not be as per license and may be referenced from international literature and trial data. Full prescribing information should always be reviewed concomitantly with this table. Patients with renal/liver impairment may require dose modification, discuss with a pharmacist. Prescribers should round up doses to the nearest 'sensible' measurable volume/dose.

Always check potential side-effects and drug interactions between all ARVs and with concomitant therapy, see www.hiv-druginteractions.org. TDM is available for antiretroviral drugs (seek advice) - www.camclinlabs.co.uk/virology

This table was prepared as the consensus view of the Imperial College Healthcare Trust Family Clinic September 2022. The table is intended to be used by practitioners experienced in paediatric HIV care. Please do not use this outside these recommendations.

The table will be reviewed by September 2023 Tel: Family clinic: 020-3312-6349, Paed HIV Pharmacist: 020-3312-7617 Contributors: Caroline Foster, Hermione Lyall, Neil Tickner Please email feedback to: ntickner@nhs.net Version 7