

## ANTIRETROVIRALS: ADULT and PEDIATRIC DOSING, ADVERSE REACTIONS, and INTERACTION POTENTIAL

Generic Name (Brand Name)	Abbrev.	Adult Dosing	Infant/Pediatric Dosing	Adverse Reactions	Potential for Interactions
<b>NUCLEOSIDE/TIDE REVERSE TRANSCRIPTASE INHIBITORS (NRTIs)</b>			<b>hepatotoxicity, mitochondrial toxicity, lactic acidosis</b>		
<b>Abacavir</b> (Ziagen)	<b>ABC</b>	<ul style="list-style-type: none"> <li>300 mg BID</li> <li>600 mg QD</li> <li><b>No food restrictions</b></li> </ul>	<ul style="list-style-type: none"> <li>Infant (&lt;3m): not approved</li> <li>Pediatric (≥3m): 8mg/kg BID (max: 300mg BID)</li> <li>Wt-based dosing for 300mg scored tablet: 14-21kg→150mg BID; 21-30kg→150mg AM + 300mg PM; &gt;30kg→300mg BID</li> </ul>	N, V, HSR (check HLA-b5701 before start; fever, malaise, GI s/sx, R; do not rechallenge)	Minimal
<b>Didanosine</b> (Videx EC)	<b>ddl</b>	<ul style="list-style-type: none"> <li>400 mg QD (≥60kg)</li> <li>250 mg QD (&lt;60 kg)</li> <li><b>Empty stomach</b></li> </ul>	<ul style="list-style-type: none"> <li>Neonate/infant (2wk-8m): 100mg/m<sup>2</sup> BSA Q12h (50-100mg/m<sup>2</sup> BSA Q12h)</li> <li>Pediatric (&gt;8m): 120mg/m<sup>2</sup> BSA Q12h</li> <li>Wt-based: 20-25kg→200mg QD; 25-60kg→250mg QD; ≥60kg→400mg QD</li> </ul>	Pancreatitis, peripheral neuropathy	TDF increases ddl AUC: reduce ddl dose to 250 mg QD if given with TDF 300 mg QD
<b>Emtricitabine</b> (Emtriva)	<b>FTC</b>	<ul style="list-style-type: none"> <li>200 mg QD</li> <li><b>No food restrictions</b></li> </ul>	<ul style="list-style-type: none"> <li>Pediatrics (3m-17yr): 6mg/kg oral solution QD (max: 240mg or 24mL) or 200mg QD (if ≥33kg)</li> </ul>	HA, N, V	Minimal
<b>Lamivudine</b> (Epivir)	<b>3TC</b>	<ul style="list-style-type: none"> <li>150 mg BID or 300 mg QD</li> <li><b>No food restrictions</b></li> </ul>	<ul style="list-style-type: none"> <li>Neonate/infant (&lt;30d): 2mg/kg BID</li> <li>Pediatric: 4mg/kg BID</li> <li>Wt-based dosing for scored 150mg tablets: 14-21kg→75mg BID; 21-30kg→75mg AM + 150mg PM; &gt;30kg→150mg BID</li> </ul>	HA, N, V	Minimal
<b>Stavudine</b> (Zerit)	<b>d4T</b>	<ul style="list-style-type: none"> <li>40mg BID (≥60kg)</li> <li>30 mg BID (30-60kg)</li> <li><b>No food restrictions</b></li> </ul>	<ul style="list-style-type: none"> <li>Neonate/infant (birth to 13d): 0.5mg/kg Q12h</li> <li>Pediatric (&lt;30kg): 1mg/kg Q12h</li> </ul>	Peripheral neuropathy	Minimal
<b>Tenofovir</b> (Viread)	<b>TDF</b>	<ul style="list-style-type: none"> <li>300 mg QD</li> <li><b>No food restrictions</b></li> </ul>	<ul style="list-style-type: none"> <li>Pediatric (under investigation): 2-8 yrs → 8 mg/kg QD; &gt;8 yrs → 210 mg/ m<sup>2</sup> BSA</li> </ul>	N, V, flatulence, renal toxicity	Increases ddl AUC: reduce ddl dose to 250 mg QD if given with TDF
<b>Zidovudine</b> (Retrovir)	<b>AZT, ZDV</b>	<ul style="list-style-type: none"> <li>300 mg BID</li> <li>200 mg TID</li> <li><b>No food restrictions</b></li> </ul>	<ul style="list-style-type: none"> <li>Premature: 1.5mg/kg IV Q12hr or 2mg/kg PO Q12h; increase at 2-4wk to Q8h</li> <li>Neonate/infant (&lt;6wk): 2mg/kg PO Q6h or 1.5mg/kg IV Q6h</li> <li>Pediatric (6wk-12yr): 160mg/m<sup>2</sup> BSA PO TID or 240 mg/ m<sup>2</sup> BSA PO BID</li> <li>Wt-based: 4-9 kg→12mg/kg BID; 9-30kg→9mg/kg BID; ≥30 kg→300mg BID</li> </ul>	Anemia, HA, neutropenia, BM suppression, N, V	Minimal; avoid use with other bone marrow (BM) toxic medications
<b>Zidovudine / Lamivudine</b> (Combivir)	<b>AZT/3TC</b>	<ul style="list-style-type: none"> <li>One tablet (300/150) BID</li> <li><b>No food restrictions</b></li> </ul>	Not recommended	See AZT & 3TC	See AZT & 3TC
<b>Abacavir / Lamivudine</b> (Epzicom)	<b>ABC/3TC</b>	<ul style="list-style-type: none"> <li>One tablet (600/300) QD</li> <li><b>No food restrictions</b></li> </ul>	Not recommended	See 3TC & ABC	See 3TC & ABC
<b>Zidovudine / Lamivudine / Abacavir</b> (Trizivir)	<b>AZT/3TC/ABC</b>	<ul style="list-style-type: none"> <li>One tablet (300/150/300) BID</li> <li><b>No food restrictions</b></li> </ul>	Not recommended	See AZT, 3TC, & ABC	See AZT, 3TC, & ABC
<b>Tenofovir / Emtricitabine</b> (Truvada)	<b>TDF/FTC</b>	<ul style="list-style-type: none"> <li>One tablet (300/200) QD</li> <li><b>No food restrictions</b></li> </ul>	Not recommended	See FTC & TDF	See TDF & FTC
<b>NON-NUCLEOSIDE REVERSE TRANSCRIPTASE INHIBITORS (NNRTIs)</b>			<b>rash, hepatotoxicity</b>		
<b>Delavirdine</b> (Rescriptor)	<b>DLV</b>	<ul style="list-style-type: none"> <li>400 mg TID</li> <li><b>No food restrictions</b></li> </ul>	Not recommended		Both substrate and inhibitor of liver enzymes
<b>Efavirenz</b> (Sustiva)	<b>EFV</b>	<ul style="list-style-type: none"> <li>600 mg QD</li> <li><b>Initially at HS and preferably on empty stomach</b></li> </ul>	<ul style="list-style-type: none"> <li>Pediatric: 200mg QD (10-15kg); 250mg QD (15-20kg); 300mg QD (20-25kg); 350mg QD (25-32.5kg); 400mg QD (32.5-40kg); 600mg QD (&gt;40kg)</li> </ul>	CNS effects: dizziness, insomnia, vivid dreams	Inducer, inhibitor, and substrate of liver enzymes
<b>Etravirine</b> (Intelence)	<b>ETR</b>	<ul style="list-style-type: none"> <li>200 mg BID</li> <li><b>With food</b></li> </ul>	No data available	N	ETR is a substrate and inducer of liver enzymes (3A4, 2C9, 2C19) Do not co-administer with TPV/r, f-APV/r, ATV/r, non-RTV-boosted PIs, & other NNRTIs
<b>Nevirapine</b> (Viramune)	<b>NVP</b>	<ul style="list-style-type: none"> <li>200mg QDx2wks; then 200mg BID</li> <li><b>No food restrictions</b></li> </ul>	<ul style="list-style-type: none"> <li>Neonate (&lt;14 days) prophylaxis dose for MTCT: 2 mg/kg single dose</li> <li>Pediatric: 150 mg/m<sup>2</sup> BSA QD x2wk; then 150 mg/m<sup>2</sup> BSA Q12hr</li> </ul>	R, hepatotoxicity	Both substrate and inducer of liver enzymes

TN= treatment-naïve, TE= treatment-experienced, N= nausea, D= diarrhea, V= vomiting, HA= headache, R= rash

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Generic Name (Brand Name)	Abbrev.	Adult Dosing	Infant/Pediatric Dosing	Adverse Reactions	Potential for Interactions
<b>Dual NRTI plus NNRTI Combination</b>					
<b>Efavirenz / Tenofovir / Emtricitabine</b> (Atripla)	<b>EFV/ TDF/FTC</b>	<ul style="list-style-type: none"> <li>One tablet (600/300/200) QD</li> <li><b>Preferably empty stomach</b></li> </ul>	Not recommended	N, HA, D, CNS effects	See TDF, FTC, and EFV
<b>ENTRY INHIBITORS(Fusion Inhibitors and CCR5 Co-receptor Antagonists)</b>					
<b>Enfuvirtide</b> (Fuzeon)	<b>ENF, T-20</b>	<ul style="list-style-type: none"> <li>90mg SQ BID</li> </ul>	<ul style="list-style-type: none"> <li>Pediatric (6-16 yr): 2mg/kg SQ BID (max dose 90mg BID)</li> </ul>	Injection site reactions; myalgia	Minimal
<b>Maraviroc</b> (Selzentry)	<b>MVC</b>	<ul style="list-style-type: none"> <li>MVC+strong CYP3A inhibitor (except TPV): 150mg BID</li> <li>MVC+CYP3A inducer only: 600mg BID</li> <li>MVC+NRTIs, TPV, NVP: 300mg BID</li> <li><b>No food restrictions</b></li> </ul>	No data available	R, cough, fever, musculoskeletal symptoms, hepatotoxicity	MVC is a substrate of liver enzymes. CYP3A inhibitors (w/ or w/o inducers), PIs (except TPV/r) and DLV can increase MVC. CYP3A inducers (w/o inhibitors) can decrease MVC.
<b>INTEGRASE INHIBITORS</b>					
<b>Raltegravir</b> (Isentress)	<b>RAL</b>	<ul style="list-style-type: none"> <li>400mg BID</li> <li><b>No food restrictions</b></li> </ul>	No data available	N, HA, increased creatine kinase	Strong inducers of UGT 1A1 (e.g. rifampin) can decrease RAL concentrations
<b>PROTEASE INHIBITORS (PIs)</b> <span style="float: right;"><i>hepatotoxicity, lipodystrophy, dyslipidemias, insulin resistance/ hyperglycemia</i></span>					
<b>Atazanavir</b> (Reyataz)	<b>ATV</b>	<ul style="list-style-type: none"> <li>TN: 400mg QD</li> <li>300mg QD + RTV 100mg QD</li> <li><b>With food</b></li> </ul>	<ul style="list-style-type: none"> <li>Pediatric (6-18 yrs):</li> <li>15-24 kg: ATV 150mg + RTV 80mg</li> <li>25-31 kg: ATV 200mg + RTV 100mg</li> <li>32-39 kg: ATV 250mg + RTV 100mg</li> <li>≥39 kg: ATV 300mg + RTV 100mg</li> </ul>	↑ bilirubin, EKG changes (rare)	Both substrate and inhibitor of liver enzymes. Boost with RTV when given with TDF. Refer to package insert when given with H-2 blockers or PPIs.
<b>Darunavir</b> (Prezista)	<b>DRV</b>	<ul style="list-style-type: none"> <li>TN: 800mg + RTV 100mg QD</li> <li>TE: 600mg + RTV 100mg BID</li> <li><b>With food</b></li> </ul>	<ul style="list-style-type: none"> <li>Pediatric (6-18 yrs; &gt;20kg):</li> <li>20-30kg → 375mg + RTV 50mg BID</li> <li>30-40kg → 450mg + RTV 60mg BID</li> <li>≥40kg → 600mg + RTV 100mg BID</li> </ul>	R, N, D, HA, rash	Inhibitor of CYP3A
<b>Fosamprenavir</b> (Lexiva)	<b>f-APV</b>	<ul style="list-style-type: none"> <li>TN: 1400mg BID or 1400mg QD + RTV 100-200mg QD</li> <li>700mg BID + RTV 100mg BID</li> <li><b>No food restrictions</b></li> </ul>	<ul style="list-style-type: none"> <li>TN &amp; 2-5 yrs: 30 mg/kg BID</li> <li>TN &amp; ≥6 yrs: 30 mg/kg BID or 18 mg/kg + RTV 3 mg/kg BID</li> <li>TE &amp; ≥6 yrs: 18 mg/kg + RTV 3 mg/kg BID</li> </ul>	See APV	Both substrate and inhibitor of CYP3A.
<b>Indinavir</b> (Crixivan)	<b>IDV</b>	<ul style="list-style-type: none"> <li>800mg Q8h</li> <li><b>Empty stomach; ≥48oz of fluid/d</b></li> <li>800mg BID + RTV 100-200mg BID</li> <li><b>Can take with food</b></li> </ul>	<ul style="list-style-type: none"> <li>Pediatric (4-15yr; under investigation): 500mg/m<sup>2</sup> BSA Q8h</li> </ul>	N, ↑ bilirubin, kidney stones	Both substrate and inhibitor of CYP3A.
<b>Lopinavir / ritonavir</b> (Kaletra)	<b>LPV/r</b>	<ul style="list-style-type: none"> <li>Two tablets (200/50 per tablet) BID</li> <li>TN: four tablets QD</li> <li><b>With food</b></li> </ul>	<ul style="list-style-type: none"> <li>Neonate/infant (14d-6m): 300 mg/m<sup>2</sup> BSA LPV/75 mg/m<sup>2</sup> BSA RTV BID or 16mg/kg LPV/4mg/kg RTV BID</li> <li>Pediatric (6m-18yr): 230 mg/m<sup>2</sup> BSA LPV/57.5 mg/m<sup>2</sup> BSA RTV BID or &lt;15kg:12mg/kg LPV/3mg/kg RTV BID; 15-40kg:10mg/kg LPV/2.5 mg/kg RTV BID</li> </ul>	D, N, ↑ GGT	Both substrate & inhibitor of liver enzymes; contains RTV (potent liver enzyme inhibitor) Refer to package insert for concomitant dosing with EFV, NVP, fos-APV, NFV
<b>Nelfinavir</b> (Viracept)	<b>NFV</b>	<ul style="list-style-type: none"> <li>1250mg BID</li> <li>750mg TID</li> <li><b>With food</b></li> </ul>	<ul style="list-style-type: none"> <li>Neonate/infant (under investigation): not approved</li> <li>Pediatric (2-13yr): 45-55 mg/kg BID</li> <li>10-13kg → 2x250mg BID; 13-18kg → 3x250mg BID; 19-20kg → 4x250mg BID; ≥21kg → 4-5x250mg BID</li> </ul>	D, N, V	Both substrate and inhibitor of CYP3A. Substrate of CYP2C19.
<b>Ritonavir</b> (Norvir)	<b>RTV</b>	<ul style="list-style-type: none"> <li>Given 100-20mg QD-BID to boost PIs</li> <li><b>With food</b></li> </ul>	<ul style="list-style-type: none"> <li>Pediatric: 350-450 mg/m<sup>2</sup> BSA BID (to minimize N/V 250 mg/m<sup>2</sup> BSA Q12h and increase to full dose over 5d)</li> </ul>	D, N, V	Significant drug interactions. Inhibitor of CYP3A and 2D6. Inducer p-glycoprotein.
<b>Saquinavir</b> (Invirase)	<b>SQV</b>	<ul style="list-style-type: none"> <li>1000mg BID + RTV 100mg BID</li> <li><b>With meals</b></li> </ul>	Not approved	D, N, abdominal pain	Both substrate and inhibitor of CYP3A
<b>Tipranavir</b> (Aptivus)	<b>TPV</b>	<ul style="list-style-type: none"> <li>500mg BID + RTV 200mg BID</li> <li><b>With food</b></li> </ul>	<ul style="list-style-type: none"> <li>Pediatric (2-18 yrs):</li> <li>375 mg/m<sup>2</sup> BSA+RTV 150 mg/m<sup>2</sup> BSA BID or 14 mg/kg+RTV 6 mg/kg BID</li> </ul>	D, N, V, HA	Net inhibitor of liver enzymes (CYP3A) and inducer of p-glycoprotein.

TN= treatment-naïve, TE= treatment-experienced, N= nausea, D= diarrhea, V= vomiting, HA= headache, R= rash

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