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ANTIRETROVIRAL DOSING GUIDELINES TABLES

A Quick Reference Guide

Click **HERE** for the PDF version of this table.

Click on Brand Name of drug for manufacturer prescribing information.

Click the appropriate table heading for detailed drug information available on this site. Once a day drugs and boosted PIs are highlighted in green

Quick	NRTI/NtRTINNR	Protease	Fusion	Coreceptor	PI	PI	Coformulations
Links		Inhibitors	Inhibitors	Inhibitors	Boosting	Combo	Colorillulations

Nucleoside (NRTI) and Nucleotide (NtRTI) Reverse Transcriptase Inhibitors					
Generic	Dosing	Adverse Effects	Comments		
ABACAVIR SULFATE (Ziagen)	300 mg BID or 300 mg 2 taken once a day (not FDA-approved) Tablets: 300 mg; Liquid 20 mg/ml Take with/without food	Headache, malaise Nausea, vomiting Diarrhea Hypersensitivity reaction 2-5% (fever, nausea, vomiting, rash, diarrhea, SOB) Rare: lactic acidosis	Perform HLA-B5701 test prior to using this drug, and administer drug only if the test is nonreactive or negative. STOP only if CERTAIN that patient is hypersensitive. DO NOT RECHALLENGE.		
DIDANOSINE (ddl) (Videx)	wt > 60 kg: 2 x 100 mg BID wt < 60 kg: 125 mg bid Tablets: 25 mg, 100 mg, 150 mg, 200 mg Powder: 100 mg, 167 mg, 250 mg packets Take on empty stomach 1/2 hour ac or 1 hour pc. Must have dose in 2 tabs. Chew tablets or dissolve in H2O. Dose reduction for renal impairment	Nausea • Diarrhea Headache Pancreatitis, possibly fatal Peripheral neuropathy Rare: lactic acidosis	Contraindicated in patients with history of alcoholism, pancreatitis (do baseline lipase) This form of didanosine has been largely replaced by Videx EC No alcohol. Can be taken on an empty stomach with other antiretrovirals.		
DIDANOSINE (ddl) (Videx EC)	400 mg once daily Capsules 125 mg, 200 mg, 250 mg, 400 mg Take on empty stomach. Swallow capsule whole Dose reduction for renal impairment	Nausea • Diarrhea Headache Pancreatitis, possibly fatal Peripheral neuropathy Rare: lactic acidosis	No alcohol. Can be taken on an empty stomach with other antiretrovirals. Adherence enhanced with use of ddl-EC formulation Contraindicated in patients with history of alcoholism, pancreatitis (do baseline lipase or pamylase) Administration with tenofovir results in blunting of CD4 increase or even decreases in CD4		
EMTRICITABINE (FTC) (Emtriva)	200 mg once daily capsules Take with or without food Dose reduction for renal impairment	Well tolerated Skin discoloration Possible flare-up of HBV when discontinued Rare: lactic acidosis	Active against HBV Therapy with emtricitabine should not be stopped suddenly unless other potent antiretrovirals are substituted for at least 48-72h		
LAMIVUDINE	150 mg BID or 300 mg once a day	Well tolerated Possible flare-up of	• ddC/3TC or ddl/3TC combinations contraindicated		

(3TC) (Epivir)	<50 kg: 2 mg/kg BID Tablets 150 mg; Liquid 10 mg/ml Dose reduction for renal impairment Take with/without food	HBV when discontinued • Rare: lactic acidosis	Active against HBV Therapy with lamivudine should not be stopped suddenly unless other potent antiretrovirals are substituted for at least 48-72h
STAVUDINE (d4T) (Zerit)	40 mg bid Capsules: 15 mg, 20 mg, 30 mg, 40 mg wt > 60 kg: 40 mg q 12 hours wt < 60 kg: 30 mg q 12 hours Dose reduction for renal impairment Take with/without food	Peripheral neuropathy Fat redistribution syndrome High potential for mitochondrial toxicity Rare: lactic acidosis	AZT/d4T combination contraindicated ddl/d4T contraindicated during pregnancy Use other NRTI options if available due to increased risk of mitochondrial toxicity associated with this agent.
TENOFOVIR (TDF) (Viread)	300 mg daily with food Dose reduction for renal impairment	Possible nephrotoxicity Possible flare-up of HBV on d/c Possible bone loss Rare: lactic acidosis	Active against HBV Significantly increases DDI levels Follow renal function when using multiple nephrotoxins including NSAIDs Administration with didanosine may result in blunting of CD4 increase or even decreases in CD4
ZALCITABINE (ddC) (Hivid)	0.75 mg every 8 hours Tablets: 0.375 mg, 0.75 mg Dose reduction for renal impairment Take with/without food	Peripheral neuropathy Stomatitis Rare: lactic acidosis	Take with/without food ddl/ddC, d4T/ddC or 3TC/ddC combinations contraindicated This drug is generally not recommended due to toxicity and lower efficacy
ZIDOVUDINE (AZT) (Retrovir)	300 mg twice a day Capsules 100 mg; Tablets 300 mg; Liquid 50 mg/5 ml Dose reduction for renal impairment Take with/without food	Anemia/neutropenia Nausea/myopathy Headache/insomnia Rare: lactic acidosis	FDA approved for use in pregnancy to decrease perinatal transmission as part of combination therapy or monotherapy as a minimum

Generic	Dosing	Adverse Effects	Comment
DELAVIRDINE (Rescriptor)	600 mg BID or 400 mg 3 times per day Tablets 100 mg, 200 mg May drop 4-6 tabs in 3 oz water to produce suspension	Rash Headaches Hepatitis	Antacids and ddl: separate administration by 1 hr Multiple drug interactions Increases AUC of other PIs No data with oral contraceptives This NNRTI is not recommended due to higher pill burden, higher dosing frequency, and meal dependence.
EFAVIRENZ (Sustiva)	600 mg PO at bedtime or once daily Capsules: 50, 100, 200, 600 mg	Rash CNS symptoms: dizziness, somnolence, insomnia, abnormal dreams, confusion, impaired thinking Increased LFTs in patients with prior history of hepatitis B and/or C	False positive screening cannabinoid test possible Multiple drug interactions Pregnancy should be avoided. Barrier contraception should always be used in combination with other methods of contraception (oral or other hormonal contraceptives) Not recommended in combination with saquinavir as a sole Pl Take with/without food. Avoid high fat meals Avoid coadministration with clarithromycin Therapy with efavirenz should not be stopped suddenly unless other potent antiretrovirals are substituted for at least 2-4 weeks.
NEVIRAPINE (Viramune)	200 mg once a day x 14 days, then 200 mg twice a day or 2 x 200 mg once a	Rash, usually mild but possibly severe (Stevens Johnson) Hepatitis which may be severe	Take with/without food Discontinue in patient with severe rash or rash with fever, blistering, oral lesions, conjunctivitis, swelling, muscle/joint aches. Reduces effectiveness of oral contraceptives Multiple drug interactions OD dosing slightly more hepatotoxic Therapy with nevirapine should not be stopped suddenly unless other potent antiretrovirals are

day Tablets: 200 mg	 substituted for at least 2-4 weeks. Avoid starting this drug in females with CD4 > 250 or males with CD4 > 400
Liquid: 50 mg/5 ml	

Generic	Dosing	Adverse Effects	Comments
TIPRANAVIR (Aptivus)	Tipranavir 2 x 250 mg BID with food + Ritonavir 2x100 mg BID with food	Diarrhea, N&V Rash 10-15% Headache Hepatitis Hyperlipidemia Hyperglycemia Fat redistribution	Always taken with ritonavir Contains sulfonamide component (use cautiously with sulfonamide allergy) Take with food Contraindicated with moderate or severe hepatic dysfunction Monitor liver enzymes, lipids, serum glucose Studied only in salvage situations by the time of approval Should not be taken with other protease inhibitors except for ritonavir
			Approved by US FDA 6.22.2005
AMPRENAVIR (Agenerase)	8 x 150 mg twice a day Capsules 50 mg, 150 mg, liquid 15 mg/ml Capsules and oral solution are not interchangeable on a milligram per milligram basis Administer with/without food (avoid high fat meals)	N&V, diarrhea Rash Circumoral paresthesia Not recommended to use with oral contraceptives Hyperlipidemia Hyperglycemia Fat redistribution	Large capsule size and high pill burden Do not take with vitamin E supplement Take at least 1 hour before or after use of antacids or ddl Patients with impaired hepatic function require dosage adjustment Increase dose when combined with efavirenz Amprenavir has been largely replaced by its prodrug fosamprenavir which is better tolerated and has a much lower pill burden. GlaxoSmithKline ceased production of amprenavir in October 2007.
DARUNAVIR (Prezista)	darunavir 300 mg, two twice a day + ritonavir 100 mg, one twice a day Tablets 300 mg Administer both medications with food.	N&V, diarrhea Rash Circumoral paresthesia Not recommended to use with oral contraceptives Hyperlipidemia Hyperglycemia Fat redistribution	Indicated only for treatment-experienced patients Darunavir may have the best activity against protease-inhibitor resistant HIV
FOSAMPRENAVIR (Lexiva)	2x700 mg twice a day Pill or capsules (?) 700 mg	N&V, diarrhea Rash Hyperlipidemia? Hyperglycemia? Fat redistribution?	Take at least 1 hour before or after use of antacids or ddl? Patients with impaired hepatic function require dosage adjustment? Increase dose when combined with efavirenz? Ritonavir 100 mg + Lexiva 2 x 700 mg approved in late 2007 - for treatment naive patients
	1 x 700 mg BID + 100 mg ritonavir twice a day		Approved 10.20.2003
	for treatment naive pts only:		

ATAZANAVIR (Reyataz)	2 x 700 mg daily + ritonavir 1-2 x 100 mg daily 2 x 200 mg once daily Capsules: 100 mg, 150 mg, 200 mg Take with food With concomitant efavirenz and/or tenofovir: 1 x 300 mg or 2 x 150 mg daily + ritonavir 100 mg daily	GI intolerance Hepatitis	Only PI approved for once daily dosing Possibly less hyperlipidemia than other PIs No significant interaction with oral contraceptives Dose adjustment/interaction with efavirenz & tenofovir suggested (nevirapine interaction unknown 10.2003)
INDINAVIR (Crixivan)	2 x 400 mg every 8 hours (at least 1 hr ac or 2 hr pc) Capsules: 200 mg, 330 mg, 400 mg May take with skim milk, juice or light meal Decrease dose to 600 mg q 8 hrs with ketoconazole/itraconazole	Kidney stones Hyperbilirubinemia Gl intolerance Hyperlipidemia Hyperglycemia Fat redistribution	Maintain adequate hydration at least 48 oz H ₂ O/day Grapefruit juice decreases indinavir levels by 26% Keep in original container with dessicant Can use with oral contraceptives Separate by 2 hrs from ddl Increase dose when combined with efavirenz
LOPINAVIR / RITONAVIR (Kaletra)	2 film-coated tablets twice a day Take with or without food Dosing form of choice! 3 capsules twice a day or one teaspoon liquid BID Singe daily dosing for antiretroviral naïve patients 6 capsules once a day with food Capsules 133/33mg, liquid 400/100 mg per 5 cc Take with food	Diarrhea, N&V Headache Hepatitis Hyperlipidemia Hyperglycemia Fat redistribution	Many, many drug interactions Reduces effects of oral contraceptives Liquid form contains ethanol Increase dose when combined with efavirenz Increased GI side effects with single daily dosing Single daily dosing approved 4.29.2005 Film-coated tablets approved 8.28.2005
NELFINAVIR (Viracept)	2 x 625 mg BID or or 3 x 250 mg TID with meal or light snack Tablets 250 mg, 625 mg; 50 mg/g oral powder With concomitant efavirenz or nevirapine: 6 x 250 mg bid	Diarrhea (reduced with calcium supplement or fiber) Hyperlipidemia Hyperglycemia Fat redistribution	Reduces effectiveness of oral contraceptives Increase dose when combined with efavirenz

RITONAVIR (Norvir)	6 x 100 mg BID with food (start with 300 mg BID and dose escalate over next 1-2 weeks). Caps 100 mg. Oral solution 600 mg/7.5 ml Separate by ≥ 2 hrs from didanosine buffered form.	N&V, diarrhea Taste perversion Circumoral and peripheral paresthesia Hepatitis Hyperlipidemia Hyperglycemia Fat redistribution Elevated CPK and uric acid levels	Refrigerate capsules but not liquid Has multiple possible drug interactions Formulated in alcohol. Do not give to pts taking disulfiram Reduces effectiveness of oral contraceptives Used to boost other protease inhibitors (see below) Increase dose when combined with efavirenz
SAQUINAVIR (Fortovase) Soft Gel Capsules (SGC)	1600 mg twice a day or 6 x 200 mg three times per day Take with food containing fat. Capsules: 200 mg	Diarrhea/nausea GI intolerance Elevated transaminase levels Headache Hyperglycemia Fat redistribution and lipid abnormalities	Can use with oral contraceptives Grapefruit juice and ketoconazole increase levels Stable at room temperature for 3 months Increase dose when combined with efavirenz Boosting with ritonavir is usually preferable Production of this drug will cease in 2006. Replace with equivalent dose of hard gel cap form of the drug (Invirase)
SAQUINAVIR (Invirase) Hard Gel Capsules (HGC)	Capsules: 200 mg or 500 mg Invirase 2 x 500 mg BID with food + Ritonavir 100 mg BID with food Used mainly in boosted regimes (see below) Take with food.	Diarrhea/nausea GI intolerance Elevated transaminase levels Headache Hyperglycemia Fat redistribution and lipid abnormalities	Can use with oral contraceptives Grapefruit juice and ketoconazole increase levels Stable at room temperature for 3 months Increase dose when combined with efavirenz may be approved 12.23.2004 and available 2.18.2005

Fusion Blocker (FB)						
Generic	Dosing	Adverse Effects	Comment			
ENFUVIRTIDE (Fuzeon)	90 mg injected SQ every 12 hours	Injection site reactions: erythema, induration, pain/tenderness	Expensive, labor-intensive therapy for deep salvage in highly motivated patient only Must be used with at least two other active			
	Vial: 90 mg/1cc		antiretrovirals or resistance develops rapidly			

Coreceptor Inhibitors						
Generic	Dosing	Adverse Effects	Comment			
MARAVIROC (Selzentry)	Tablets 150 mg, 300 mg	Orthostatic hypotension	Tropism assay required before use: the results must indicate the absence of X4 virus.			
	Dose varies depending on concomitant therapy (for more info, click HERE)	Rare and possibly severe hepatitis				

Protease Inhibitor Boosting (One Active Protease Inhibitor)					
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Generic	Dosing	Adverse Effects	Comment
Saquinavir boosted with ritonavir	1. 8 x 200 mg saquinavir hard-gel capsule + 100 mg ritonavir both once a day with food 2. 2 x 500 mg saquinavir hard-gel capsule + 100 mg ritonavir, both bid with food 3. 5 x 200 mg saquinavir hard-gel capsule + 100 mg ritonavir, both bid with food 4. 2 x 200 mg saquinavir hard-gel capsule + 4x100 mg ritonavir both bid with food 2 x 400 mg indinavir	Adverse Effects Hyperlipidemia, hepatitis, fat redistribution, diarrhea, abdominal pain, diarrhea Hyperlipidemia, hepatitis,	Higher doses of ritonavir may be associated with increasing hyperlipidemia, GI intolerance, hepatitis, perioral paresthesia, and increased drug interactions Hydration with at least 48-64 oz of fluid
boosted with ritonavir	bid + 1-2 x 100 mg ritonavir bid with or without food	fat redistribution, diarrhea, abdominal pain, chapped lips, nephrolithiasis	per day is necessary.
Amprenavir boosted with ritonavir	8 x 150 mg amprenavir daily + 2 x 100 mg ritonavir daily With food or 4 x 150 mg amprenavir bid + 1 x 100 mg ritonavir bid both with food	Hyperlipidemia, hepatitis, nausea, fat redistribution	Amprenavir has been largely replaced by its prodrug fosamprenavir which is better tolerated and has a much lower pill burden
Lopinavir/ritonavir boosted with ritonavir	3 caps lopinavir/ritonavir bid + 1 x 100 mg ritonavir bid dose with food	Hyperlipidemia, hepatitis, fat redistribution, diarrhea, abdominal pain, diarrhea	
Atazanavir boosted with ritonavir	2 x 150 mg atazanavir + 1 x 100 mg ritonavir both once a day with food	Possible hyperlipidemia	
	2 x 700 mg	Nausea, headache, rash,	Newest PI with least experience but

Fosamprenavir boosted with ritonavir	fosamprenavir + 2 x 100 mg ritonavir both once a day or 700 mg fosamprenavir + 100 mg ritonavir Both twice a day	diarrhea	appears to be an excellent option anecdotally. Once a day option is not to be used for antiretroviral-experienced patients
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Protease Inhibitor Combination Therapy (Two Active Protease Inhibitors)				
Generic	Dosing	Adverse Effects	Comment	
Saquinavir combined with lopinavir/ritonavir	2 x 500 mg saquinavir hard-gel caps bid + 3 caps lopinavir/ritonavir bid both with food	Hyperlipidemia, hepatitis, fat redistribution, diarrhea, abdominal pain, diarrhea		
Lopinavir/ritonavir combined with indinavir	3 caps lopinavir/ritonavir bid + 2 x 333-400 mg indinavir bid Both with food	Hyperlipidemia, hepatitis, fat redistribution, diarrhea, abdominal pain, diarrhea, nephrolithiasis	May be one of the most successful PI strategies against PI-resistant virus?	

Coformulations (multiple active components)					
Brand	Components	Dosing	Adverse Effects	Hepatitis B Activity	Comment
Atripla	efavirenz 600 mg emtricitabine 200 mg tenofovir 300 mg	1 pill once a day on an empty stomach	CNS stimulation Possible nephropathy Possible osteopenia	++	Avoid sudden discontinuation in patients with hepatitis B
Combivir	lamivudine 150 mg zidovudine 300 mg	1 pill twice a day	Bone marrow suppression Nausea Headache	+	Avoid sudden discontinuation in patients with hepatitis B
Epzicom	abacavir 300 mg lamivudine 150 mg	1 pill once a day	Hypersensitivity to abacavir 5% Nausea	+	Avoid sudden discontinuation in patients with hepatitis B Perform HLA-B5701 test prior to using this drug, and administer drug only if the test is nonreactive or negative.

Trizivir	abacavir 300 mg lamivudine 150 mg zidovudine 300 mg	1 pill twice a day	Hypersensitivity to abacavir 5% Nausea Bone marrow suppression Headache	+	Avoid sudden discontinuation in patients with hepatitis B Perform HLA-B5701 test prior to using this drug, and administer drug only if the test is nonreactive or negative.
Truvada	emtricitabine 200 mg tenofovir 300 mg	1 pill once a day	Possible nephropathy Possible osteopenia	++	Avoid sudden discontinuation in patients with hepatitis B

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