Summary of antiretroviral drugs, side effects, monitoring and counselling points

Class	Antiretroviral agents	Common side-effects	Key monitoring parameters	Key counselling points
NRTI	**Abacavir** 300mg bd or 600mg od	Hypersensitivity reaction Histopathology for HLA-B(*)5701 should be carried out before initiating treatment+ Abdominal pains, nausea, headache	Should not be given to patients with moderate to severe hepatic impairment	Advise about Abacavir hypersensitivity syndrome symptoms. Caution in patients with cardiovascular disease
	Didanosine **>60kg** 400mg od or 200mg bd (250mg od if co-administered with tenofovir) **<60kg** 250mg od or 125mg bd (200mg od if co-administered with tenofovir	Peripheral neuropathy and pancreatitis	Dose adjustment in renal impairment. Consult product literature	Doses should be taken at least 30 minutes before, or 2 hours after, a meal
	Emtricitabine 200mg od	Headache, Diarrhoea, nausea Skin pigmentation	LFTs and dose adjustment in renal impairment. Consult product literature	None
	Lamivudine 300mg od or 150mg bd	Well tolerated, rarely nausea, diarrhoea	LFTs and dose adjustment in renal impairment, Consult product literature	None
	Stavudine >60kg 40mg bd	Peripheral	LFTs and dose adjustment in	Advise about neuropathy and

	<60kg 30mg bd **<u>Tenofovir</u>** 300mg disoproxil fumarate which is the same as 245mg od as disoproxil **<u>(TAF)Tenofovir alafenamide</u>** 25mg od or 10mg od with enzyme inhibitors **<u>Zidovudine</u>** 250mg bd	neuropathy, nausea, diarrhoea, lactic acidosis Abdominal pain, diarrhoea, nausea, Hypophosphataemia, bone pain osteomalacia Anaemia, leucopenia, and neutropenia dizziness, headache, malaise, myalgia, and gastrointestinal symptoms such as abdominal pain, nausea, and vomiting	renal impairment, Consult product literature LFTs and renal parameters including UPCR. Dose adjustment in renal impairment, consult product literature. Note extra drug interactions with TAF (as it is transported by p-glycoprotein) LFTs and renal impairment, consult product literature	symptoms of lactic acidosis UK licence states to take with food but it can be advised that it can be taken without food as there are adequate therapeutic drug levels without food and it is often more convenient Taking with food may help if suffering with nausea or vomiting.
+ A blood test is performed before starting treatment that looks for the HLA-B(*)5701 polymorphism. Abacavir use is contraindicated in HLA-B(*)5701 positive individuals due to an increased risk of systemic hypersensitivity reaction				
NNRTI	**<u>Doravirine</u>** 100mg od **<u>Efavirenz</u>** 600mg od	Nausea Headache Dizziness, fatigue, drowsiness Abnormal dreams Rash Mild to moderate rashes (usually maculopapular eruptions) generally appear within the first 2 weeks of starting	LFTs LFTs CNS toxicity	Advise on CNS symptoms Advise about CNS symptoms. Take at bedtime. Counsel about morning drowsiness and driving.

		therapy and may resolve within a month of continued treatment. CNS side effects such as drowsiness, dizziness, spaced out feeling, nightmares and morning tiredness. Rarely: Serious psychiatric adverse effects e:g severe depression, suicidal ideation and attempts		The SPC advice is to take on an empty stomach to minimise side effects but some patients find it better with food so inform patient that both are ok for therapeutic levels.
	<u>Etravirine</u> 200mg bd Or 400mg od	Nausea and rash, peripheral neuropathy	Monitor LFTs	Take with or after food
	<u>Nevirapine</u> 200mg od for first 14 days (lead in period) then increase to 400mg od Or 200mg bd	Severe rashes (TEN or Steven Johnsons syndrome) can occur within the first 6 weeks of starting therapy.	Monitor LFTs frequently especially at beginning of therapy as potentially hepatotoxic	200mg OD for first 14 days, then increase to 400mg od or 200mg BD. Advise on rash
	<u>Rilpivirine</u> 25mg od	Headache, insomnia and rashes Depressive disorders,	Monitor LFTs Caution if using with other drugs that may prolong the QT interval	Take with a meal. H2 antagonists can be taken 12 hours before or 4 hours after rilpivirine. Indigestion remedies, 2 hours before or 4 hours after rilpivirine. Avoid PPIs
PI	**<u>Atazanavir</u>** 300mg od co-	Hyperbilirubinameia	Monitor hepatic and renal	Take with or after food

	administered with either ritonavir 100mg od or cobicistat 150mg od Unlicensed dose =Unboosted 400mg od	Diarrhoea, nausea, headache, fatigue, insomnia Mild to moderate rash usually after 8 weeks of treatment, usually resolves in 1-2 weeks. **Rarely:** Kidney stones.	impairment May cause QT prolongation	Advise on yellowing of the skin and eyes Avoid PPIs. For Antacids: Take Atazanavir 2 hours before or 1 hour after antacids or buffered medicinal products. For H2 antagonists See SPC for H2 antagonists as dependent if co-administered with tenofovir
	Darunavir 800mg od co administered with either ritonavir 100mg od or cobicistat 150mg od For treatment experienced patients 600mg bd co-administered with ritonavir 100mg bd	Gastrointestinal disturbances, particularly diarrhoea, also nausea, and vomiting. Hypertriglyceridaemia, hypercholesterolemia	Monitor LFTs. Darunavir has a sulphonamide moiety so may cause hypersensitivity if the patient is allergic to sulphonamide	To be taken with or after food
	Fosamprenavir 700mg bd Co administered with ritonavir 100mg bd Or unlicensed dose 1400mg od with 200mg ritonavir od	Gastrointestinal effects (abdominal pain, anorexia, nausea, vomiting, and particularly diarrhoea) headache, taste disorder, and numbness.	Monitor LFTs. Fosamprenavir has a sulphonamide moiety so may cause hypersensitivity if the patient is allergic to sulphonamides	None
	Kaletra: Lopinavir	Diarrhoea, flatulence, nausea and vomiting,	Monitor LFTs and cholesterol	Can be taken with or without food

	200mg/ritonavir 50mg tablets 2 tablets bd Or 4 tablets od	fatigue, headache Mild to moderate rashes (usually erythematous or maculopapular and sometimes pruritic), generally occur during the second week of treatment and resolve within 2 weeks		
	<u>Ritonavir</u> 100mg tablets. Used as booster for other PIs 100-200mg od or bd depending on the PI. See individual PI section	.Gastrointestinal disorders, diarrhoea, nausea, abdominal pain	Monitor LFTs and cholesterol	Take with food
	<u>Saquinavir</u> 1gm bd co administered with ritonavir 100mg bd	Gastrointestinal disorders (abdominal pain, diarrhoea, flatulence, nausea, vomiting) and fatigue.	ECG prior to initiation of treatment. May prolong QT interval Monitor LFTs and cholesterol	Take with or after food
	<u>Tipranavir</u> 500mg bd co administered with ritonavir 200mg bd	Abdominal pain, diarrhoea, dyspepsia, flatulence, nausea, and vomiting, fatigue, and headache. Increased risk of bleeding and intracranial haemorrhage	Monitor LFT's	Take with or after food Store in fridge
Fusion inhibitor	Enfuvirtide 90mg vial	Local injection site reactions with	Hypersensitivity occurs in 1% of	Inject into the upper arm or

	injected SC bd	pain, erythema, induration, nodules and cysts, pruritus. Although 98% of patients experience some effects only a small minority need to stop therapy. Other adverse effects are uncommon.	patients	thigh twice a day
Entry Inhibitor	Maraviroc Dose depends on co – administration of other ARVs and other medicines. In general, if with PI :150mg bd With NNRTI, except nevirapine 600mg bd With nevirapine 300mg bd Consult SPC if other combinations and other non ARVs	Well tolerated. Asthenia, cough and upper respiratory-tract infections, dizziness. Some GI symptoms	CCR5 Tropism test must be positive before maraviroc is used. Cannot be used in CXCR4 positive patients. Adjust dose in renal impairment	None
Integrase Inhibitors	Raltegravir 400mg bd	Well tolerated. Headache and insomnia Rash	None	Any medicines, indigestion remedies and supplements containing iron, magnesium and aluminium should be avoided. Calcium can be taken 4 hours before or after raltegravir
	Elvitegravir 150mg od co-administered with cobicistat 150mg od	Relatively well tolerated Diarrhoea and nausea. Headache	None	Any medicines, indigestion remedies and supplements containing Ca,

				Fe, Mg and Al should be taken 4 hours before or after elvitegravir
	Dolutegravir 50mg od	Relatively well tolerated. Nausea Diarrhoea Headache Insomnia, abnormal dreams. Dizziness	None	Any medicines, indigestion remedies and supplements containing Ca, Fe, Mg and Al should be taken 6 hours before or 2 hours after dolutegravir
	Bictegravir	Relatively well tolerated. Nausea Diarrhoea Headache Abnormal dreams Dizziness Fatigue	None	Any medicines, indigestion remedies and supplements containing Mg and Al should be taken with food 2 hours before or 2 hours after (food doesn't matter) bictegravir. Iron supplements should be taken either with food at the same time as bictegravir or 2 hours after bictegravir
Other commonly used drugs	Co-trimoxazole Dose varies 480mg od or bd and 960mg od or three times weekly	Hypersensitivity reaction and blood dyscrasias	Monitor in renal impairment	Rash
	Dapsone 50-100mg od	Haemolysis and peripheral neuropathy	None	Rash
	Aciclovir 400mg od or bd	Usually well tolerated. Occasional adverse effects after systemic use include increased serum bilirubin and liver enzymes	Renal adjustment required	None

	Fluconazole Dose varies	Gastrointestinal effects such as abdominal pain, diarrhoea, flatulence, nausea and vomiting, and taste disturbance	Monitor in hepatic and renal impairment	None