

Table 18. Antiretroviral Therapy Associated Adverse Effects and Management RecommendationsPage 6 of 6 (Updated **January 29, 2008**)**18c. Adverse Effects Compromising Quality of Life and/or With Potential Impact on Medication Adherence** (in alphabetical order)

Adverse effects	Causative ARVs	Onset/clinical manifestation	Estimated frequency	Risk Factors	Prevention/monitoring	Management
Central nervous system effects	EFV	<u>Onset:</u> begin with first few doses <u>Symptoms:</u> may include one or more of the following: drowsiness, somnolence, insomnia, abnormal dreams, dizziness, impaired concentration & attention span, depression, hallucination; exacerbation of psychiatric disorders; psychosis; suicidal ideation Most symptoms subside or diminish after 2–4 weeks	>50% of patients may have some symptoms	<ul style="list-style-type: none"> •Pre-existing or unstable psychiatric illnesses •Use of concomitant drugs with CNS effects •Rates in African-Americans may be higher due to genetic predisposition of slower clearance 	<ul style="list-style-type: none"> •Take at bedtime or 2–3 hours before bedtime •Take on an empty stomach to reduce drug concentration & CNS effects •Warn patients regarding restriction of risky activities – such as operating heavy machinery during the 1st 2–4 weeks of therapy 	<ul style="list-style-type: none"> •Symptoms usually diminish or disappear after 2–4 weeks •May consider discontinuing therapy if symptoms persist and cause significant impairment in daily function or exacerbation of psychiatric illness
Fat maldistribution	PIs, thymidine analogs – d4T > ZDV	<u>Onset:</u> gradual - months after initiation of therapy <u>Symptoms:</u> <ul style="list-style-type: none"> •Lipoatrophy – peripheral fat loss manifested as facial thinning, thinning of extremities and buttocks (d4T) •Increase in abdominal girth, breast size, and dorsocervical fat pad (buffalo hump) 	High – exact frequency uncertain; increases with duration on offending agents	<ul style="list-style-type: none"> •Lipoatrophy – low baseline body mass index 	<ul style="list-style-type: none"> •Lipoatrophy: avoid thymidine nucleosides or switch from ZDV or d4T to abacavir or tenofovir 	<ul style="list-style-type: none"> •Switching to other agents – may slow or halt progression; however, may not reverse effects •Injectable poly-L-lactic acid for treatment of facial lipoatrophy
Injection site reactions	Enfuvirtide	<u>Onset:</u> Within first few doses <u>Symptoms:</u> pain, pruritus, erythema, ecchymosis, warmth, nodules, rarely injection site infection	98%	<ul style="list-style-type: none"> •All patients 	<ul style="list-style-type: none"> •Educate patients regarding use of sterile technique, ensure solution at room temperature before injection, rotate injection sites, avoid injection into sites with little subcutaneous fat or sites of existing or previous reactions 	<ul style="list-style-type: none"> •Massaging area after injection may reduce pain •Wear loose clothing – especially around the injection site areas or areas of previous reactions •Rarely, warm compact or analgesics may be necessary
Peripheral neuropathy	ddI, d4T, ddC	<u>Onset:</u> weeks to months after initiation of therapy (may be sooner in patients with pre-existing neuropathy) <u>Symptoms:</u> <ul style="list-style-type: none"> •Begins with numbness & paresthesia of toes and feet •May progress to painful neuropathy of feet and calf •Upper extremities less frequently involved •Can be debilitating for some patients •May be irreversible despite discontinuation of offending agent(s) 	ddI: 12%–34% in clinical trials d4T: 52% in monotherapy trial ddC: 22%–35% in clinical trials Incidence increases with prolonged exposure	<ul style="list-style-type: none"> •Pre-existing peripheral neuropathy; •Combined use of these NRTIs or concomitant use of other drugs that may cause neuropathy •Advanced HIV disease •High dose or concomitant use of drugs that may increase ddI intracellular activities (e.g., HU or RBV) 	<ul style="list-style-type: none"> •Avoid using these agents in patients at risk – if possible •Avoid combined use of these agents •Patient query at each encounter 	<ul style="list-style-type: none"> •May consider discontinuing offending agent before pain becomes disabling – may halt further progression, but symptoms may be irreversible <u>Pharmacological management (with variable successes):</u> <ul style="list-style-type: none"> •Gabapentin (most experience), tricyclic antidepressants, lamotrigine, oxycarbamazepine (potential for CYP interactions), topiramate, tramadol •Narcotic analgesics •Capsaicin cream •Topical lidocaine