



Guidelines for the Use of Antiretroviral Agents in Pediatric HIV Infection

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Table 15c. Antiretroviral Therapy-Associated Adverse Effects and Management Recommendations—Gastrointestinal Effects (Last updated April 16, 2019; last reviewed April 16, 2019) (page 1 of 2)

Adverse Effects	Associated ARVs	Onset/Clinical Manifestations	Estimated Frequency	Risk Factors	Prevention/Monitoring	Management
Nausea/Vomiting	All ARV drugs, but most notably RTV-boosted PIs	<p><u>Onset:</u></p> <ul style="list-style-type: none"> • Early <p><u>Presentation:</u></p> <ul style="list-style-type: none"> • Nausea and emesis, both of which may be associated with anorexia and/or abdominal pain 	Varies with ARV agent; generally <15%	Unknown	<p>Instruct patient to take PIs with food.</p> <p>Monitor for weight loss and ARV adherence.</p>	<p>Reassure patient that these adverse effects generally improve over time (usually 6–8 weeks).</p> <p>Consider switching to ARV drugs with smaller tablet sizes (see Appendix A, Table 2).</p> <p>Provide supportive care.</p> <p>In extreme or persistent cases, use antiemetics or switch to another ARV regimen.</p>
Diarrhea	All ARV drugs, but most notably RTV-boosted PIs	<p><u>Onset:</u></p> <ul style="list-style-type: none"> • Early <p><u>Presentation:</u></p> <ul style="list-style-type: none"> • More frequent bowel movements and stools that are generally soft 	Varies with ARV agent; generally <15%	Unknown	<p>Monitor for weight loss and dehydration.</p>	<p>If prolonged or severe, exclude infectious or noninfectious (e.g., lactose intolerance) causes of diarrhea.</p> <p>Reassure patient that this adverse effect generally improves over time (usually 6–8 weeks). Consider switching to another ARV regimen in persistent and severe cases.</p> <p>Treatment data in children are lacking; however, the following strategies may be useful when the ARV regimen cannot be changed:</p> <ul style="list-style-type: none"> • Dietary modification • Using bulk-forming agents (e.g., psyllium) • Using antimotility agents (e.g., loperamide) • Using cofelemer, which is approved by the FDA to treat ART-associated diarrhea in adults aged ≥18 years; no pediatric data are available.

Table 15c. Antiretroviral Therapy-Associated Adverse Effects and Management Recommendations—Gastrointestinal Effects (Last updated April 16, 2019; last reviewed April 16, 2019) (page 2 of 2)

Adverse Effects	Associated ARVs	Onset/Clinical Manifestations	Estimated Frequency	Risk Factors	Prevention/Monitoring	Management
Pancreatitis	Rare, but may occur with RTV-boosted PIs or NRTIs	<p>Onset:</p> <ul style="list-style-type: none"> Any time, usually after months of therapy <p>Presentation:</p> <ul style="list-style-type: none"> Emesis, abdominal pain, elevated amylase and lipase levels (asymptomatic hyperamylasemia or elevated lipase do not in and of themselves indicate pancreatitis) 	<2% in a recent case series	<p>Use of concomitant medications associated with pancreatitis (e.g., TMP-SMX, pentamidine, ribavirin)</p> <p>Hypertriglyceridemia</p> <p>Advanced HIV infection</p> <p>Previous episode of pancreatitis</p> <p>Alcohol use</p>	Measure serum amylase and lipase concentrations if persistent abdominal pain develops.	<p>Discontinue offending agent and avoid reintroduction.</p> <p>Manage symptoms of acute episodes.</p> <p>If pancreatitis is associated with hypertriglyceridemia, consider using interventions to lower TG levels.</p>

Key to Acronyms: ART = antiretroviral therapy; ARV = antiretroviral; FDA = Food and Drug Administration; NRTI = nucleoside reverse transcriptase inhibitor; PI = protease inhibitor; RTV = ritonavir; TG = triglyceride; TMP-SMX = trimethoprim sulfamethoxazole; ZDV = zidovudine

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