Table 13k. Antiretroviral Therapy-Associated Adverse Effects and Management Recommendations—Peripheral Nervous System Toxicity  *(Last updated April 27, 2017; last reviewed April 27, 2017)*

<table>
<thead>
<tr>
<th>Adverse Effects</th>
<th>Associated ARVs</th>
<th>Onset/Clinical Manifestations</th>
<th>Estimated Frequency&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Risk Factors</th>
<th>Prevention/ Monitoring</th>
<th>Management</th>
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<tbody>
<tr>
<td>ARV Toxic Neuropathy&lt;sup&gt;b&lt;/sup&gt;</td>
<td>d4T, ddl PIs</td>
<td>Onset: Weeks to months Presentation: • Decreased sensation • Aching, burning, painful numbness • Hyperalgasia • Alloidity • Decreased or absent ankle reflexes <strong>Distribution:</strong> • Bilateral soles of feet, ascending to legs and fingertips</td>
<td><strong>Children:</strong> • Around 1% overall • d4T—10% to 25% <strong>Adults:</strong> • d4T—up to 50%</td>
<td>• Pre-existing neuropathy • Elevated triglyceride levels • Poor nutrition • More advanced HIV disease • Concomitant use of other neurotoxic agents (e.g., INH) • Some mitochondrial DNA haplogroups may have increased risk.</td>
<td>Avoid use of d4T and ddl. Monitor for symptoms and signs of peripheral neuropathy.</td>
<td>Discontinue offending agent. Topical capsaicin 8% may be helpful. Consider referral to a neurologist. Data are insufficient to allow the Panel to recommend use of any of the following modalities: tricyclic antidepressants, gabapentin, pregabalin, mexiletine, Lamotrigine, and acupuncture or other complementary approaches</td>
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<sup>a</sup> Peripheral neuropathy may be underreported in children because symptoms are difficult to evaluate in young children.

<sup>b</sup> HIV infection itself may cause a distal sensory neuropathy that is phenotypically identical to ARV toxic neuropathy.

**Key to Acronyms:** ARV = antiretroviral; d4T = stavudine; ddl = didanosine; INH = isoniazid; NRTI = nucleoside reverse transcriptase inhibitor; PI = protease inhibitor

**References**


