



From: Ron Kirschner, MD, Medical Director
To: ALL HEALTH CARE PROFESSIONALS
Subject: Loperamide: An antidiarrheal and an emerging drug of abuse
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- Loperamide (Imodium[®]) is a non-prescription antidiarrheal agent structurally similar to the opioid meperidine. It is supplied as a 2 mg capsule or oral suspension.
- Loperamide acts on intestinal opioid receptors, but has no CNS effects at therapeutic dosing because it is excluded from the blood brain barrier by p-glycoprotein.
- In recent years internet drug forums have described the use of loperamide as an opioid substitute or as a treatment for opioid withdrawal. As access to prescription analgesics is restricted, more opioid-dependent individuals may turn to loperamide misuse.
- Loperamide abusers typically try to overcome the drug's blood brain barrier exclusion through massive supratherapeutic dosing and/or coingestion of a p-glycoprotein inhibitor such as quinine.
- Supratherapeutic loperamide ingestion is associated with cardiac conduction abnormalities including QRS widening, QTc prolongation, torsade de pointes (TdP), and other dysrhythmias.
- Despite a short half-life (9-14 hours) at therapeutic dosing, the effects of loperamide overdose may be prolonged due to continued absorption, and possibly altered metabolism.
- Management of loperamide toxicity should include naloxone as needed for respiratory depression or airway compromise.
- Treatment of loperamide-associated EKG abnormalities should include cardiac monitoring, sodium bicarbonate for QRS widening, correction of K, Ca, or Mg deficits for QTc prolongation, and avoidance of QT-prolonging drugs.
- Treatment of TdP may include empiric magnesium, antidysrhythmics, cardioversion, and overdrive pacing.
- When patients without cardiac risk factors present with ventricular dysrhythmias, in addition to prescription drug effects, consider the possibility of loperamide misuse.

References

- Eggleston W. Loperamide toxicokinetics: serum concentrations in the overdose setting. *Clin Toxicol* 2015; 53: 495.
- Marrafa JM. Cardiac conduction disturbances after loperamide abuse. *Clin Toxicol* 2014; 52: 952..
- Wightman RS. Not your regular high: cardiac dysrhythmias caused by loperamide. *Clin Toxicol* 2016, in press.

**Our certified nurse specialists in poison information and physician toxicologists
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