toxtidbits
the maryland poison center's monthly update. news. advances. information.
1-800-222-1222
May 2005

# Intranasal Naloxone

Naloxone is frequently administered as a prehospital treatment and in emergency departments to patients with suspected opioid overdose. It is a pure opioid antagonist at all of the opioid receptor sites (mu, kappa, delta). It rapidly reverses respiratory and CNS depression and is safe to use diagnostically. Adverse effects are minimal and are primarily due to withdrawal in opioid-dependent patients. Naloxone is usually given by the intravenous (IV) or intramuscular (IM) route; however, administering naloxone by injection has its disadvantages. Intravenous drug users often have poor IV access. Needle use poses a risk of exposing the health care provider to blood-borne diseases that are often present in the population of patients who overdose on opioids. There may be a delayed onset of 10 to 15 minutes when given IM or subcutaneously. An alternate route of administration, if available, would be preferred in many patients. Oral naloxone is not an option as it has limited bioavailability due to extensive first pass metabolism and is only considered to be 0.02 as potent as when given parenterally. Endotracheal administration is effective but requires endotracheal intubation and larger doses (2-3 times the IV dose). Intranasal naloxone for detection of opioid dependence was studied in the early 1990's and found to be effective. More recent studies show that it is also effective in treating opioid-induced respiratory depression. The benefits of the intranasal route include ease of administration and reduced needlestick attempts.

Naloxone is 100% bioavailable through the nasal mucosa. The onset of action of 1-4 minutes is similar to that of IV naloxone. It is administered via a nasal mucosa atomizer device that is attached to the syringe. This atomizer delivers the drug in a fine particle mist that enhances the bioavailability of the naloxone. The dose of intranasal naloxone is 0.4 - 2.0 mg in children and adults, the same dose as for the IV and IM routes. Intranasal naloxone is being utilized by several EMS systems in the United States. Maryland EMS protocols were revised in July 2003 to include intranasal naloxone as an alternative to IV or IM administration.

## ***DID YOU KNOW THAT…*** Palladone™ is a new formulation of hydromorphone?

Palladone™ was approved by the FDA on September 24, 2004 and is similar to OxyContin® in that it is a potent opioid analgesic in an extended-release formulation. It is a Schedule II drug that is marketed in several strengths: 12, 16, 24 and 32 milligram tablets. The DEA warns that Palladone™ is highly susceptible for diversion and abuse.

Maryland Poison Center
University of Maryland School of Pharmacy

Post and share this edition of **toxtidbits** with your colleagues. Send any comments or questions to: **toxtidbits**, 410.706.7184 (fax) or Lbooze@rx.umaryland.edu.

If you do not wish to receive faxes or emails from the Maryland Poison Center, call 410.706.7604 or circle your fax number and fax this back to 410.706.7184.

Supported by Maryland Department of Health and Mental Hygiene