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THE MARYLAND POISON CENTER'S MONTHLY UPDATE.
NEWS. ADVANCES. INFORMATION.

Intranasal Naloxone: Concentrate & Split

Naloxone is a relatively small molecule with a pKa of 7.0, making it ideal for intranasal administration. Intranasally (IN) delivered naloxone is safer and similarly efficacious to intravenously administered naloxone. However, there are also anecdotal reports of poor response to IN-administered naloxone.

IN drug delivery involves the direct absorption of medication into the vasculature of the nares, not absorption into the lungs or alveoli. Maximizing the drug-to-vasculature contact time maximizes absorption and effectiveness. The Maryland Poison Center highly recommends the CONCENTRATE & SPLIT strategy for IN administered naloxone.

1. Use **CONCENTRATED** naloxone (i.e. 1 mg/mL) in order to minimize volumes. The industry standard in terms of intranasal drug delivery in the upright patient is 0.1 mL per nostril; volumes greater than 0.1 mL have not been extensively studied. Atomized volumes in excess of 1 mL are *not* likely to be well-absorbed by the nasal vasculature of one nostril. Such large volumes inevitably drip into the posterior pharynx where the naloxone is not well-absorbed. The best way to keep volumes small is to use the most concentrated naloxone preparation available, i.e. 1 mg/mL. An even more concentrated naloxone product would be preferable, but none currently exist.
2. **SPLIT** the volume of naloxone into two, administering a half-volume into each nostril quickly back-to-back.

In the ED, re-administration of naloxone should be considered if the naloxone administered in the field was associated with a suboptimal response. Finally, it is important to remember that IN delivery of naloxone is not FDA-approved, but is supported by a large body of medical literature. The FDA conducted a workshop in April 2012 and is addressing the issue of naloxone's route of administration.

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Did you know?

The FDA is examining requests to make intranasal naloxone available to the public as an over-the-counter drug.

In response to the growing number of opioid overdoses and deaths, a hearing was held in April 2012 on making naloxone more accessible. In February 2012, the CDC reported that there have been >10,000 opioid overdoses since 1996 that were successfully reversed with naloxone administered by laypersons provided with the antidote through small distribution programs. Programs have recently been launched that allow police officers in certain jurisdictions with a large incidence of opioid overdose fatalities to carry and administer intranasal naloxone to victims of opioid overdose.