

# Poison HOTLINE August 2009

Partnership between Iowa Health System and University of Iowa Hospitals and Clinics



### Did you know .....

A recent report by the University of Iowa indicates the number of unintentional poisoning deaths is on the rise in Iowa. The number of deaths rose from 67 in 2002 to 160 in 2008. These poisonings are typically a result of deadly combinations of prescription drugs, illicit drugs and alcohol. The deaths parallel an increase in the number of prescriptions dispensed for narcotics, muscle relaxants, and other sedatives. Adults between the ages of 24 – 44 had the highest incidence.

For more information, contact the lowa Statewide Poison Control Center or visit <u>www.idph.state.ia.us/common/pr</u> <u>ess\_releases/2009/20090814\_po</u> <u>isoning\_rise.asp</u> to view the press release.



## Naloxone

Naloxone is a pure opioid antagonist at all of the opioid receptor sites (mu, kappa, delta). It rapidly reverses the respiratory and CNS depression that is characteristic of opioid overdoses. Because of these characteristics, naloxone is frequently administered as a prehospital treatment and in emergency departments to patients with known or suspected opioid overdose. Naloxone is usually given by the intravenous route, and its onset of action is usually seen within 1-2 minutes. It may also be administered by intramuscular (IM), subcutaneous (SQ) or endotracheal routes. Compared to the IV route, the onset of action is usually slower via the IM and SQ route, but faster when given endotracheally.

#### **Duration of Action**

The half-life of naloxone includes a rapid distribution phase, and an elimination phase of 64 minutes (Ngai et al, 1976). The duration of action is approximately 45-90 minutes and depends upon the amount of opioid ingested, the release form of the opioid (i.e. immediate release versus sustained release) and the dose and route of naloxone.

#### **Re-sedation After Naloxone Administration**

Naloxone has a comparatively short duration of action when compared to the duration of action of many opioids, especially the sustained-release opioids. Consequently, re-sedation, decreased respiratory rate or apnea may reappear. If these clinical effects are not monitored for after administration of naloxone, the results could be potentially disastrous or even lethal.

#### Naloxone-Induced Opioid Withdrawal

In patients who are physically addicted to an opioid, naloxone administration can induce opioid withdrawal. Also, patients in whom their opioid tolerance is unknown need to be monitored for signs of narcotic withdrawal if they are treated with naloxone.

> Pat Gunia, RN, BSN, CSPI Certified Specialist in Poison Information

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