

The School Nurses' Prescription

News You Can Use from Your Indiana Poison Center

One is Too Many

September
2014

There is a “secret” list of substances that make Poison Specialists’ hearts beat a little faster. They know that even one dose of the product can cause serious toxicity in a small child! Take a look at the list below and include these items on your own mental list of **Top Ten Alerts**, to keep in your brain’s file for future reference.

1. **Calcium Channel Blockers** – verapamil, amlodipine, nifedipine – all calcium channel blockers are incredibly toxic and even one tablet or capsule can cause significant toxicity in a child, regardless of size, who isn’t routinely on these medications. Decreased heart rate and blood pressure, increased blood glucose, and decreased level of consciousness are some of the symptoms that might occur.

2. **Beta Blockers** – propranolol, atenolol, metoprolol – similarly, these cardiac medications also cause problems with ingestion of even one tablet, in a small child or teen. Hypotension and bradycardia, along with CNS depression and hypoglycemia, may occur.

3. **Sulfonylureas** – glyburide, glipizide, glimepiride - these anti-diabetic pills are very dangerous for non-diabetic persons to ingest. If a person accidentally swallows even one of these medications, they may develop significant hypoglycemia, with related symptoms such as seizures and coma, that can last for more than 24 hours. These are just as dangerous for adults as for small children!

4. **Colchicine, Chloroquine** – these medications are used for used for treatment of rheumatoid arthritis and chloroquine is also as prophylaxis for malaria (often used by those in military service). Even one tablet can wreak havoc on a child’s system: colchicine causing severe gastric distress, renal and liver failure, hematologic disasters, seizures and respiratory failure; and chloroquine causing gastrointestinal distress, visual and hearing disturbances, hypotension and fatal cardiac arrhythmias.

5. **Alpha 2 Antagonists** - clonidine, guanfacine – in children that are not on these medications (which are often used in the treatment of Attention Deficit/Hyperactivity Disorder), an ingestion of even one tablet can result in significant outcomes. Children may develop hypotension, bradycardia, respiratory depression, and CNS depression. Effects may persist for 24 hours or longer.

6. **Methadone** – this medication may be available in the home if someone living there is in rehab for heroin addiction. It is also

used for intractable pain. Even one tablet of this slowly absorbed and eliminated opioid can cause disastrous CNS depression and respiratory depression in susceptible children. Effects may last longer than 24 hours. Sustained release opioids like OxyContin®, Opana® and Zohydro® can present with similar clinical pictures.

7. **Imidazoline eyedrops and nose drops** (Visine™, Afrin™) are not something you would think of as being an item of concern, but they are seriously toxic if ingested. Approximately 1 teaspoon, or 1 mouthful, of either product, is enough to cause problems. CNS depression, respiratory depression, bradycardia and hypotension, lasting up to 24 hours after ingestion, may occur if the products are ingested.

8. **Antifreeze** – methanol (windshield washer/blue) and ethylene glycol (radiator/green) – Even a small amount, such as a teaspoonful of concentrated antifreeze, is very toxic to a small person. Methanol can cause permanent blindness and ethylene glycol can cause renal failure. And both can cause severe metabolic acidosis and be fatal. Fortunately there are now effective antidotes and treatments available for each of these products – the trick is in quickly and correctly identifying which patients have ingested antifreeze and need to be referred to the ED for treatment. If treatment isn’t provided promptly, irrevocable damage can occur.

9. **Nicotine liquids** – the new e-cigarette refill liquids are concentrated nicotine liquids, containing anywhere from 10 – 200 mg/ml of nicotine. Nicotine is a well-known poison, that is absorbed dermally, and also orally, and can quickly prove fatal. A teaspoonful of the more concentrated liquids can be a very toxic exposure, for children or even adults.

10. **Caffeine powder** – the new concentrated caffeine powders which are sold on-line as dietary supplements, are 100% caffeine. A teaspoonful contains 5 grams, or 5000 mg, of caffeine. As a comparison, a cup of coffee contains 100 mg of caffeine. A teaspoonful of this product can be a fatal dose, for a child or an adult.

So, what is a school nurse to do? Keep these items “on file” in your memory. If an exposure occurs, please call Indiana Poison Center at 1-800-222-1222 for fast and friendly assistance in evaluating the situation and determining what treatment plan should be implemented. We’re available 24/7/365 to help you!



How can IPC help you? - Call **1-800-222-1222** and find out!

Street Walking

Zohydro® is a new prescription pain medicine that has recently been released, that all nurses should be aware of. Zohydro® is a sustained release hydrocodone product, available in strengths of 10 mg, 15 mg, 20 mg, 30 mg, 40 mg and 50 mg. It does **not** contain acetaminophen. Being sustained release, the product slowly releases over a 12 hour period, with a peak effect about 6 hours post-ingestion. Zohydro® is indicated for patients who have long-term pain issues and whose pain is not adequately controlled with immediate release opioids.

Zohydro® has the potential to be a problem for any child or teen who takes **even one** tablet. It is such a strong opioid and has such a prolonged effect, that even one tablet is potentially very toxic. Symptoms can include significant CNS depression, from sleepiness up to coma, respiratory depression up to apnea, and hypotension. Zohydro® also interacts with many other medications, which can potentiate its effects. Other medications that have CNS depressant effects, such as other narcotics and benzodiazepines, are definitely a problem. So are tricyclic antidepressants and MAO-inhibitors, which both interact with Zohydro® to cause increased CNS depression.

One of the many problems with sustained release opioids, such as OxyContin® and Zohydro®, is that when people abuse them and take them to get “high”, they may expect a sudden onset of narcotic sensations or a “rush” shortly after ingesting them. Since these are sustained-release products, they don’t provide an immediate “rush” – they release slowly over a prolonged period of time. Thus the abuser tends to take multiple pills in an attempt to speed up or increase the narcotic sensations.



When all these doses of medications finally “kick-in”, the opioid response is so severe that the person may suffer a respiratory or cardiac arrest hours after the exposure. While sustained opioids like Oxycontin® and Opana® now have abuse resistant features built into their formulation to deter attempts to circumvent their sustained release characteristics, Zohydro® does not, so it may be easier to defeat the sustained release properties and get a very large “immediate” release dose of hydrocodone.

So, what is a school nurse to do? Keep an eye – and an ear – out for mentions of Zohydro®. It will be being used more and more in the community, and as its use increases, so will its abuse, and even accidental exposures to it. If an exposure occurs, please call Indiana Poison Center at 1-800-222-1222 for fast and friendly assistance in evaluating the situation and determining what treatment plan should be implemented. We’re available 24/7/365 to help you!

The School Nurses’ Prescription is an e-newsletter for Indiana school nurses from the Indiana Poison Center. If you have comments, suggestions, or topics you would like to see addressed in future e-newsletters, or if you aren’t on the Indiana School Nurse list-serve and would like to subscribe to this e-newsletter, please contact Gwenn Christianson at gchristi@iuhealth.org