

Topical Imidazolines

Topical imidazolines, such as oxymetazoline, naphazoline, and xylometazoline, are common ingredients found in nasal decongestant sprays. Some of the more common brand names include Afrin, 4-Way Nasal Spray, Vicks Sinex 12 hour, and Neo-Synephrine 12 hour. Another topical imidazoline, tetrahydrozoline, is commonly found in eye drops used to treat conjunctivitis. Products available include Murine Plus and some Visine products, such as Advanced Relief Visine.

Imidazolines are alpha-2 adrenergic agonists. When ingested or used in excessive amounts topically, they can have a systemic effect similar in nature to clonidine. Children are especially at risk for toxic exposure as they may drink the nasal spray or eye drops. The minimum toxic dose has not been confirmed, but 2.5 -5 ml has caused serious symptoms in younger children. The good news is no fatalities have been reported after imidazoline ingestions. Signs and symptoms of a toxic exposure include severe drowsiness, miosis, diaphoresis, initial hypertension, hypotension, shock, bradycardia, respiratory depression, pulmonary edema, and coma. The onset of action for these drugs is usually very short, often within about 15 minutes, but may take up to 4 hours post ingestion. The duration of clinical effects is usually no more than 12 hours for all the topical imidazolines, but there have been some case reports of up to 24 hours. Many adults misuse the nasal sprays by using it chronically in excess and can experience rebound congestion as a result.

The only treatment for exposure to topical imidazolines is supportive and symptomatic care. Activated charcoal is not recommended because of the rapid absorption of these products. Fluids and vasopressors can be used to correct hypotension. Many of the products available over the counter may come in combination with other drugs such as phenylephrine so it is important to determine what specific product was involved in the exposure.

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DID YOU KNOW THAT... the FDA has received reports of serious medication errors with Maalox Total Relief?

Patients have confused *Maalox Total Relief*, used for upset stomach and diarrhea, with traditional *Maalox* antacid products. *Maalox Total Relief* contains bismuth subsalicylate which can cause adverse effects such as bleeding, especially in those who have gastrointestinal ulcers or bleeding disorders. It also should not be used by children who have a viral infection or by those who are taking antidiabetic, anticoagulant, or anti-inflammatory drugs. The maker will release a newly named product to avoid confusion in September 2010. Many OTC products have similar names but different ingredients. Encourage patients to always read labels carefully.



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