

To: ALL HEALTH CARE PROFESSIONALS  
From: Ron Kirschner, MD, Medical Director  
RE: **CLENBUTEROL**  
Date: 5/17/13

- Clenbuterol is a long-acting oral beta-2 agonist used for treating asthma in some European countries at adult doses of 20-40 mcg twice a day.
  - Half life in humans is 25-39 hours (compared to 4.5-6 h for inhaled albuterol).
- In the US clenbuterol is not approved for human use. It is available as a veterinary bronchodilator (primarily for horses), but is banned from use in food animals by the FDA.
- Clenbuterol is believed to have lipolytic and anabolic effects. It is often abused by bodybuilders and individuals seeking weight loss, typically at higher doses than those used to treat asthma.
- Outbreaks of clenbuterol-tainted heroin have been reported.
- Although not FDA-approved for human use, clenbuterol is readily available through the internet (sometimes sold as “Clen”).
- Clenbuterol abuse is associated with tachycardia, nausea, tremor, vasodilation, hypokalemia, metabolic acidosis, palpitations, tachydysrhythmias, hyperglycemia, and myocardial ischemia.
- A 31-year-old man developed SVT (HR 254) after ingesting 1.5 mL of a veterinary syrup (72.5 mcg/mL).
- Patients with exposure to clenbuterol should have a complete metabolic panel as well as cardiac monitoring, serial CKs, troponins, and 12 lead ECGs.
- Management should include IV fluids, anti-emetics, benzodiazepines as needed for tremor or anxiety, and beta blockers.

**Our trained staff of nurse/physician assistant specialists in poison information and physician toxicologists is available 24 hours a day to answer your questions.**



#### References

- Daubert GP *et al.* Acute clenbuterol overdose resulting in SVT and atrial fibrillation. *J Med Toxicol* 2007; 3: 56.  
Hoffman RS *et al.* A descriptive study of an outbreak of clenbuterol-containing heroin. *Ann Emerg Med* 2008; 52: 548.  
Huckins DS, Lemons MF. Myocardial ischemia associated with clenbuterol abuse. *J Emerg Med* 2013; 44:444.