

## Pediatric Marijuana Ingestions

The use of medical marijuana is legal in 23 states (including Maryland) and Washington, DC. In February 2015, Washington, D.C. joined Alaska, Colorado, and Washington states to become the fourth district allowing possession of small amounts of recreational marijuana. Decriminalizing marijuana has led to an increase in product availability and a rise in unintentional pediatric ingestions. In a poison center database review of inadvertent pediatric marijuana exposures from 2005 to 2011, call rates in decriminalized states (states that had passed legislation before 2005) increased by 30% per year, whereas they did not change in nonlegal states (*Ann Emerg Med* 2014;63:684-9). Many marijuana products are sold in the form of cookies, candies, brownies, beverages and other edibles with appealing packaging resembling commercially available snacks or candies. Edible marijuana products are not required to be in child-resistant packaging.

The primary psychoactive ingredient in marijuana is  $\Delta^9$ -tetrahydrocannabinol (THC), which binds to cannabinoid receptors in the brain and produces stimulant, hallucinogenic or sedative effects depending on the dose and time after ingestion. When THC is ingested, the onset of effects is within 30 minutes to 2 hours with a peak of 1 to 4 hours. The duration may be from 2 hours to as long as 55 hours (*Am J Emerg Med* March 23, 2015, *E-pub ahead of print*). Pure THC in edible products can have significantly different toxic effects than unprocessed marijuana. In children, the most common symptoms reported after acute ingestion are CNS depression (e.g. lethargy, coma), confusion, agitation, and ataxia. Nausea and vomiting have also been reported as well as bradycardia, hypotension, and respiratory depression requiring intubation. Other clinical effects noted include tremor, hallucinations, nystagmus, slurred speech, ataxia, and muscle weakness (*Ann Emerg Med* 2014;63:684-9; *JAMA Pediatr* 2013;167:630-3, *Eur J Emerg Med* 2006;13:177-9; *Am J Emerg Med* March 23, 2015, *E-pub ahead of print*). No deaths have been reported to date.

There is no antidote for marijuana/THC overdoses. Symptom-based supportive care should be provided to control anxiety, vomiting, and to maintain respiratory and cardiovascular function. The majority of pediatric exposures are treated, evaluated, and released from the emergency department without aggressive treatment (*Ann Emerg Med*. 2014;63:684-9). Because access to marijuana products in Maryland might increase as a result of the recent legalization of medical marijuana, it is important for clinicians and the public to be aware of the risks associated with unintentional pediatric ingestions. Call the poison center to report all potential pediatric exposures and for assistance in managing them.

Hsiao-Ting Wang, MS, PharmD  
PGY-1 Pharmacy Practice Resident  
University of Maryland Medical Center



### Did you know?

**Edible marijuana products contain high concentrations of THC and impose a risk of moderate to severe intoxication in unaware consumers.**

Many of these products contain several servings, and in some cases, the labeling of a serving size has been found to be incorrect (*JAMA* 2015;313:241-2). A single cookie or package of gummy bears can contain as much as 100 mg of THC; the recommended psychotropic dose is 10-30 mg. Colorado has established guidance on edible products including a standard size for an edible serving with a maximum of 10 mg of THC (*NEJM* 2015;372:989-93).



@MPCToxTidbits