

Injury Alert

Products in the News: E-Cigarettes

December 30, 2014

Electronic cigarettes (e-cigarettes) are battery operated devices that are similar in use, and sometimes in appearance and taste, to regular cigarettes. They do not contain tobacco. Instead, they produce a vapour which is inhaled by the user. An e-cigarette consists of a battery, a cartridge which contains e-juice (water, and flavouring in a propylene glycol and vegetable glycerine base) and an atomizer that heats the liquid and produces the vapour. The devices can be either single-use/disposable or reusable. Reusable devices either use pre-filled cartridges or cartridges that the user refills.

Some people use e-cigarettes to help them quit smoking even though there is no good evidence indicating that they are effective.

E-juice comes in flavours such as chocolate, peppermint and fruit, which can appeal to children and entice them to try the e-cigarette or to ingest the e-juice directly.

The hazards of e-cigarettes to children

There are two areas of concern for children – ingestion/exposure to e-juice and exposure to e-cigarette vapour.

The more serious issue is exposure to and ingestion of e-juice that contains nicotine. Canadian law prohibits the sale of nicotine-containing e-juice, but there is very little regulation of these products so nicotine or other chemicals could be in the product. Also, nicotine-containing e-juice can be purchased from the United States, making it accessible. Levels of nicotine in the e-juice can vary greatly, and just a teaspoon of liquid nicotine – either ingested or absorbed through the skin – could kill a small child. The early signs of nicotine poisoning may include fast heart rate, profuse sweating, nausea, and vomiting, and late signs include hypotension, seizures, respiratory depression, and death. Infants and toddlers are at particular risk for ingestion of e-liquid.

Between September 2010 and February 2014, the number of calls regarding e-cigarettes to U.S. Poison Control Centres increased from 1 a month in September 2010 to 215 calls in February 2014. Over half of the 2400 e-cigarette calls involved children under 6 years of age and 69% of the calls were regarding ingestion of the e-liquid, 17% reported inhalation of the vapours, 9 % were due to eye exposure and 6% were dermal exposures.

The second area of concern with e-cigarettes is e-cigarette vapour. A number of toxic chemicals and very fine particulates have been found in the vapour and the health effects of these are unknown.

What should you do?

- Treat e-cigarettes with the same caution as regular cigarettes: do not use e-cigarettes indoors or around children.
- Protect children from e-cigarettes and e-liquid the same as other poisonous products such as pesticides, bleach, medications and cleaning products – keep them locked up and out of child's reach.
- Because current research is insufficient to determine e-cigarette safety and/or effectiveness as a smoking cessation aid, consider using other aids (eg. nicotine replacement) to assist with smoking cessation/abstinence

For more information go to, www.wrha.mb.ca/wave/2014/11/electronic-cigarettes.php

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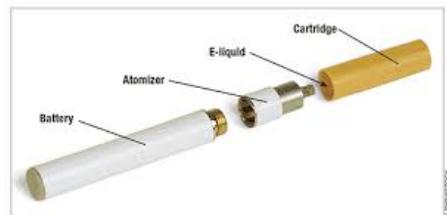


Figure 1. Structure of a three-piece electronic cigarette.