

Non-intentional exposure to essential oils is common in children and can cause seizures and profound CNS depression.

Toxicity / Risk Assessment

Mixture of plant-derived complex volatile hydrocarbons.

Manufacturing process can lead to variability of ingredients.

There are > 500 essential oils. Toxicity depends on the essential oil and exposure dose.

Eucalyptus oil is the most common essential oil involved in poisoning and any exposure > 5 mL can lead to toxicity.

Mode of exposure: ingestion, inhalation(volatile), dermal

High risk ingestion: paediatric population / concentrated product

***Clove oil and pennyroyal oil can cause hepatotoxicity**

***Oil of wintergreen: see separate 'salicylate' guideline**

Clinical features:

Often rapid onset of symptoms (<30 minutes)

CNS: CNS depression, seizures, ataxia, coma

Respiratory: cough, respiratory depression, wheeze

*aspiration pneumonitis may occur after ANY exposure

CVS: tachycardia, hypotension

GIT: dyspepsia, vomiting, diarrhoea, hepatotoxicity (clove oil and pennyroyal oil)

Other (rare): hypoglycaemia, metabolic acidosis, rhabdomyolysis,

Management

Supportive care and attention to ABC are the mainstays of management

Decontamination: there is no role for activated charcoal

CNS depression

- Intubation and ventilation may be required if significant CNS depression occurs

Seizures:

- Diazepam 5-10 mg IV every 5 min as necessary (child 0.1 – 0.3 mg/kg, maximum 10 mg)

Aspiration pneumonitis

- Management is supportive

- Oxygen and bronchodilators as required

- Severe cases may require non-invasive or mechanical ventilation

- There is no proven role for corticosteroids or antibiotics

Hepatotoxicity: (clove oil, pennyroyal oil)

- Discuss with clinical toxicologist if patients are symptomatic following exposure to these oils

- In cases of clove or pennyroyal oil exposure, symptomatic cases should be treated with

N-acetylcysteine (NAC) (standard 20-hour course) as it may reduce the risk of hepatotoxicity

Disposition

Pennyroyal / clove oil exposures: observe for six hours post exposure. Those who are symptomatic during this period should be treated with N-acetylcysteine (see above).

All other essential oil exposures can be discharged pending mental health assessment if they are asymptomatic six hours post exposure