

Most nicotine exposures result in mild GI symptoms only. Rarely, a large absorbed dose can cause rapid onset severe toxicity with CVS collapse.

Toxicity / Risk Assessment

Route	Degree of toxicity based on dose (mg/kg)		
	Minor	Mod-Severe	Potentially lethal
Oral	<0.5	0.5-5	>5
IV/M*	<0.1	0.1-1	>1

*M – mucosal exposure

Absence of vomiting in 1st 2 hrs = benign course

Clinical features:

Early (0-1 hours)

GI – NVD, salivation, abdominal pain

CVS – Tachycardia, hypertension

RESP. – Bronchorrhoea, bronchoconstriction

CNS – Agitation, muscle fasciculation's, seizures

Late (1-4hrs) severe/lethal dose range

CVS – Bradycardia, hypotension, dysrhythmias

CNS - Lethargy, weakness progressing to muscle paralysis and coma

RESP. – Hypoventilation, apnoea

Management

The majority of patients will be low risk and can be managed symptomatically

Decontamination:

Decontamination following oral exposure is not routinely indicated, but 50 grams AC may be considered following a potentially toxic ingestion within the previous 60 minutes

Wash the skin with soap and water following dermal exposure

Hypotension: Treat initially with a bolus of intravenous crystalloid (20-30 mL/kg)

Treat symptomatic bradycardia with atropine 0.6-1.2mg (children 0.02mg/kg)

Seizures: Benzodiazepines: Diazepam 5 mg IV every 5 minutes as necessary

Other supportive care:

Patients with significant toxicity and evidence of respiratory muscle fatigue should be intubated

Significant bronchorrhoea: atropine 0.6-1.2mg (children 0.02mg/kg)

Disposition: Asymptomatic or recovering from early GI toxicity at 4hrs: low risk - can be discharged pending mental health assessment

Forms of nicotine and amounts:

- Cigarettes (10-30mg), **USED** cigarette butt (5-7mg)
- Nicotine gum/lozenge (2-4mg), Nicotine patch TOTAL content (36-114mg)
- e-cigarette cartridges (6-36mg/mL): *Concentrations (mg/ml) often not specified but may be marked: Low (6-14), Medium (10-18), High (25-36)*