

Poisoning

- Poisoning may result from large doses of drugs.
- It is the dose, which distinguishes a drug from a poison.
- *All things are poison and nothing is without poison, only the dose permits something not to be poisonous*
- Poison is a substance, which endangers life by severely affecting one or more vital functions.

Types

Intentional: Suicidal attempt

Unintentional: mostly children and adult ages over 65.

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Management of Poisoning

1. *Termination of further exposure to the poison*
2. *Prevention of absorption of ingested poison*
3. *Use of specific antidote*
4. *Removal of absorbed poison*
5. *Symptomatic management*

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Termination of further exposure to the poison

Depends on route of exposure:

- Eye exposures – immediately flush eyes with water/saline for 15-20 minutes.
- Dermal – Remove jewelry, clothing. Brush off powders. Immediately flush with water for 15 minutes (longer for caustics).
- Inhalation – Move to fresh air.
- Injection/Bites and Stings – Remove clothing, jewelry that might constrict the extremity. Do not excise and apply suction to bites/stings

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Prevention of absorption of ingested poison

i. Emesis

- Emesis can be induced with ipecac syrup
- Popular methods of inducing emesis are fingertip stimulation of the pharynx, salt water.
- Not applicable when suspected intoxicant is a corrosive agent, a petroleum distillate.

ii Gastric Lavage

- If the patient is awake gastric lavage may be performed using an orogastric or nasogastric tube.
- Lavage solutions (usually 0.9% saline) should be at body temperature to prevent hypothermia.

iii. Activated Charcoal: adsorb many drugs and poisons. It does not bind iron, lithium, or potassium, and it binds alcohols and cyanide only poorly.

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Use of specific antidote

- selective antidotes are available for only a few classes of toxins.

Antidote	Poison(s)		
Acetylcysteine (Mucomyst)	Acetaminophen	Flumazenil	Benzodiazepines
		Fomepizole	Methanol, ethylene glycol
Atropine	Anticholinesterases: organophosphates, carbamates	Glucagon	β -blockers
Bicarbonate, sodium	Membrane-depressant cardiotoxic drugs (tricyclic antidepressants, quinidine, etc)	Naloxone	Narcotic drugs, other opioid derivatives
Calcium	Fluoride; calcium channel blockers	Oxygen	Carbon monoxide
Deferoxamine	Iron salts	Physostigmine	Suggested for antimuscarinic anticholinergic agents; not for tricyclic antidepressants
Digoxin antibodies	Digoxin and related cardiac glycosides		
Esmolol	Theophylline, caffeine, metaproterenol		
Ethanol	Methanol, ethylene glycol	Pralidoxime (2-PAM)	Organophosphate cholinesterase inhibitors

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Elimination of Toxins

After appropriate diagnostic and decontamination procedures and administration of antidotes, it is important to consider whether measures for enhancing elimination by

- Inducing diuresis (Furosemide, mannitol)
- Altering urinary pH (alkalinization for acidic drugs eg aspirin, barbiturate or acidification for basic drugs eg amphetamine)
- Hemodialysis

Symptomatic Management

Maintenance of patient airway and adequate ventilation, if needed

Maintenance of BP and heart beat, if needed.

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