

TOXICOLOGY

OPIOID POISONING

Mental Status

- CNS depression
- Coma

Vital Signs

- Hypothermia
- Bradycardia
- Hypotension
- Apnoea/bradypnoea

Other Manifestations

- Miosis
- Hyporeflexia
- Pulmonary oedema
- Needle marks

Examples of toxic agents

- Heroin
- Morphine
- Methadone
- Oxycodone
- Hydromorphone

Pathophysiology

- Opioids bind to presynaptic membrane receptors to inhibit neurotransmitter release.
- Opioid receptors are abundant throughout the central nervous system.
- Respiratory depression is mediated by morphine's action at CNS respiratory centres.
- Opioids may cause histamine release from mast cells. This results in itching, bronchospasm and hypotension.
- Reduced sympathetic outflow may result in hypotension and bradycardia.
- In the peripheral nervous system opioid receptors are present in the myenteric and submucosal plexuses of the GI tract where they inhibit GI motility.

Treatment

- ABC and supportive management.
- Many will simply need observation until the opioid has worn off.
- Avoid significant hypoventilation/hypoxia/airway compromise.
- Consider the use of naloxone when the patient is not maintaining their airway, RR <8, SpO2 <94%, type two respiratory failure on blood gas or decline in end-tidal CO2.
- Aim to restore adequate ventilation without inducing withdrawal.
- If respiratory effort is insufficient provide bag-mask ventilation until the naloxone takes effect.
- Repeat doses or an infusion of naloxone may be required.