

Generic Initial Management of the Unconscious Patient in the Nontrauma Setting

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Remember:

Assessment, diagnosis and treatment must be carried out concurrently in dire emergency settings.

Airway / Breathing

Ensure the patient is breathing easily in a regular pattern without significant obstruction, and at a reasonable rate. (Snoring is a mild form of airway obstruction that nonetheless demands respect and vigilance.)

Apply 100 percent oxygen by facemask if patient breathing well on own, otherwise prepare for urgent advanced airway management (oral airway, intubation, laryngeal mask airway etc.) and call for help if needed.

Check for equal air entry bilaterally, and that there are no wheezes or crackles. Check that there is no tracheal deviation.

Patients with lost airway reflexes from drug overdose and who also have a full stomach are at special risk of aspirating lunch and supper into their lungs, resulting in instant suffocation (sometimes), and aspiration pneumonitis (a lot of the time). Such patients should be intubated (endotracheal tube (ETT) placement) to isolate the airway from harm's way. An ETT also allows for positive pressure ventilation (via resuscitator bag or automatic ventilator) should the patients respiratory effort decline with increasing drug toxicity.

Patients who appear to have suffered a head injury may additionally have injuries to their cervical spine. Incorrect head positioning for airway maneuvers such as intubation can result in quadriplegia or death in patients with an unstable cervical spine at risk of causing spinal cord injury). Head injured patients need expert airway management with maneuvers to blunt increases in intracranial pressure.

Circulation

Ensure heart rate and blood pressure are OK. Follow ACLS algorithm if circulation is unstable. An ECG monitor will help detect rhythm disturbances that sometimes accompany drug overdose. A pulse oximeter will warn of hypoxemia. Vital signs should be taken frequently and charted.

Primary Survey / Preliminary Differential Diagnosis

Look for Medic Alert bracelet or necklace or a clinical note in wallet / purse. Some patients keep a list of medications with them. Look for trauma to the patient, or other hints as to what is going on (needle marks in arms, sleeping pills found with patient). Some patients, like the epileptic I one gave first aid to, provide specific instructions about management somewhere on their person.

The mnemonic MEDS will help prompt your thinking:

- M = metabolic (e.g., hypothermia)
- E = endocrine (e.g., hypoglycemia)
- D = drugs (e.g., heroin, fentanyl)
- S = structural (e.g., intracranial lesion)

Blood Tests and IV Access

- Do finger prick glucose reading (e.g., glucometer or glucose test strip)
- Have a nurse draw blood for the following initial blood tests: CBC, glucose, creatinine, sodium, potassium, chloride, bicarbonate, calcium, drug screen
- Start an IV of normal saline (to start at 125 ml/hour in adults)

Empirical Drug Treatment

- Give naloxone 0.4 mg IV push (covers narcotic overdose)
- Give flumazenil 0.4 mg IV push (covers benzodiazepine overdose)
- Give glucose 50 g IV push (covers cases of hypoglycemia)

Appropriate selection, sequencing and dosages used will vary with clinical scenario. For instance, patients becoming unresponsive following a large dose of a narcotic analgesic such as morphine should receive naloxone without delay, and there would be no sense to giving flumazenil or glucose if the naloxone was effective.

Patient Workup

- Get old chart and other information. For surgical patients review anesthetic and PACU records.
- Full history and examination (especially metabolic and neurological)
- Examine blood test results (sent off above)
- Special consultations and investigations (e.g., CT scan or MRI of head)
- Further treatment based on new investigations.

Neurological Mini-Exam

- Ensure ABCs are all taken care of and that bleeding is under control
- Check for signs of head or spinal cord injury.
- Determine Glasgow Coma Scale (best verbal, eye, and motor responses)
- Mini-mental status exam Who are you? Where are you? What day is it? What happened to you?
- Examine pupil sizes and direct and consensual responses to light. Examine retina. Consider the following:
 1. Pinpoint pupils in opiate overdose
 2. Fixed and dilated pupils, be they unilateral or bilateral, are always an ominous sign.
 3. An ophthalmoscope can reveal much to those graced with a knowledge of retinal pathology
- Check that all limbs move and have intact sensation; check major reflexes.
- Check specifically for anal sphincter tone and oropharyngeal gag reflex.
- Examine cranial nerves 2 to 12 as far as possible (brainstem reflexes).

Differential Diagnosis (partial list only)

Structural

Head-injury / trauma

Elevated Intracranial Pressure (ICP)

Hematoma (Epidural, Subdural)

Intracranial Bleed

Brain Tumor

Drug-Related

Opioids (morphine, meperidine, heroin, fentanyl)

Benzodiazepines (diazepam, midazolam, lorazepam)

Barbiturates

Alcohol

Poisons

Metabolic

Hypoxemia

Hypercarbia

Hypothermia

Hypoglycemia

Hyperglycemia

Electrolyte disturbances such as hypercalcemia

Thyroid disturbances such as severe myxedema

Wernicke-Korsakoff syndrome (thiamine deficiency)

Infectious

Encephalitis

Meningitis

Prions

Clinical Checklist

Basic Lines and Monitors

IV placement, ECG monitor, pulse oximeter, 100% oxygen,
BP setup, suction, intubation kit

Ensure Stat Lab Data

Blood / Urine Drug Screen Done

Documents:

Medic Alert, old chart, medication list, list of allergies, height, weight

Key Lab Data:

CBC, glucose, creatinine, sodium, potassium, chloride, bicarbonate, calcium,
drug screen

More Lab Data May be Needed:

Arterial blood gas data (detect hypoxemia, hypercarbia, acidosis etc.)

Thyroid function tests (TSH, T4 etc.)

Liver function tests (bilirubin, transaminases)

Some Clinical Clues:

Alcohol on breath, ketone smell (diabetic ketoacidosis), tablets or powders found
on patient, needle marks, pinpoint pupils, fixed and dilated single pupil

Consultations May be Appropriate

ICU consult: re need for ICU admission.

Renal consult: for electrolyte disturbances

Anesthesia: for airway management

Neurology / Neurosurgery: for neurological problems

Endocrinology: for diabetes, hypoglycemia, or thyroid abnormalities

Clinical toxicology: for suspected poisoning

Additional Investigations of Potential Value

CT or MRI scan of brain

Electrophysiological tests (EEG, evoked potentials)

Lumbar puncture

Septic workup