

Carbon Monoxide

- Number one cause of poisoning death in the U.S.!
- Aptly called the silent killer, as it is odorless and colorless
- CO is produced by incomplete combustion of a carbon-containing fuel
- Exposure can be fatal

Pathophysiology of CO Poisoning

- Causes hypoxia by binding to hemoglobin, a protein-iron complex that binds with oxygen and delivers it to the tissues
- The affinity of CO for hemoglobin is 200-250 times greater than that of oxygen
- Forms carboxyhemoglobin when CO binds to hemoglobin
- In the presence of carboxyhemoglobin, oxygen is not released to tissues
- Acts as a vasodilator, which decreases the oxygen delivery to tissues by causing pooling of blood in the vascular bed
- Depresses cardiac function

Signs and Symptoms of CO Poisoning

- Flu-like symptoms
- Fatigue
- Dyspnea on exertion
- Chest pain/palpitations
- Confusion/memory disturbances
- Hallucination/visual disturbances
- Agitation
- Nausea/vomiting/diarrhea
- Abdominal pain
- Headache
- Dizziness/weakness
- Syncope
- Seizures
- Fecal/urinary incontinence
- Gait disturbances
- Coma
- Death

Sources of CO

- House fires
- Automobile exhaust fumes
- Fumes from propane-powered vehicles (e.g., forklifts)
- Heaters, indoor stoves, camp stoves
- Boat exhaust fumes
- Gas-powered electrical generators
- Cigarette smoke
- Smoke from charcoal-fired cook stoves and ovens

Treating CO Poisoning

- Remove patient to safe area!
- High-flow oxygen, maximizes hemoglobin oxygen saturation and improves neurologic outcomes and cardiac complications
- Hyperbaric Oxygen (HBO) Therapy