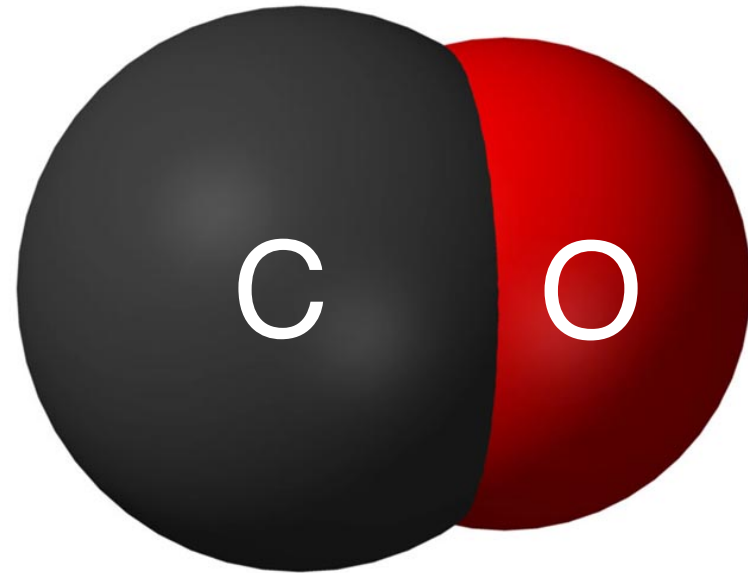


Toxicologic Emergencies

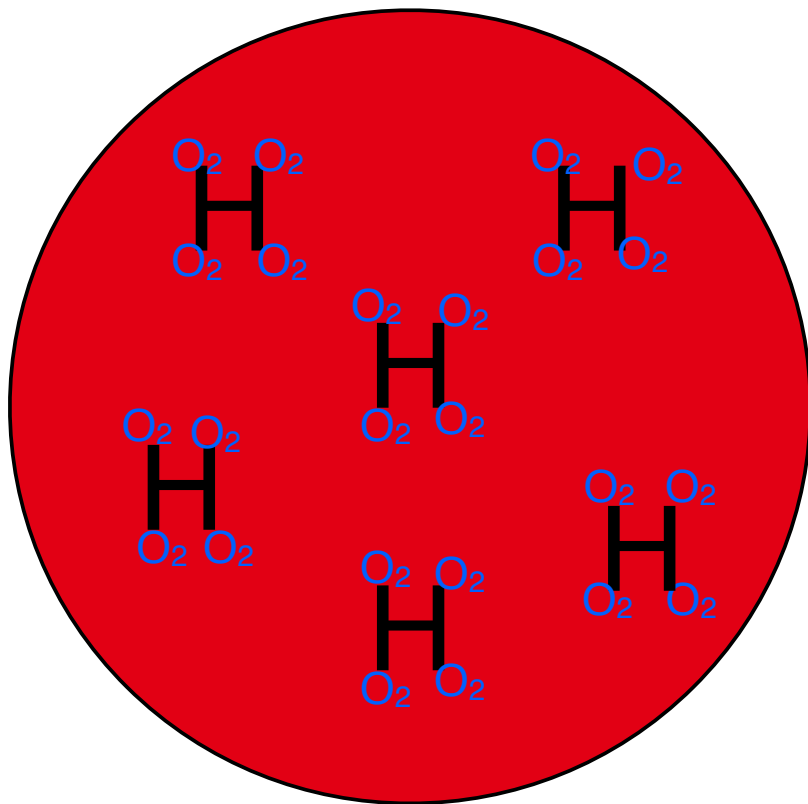
Tox Case 1

- CO poisoning



The Problem

- CO binds to hemoglobin with about a 250x greater affinity
- Results in less oxygen carried by RBC
 - functional anemia
- Tissue hypoxia develops
- CNS, heart especially affected



CO CO

CO CO

CO CO

CO CO

CO CO

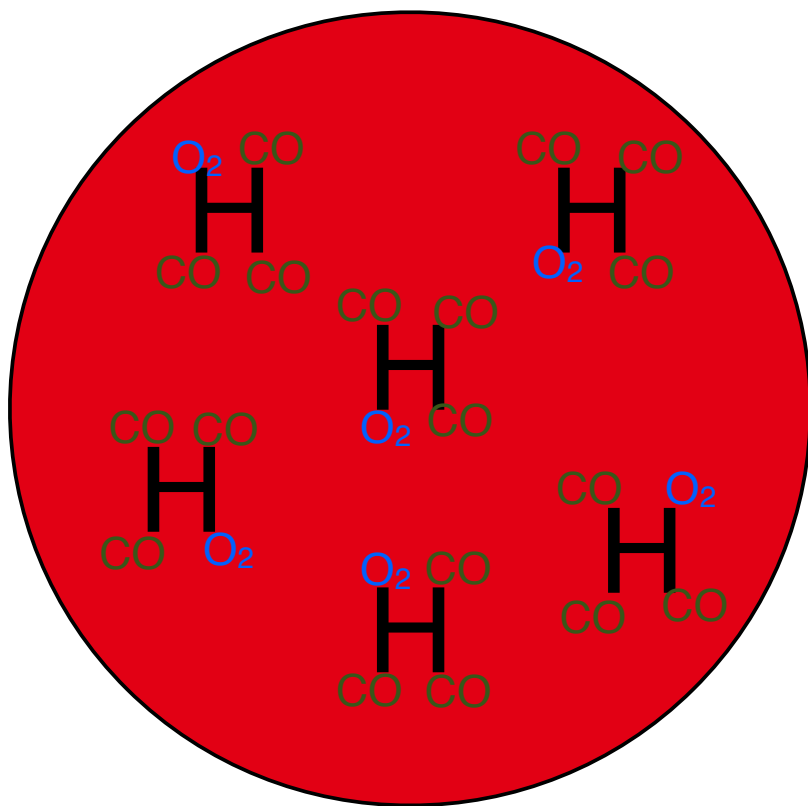
CO CO

CO CO

CO CO

CO CO

CO CO



S/S: CO Poisoning

- Headache, chest pain
- Tachypnea, tachycardia
- N/V, flu-like symptoms
- Impaired judgment, memory disturbance, AMS
- High SpO₂

CO Monitoring

- Masimo Rad-57
- Measures SpO₂, SpCO, HR, and other parameters

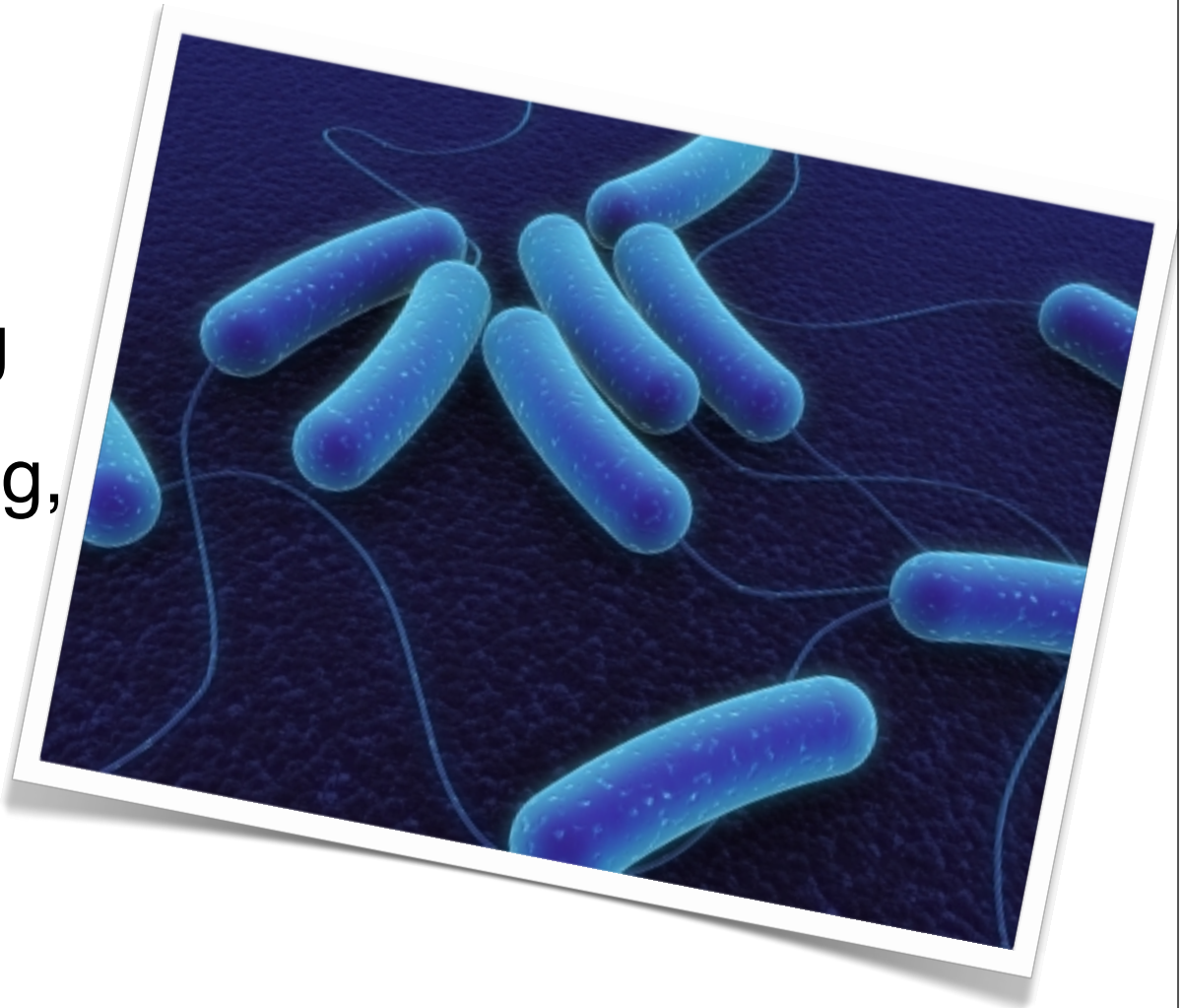


Treatment: CO Poisoning

- Scene safety!
- ABCs
- Oxygen 15 lpm via NRM
 - PPV if needed
 - SpO₂ not reliable
- Consider transport to hyperbaric chamber

Tox Case 2

- Food poisoning
- E. coli poisoning, to be specific





The Problem

- Food poisoning = illness via contaminated water or food
- Poisoning affects the intestinal mucosa, resulting in diarrhea
- Elderly, young particularly at risk

S/S: Food Poisoning

- N/V, bloating, cramping, abdominal pain
- Diarrhea
- S/S of dehydration
- Fever, blood or mucus in stool is bad

Treatment: Food Poisoning

- Consider need for ALS
- ABCs
- Oxygen via appropriate delivery device
- Treat for shock if severe dehydration present

Tox Case 3

- Ethylene Glycol
- Found in antifreeze, coolants, windshield deicers, and detergents



The Problem

- Neurological effects
- Cardiopulmonary effects
- Renal effects

S/S: Ethylene Glycol Poisoning

- First stage: S/S of alcohol intoxication
- Second Stage: heart failure, pulmonary edema, tachypnea
- Third Stage: oliguria, anuria, hematuria, flank pain

Treatment: EG Poisoning

- Consider need for ALS
- ABC's
- Oxygen via appropriate delivery device

Tox Case 4

- Opiate toxicity
- Heroin, methadone, opiate analgesics



The Problem

- Opiates are a CNS depressant
- Respiratory depression, bradycardia

S/S: Opiate Toxicity

- Bradycardia, respiratory depression
- Hypotension
- Hypoxia
- Miosis





Treatment: Opiate Toxicity

- ALS
- ABC's
- Oxygen via appropriate delivery device
 - BVM, suctioning may be necessary

Tox Case 5

- Cyanide toxicity
- Occurs rather frequently with smoke inhalation
- Potential as MWD
- Widespread industrial use



The Problem

- Interferes with oxygen utilization at the cellular level
- Tissues with highest O₂ demand affected the most
 - Brain, heart

S/S: Cyanide Poisoning

- S/S of hypoxia
- Confusion, agitation, AMS, seizures, coma
- Dyspnea, pulmonary edema, cardiac dysrhythmia
- Tachycardia, bradycardia
- Hypertension, hypotension

Treatment: Cyanide Poisoning

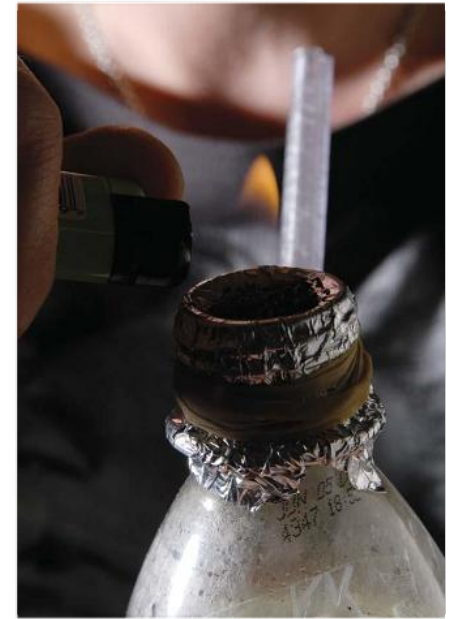
- Scene safety! Remove from environment
- Decontamination
- ABC's
- ALS

Tox Case 6

- Cocaine toxicity
- Other sympathomimetics, too
 - caffeine, ephedrine,
methamphetamine, amphetamines



- Stimulant toxicity
- Cocaine, crack cocaine, PCP, amphetamine, methamphetamine



The Problem

- Patients can become dangerous
- Hypertension
- AMI risk with cocaine use
 - Increased HR = increased myocardial oxygen demand
 - Coronary artery vasospasm

S/S: Stimulant Toxicity

- Increased alertness, agitation, paranoia,excitation, violent behavior
- Tachycardia, hypertension
- Chest pain, AMI, cardiac arrest
- Signs of chronic drug use

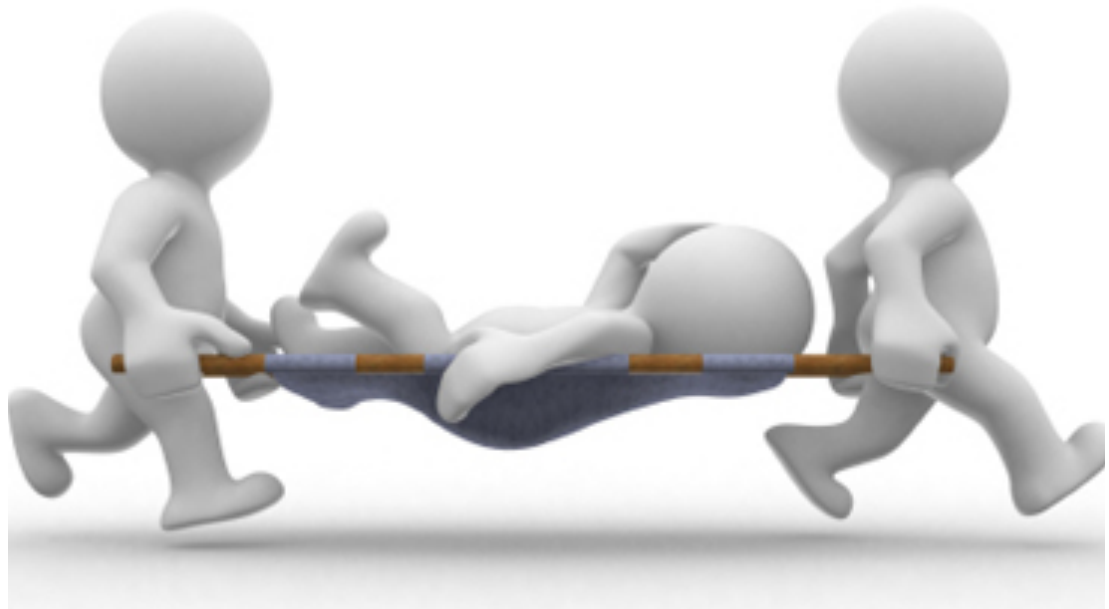


Treatment: Stimulant Toxicity

- Scene safety
- ALS
- ABCs

Tox Case 7

- ETOH withdrawal



The Problem

- Tolerance
- Physical dependence
- Withdrawal
- Delirium tremens

Stage 1
Alcoholic tremulousness

Difficulty concentrating
Restlessness
Irritability
Insomnia
Sweating
Nausea
Tremors

Stage 2
Alcoholic hallucinosis

Visual, auditory, and/or
tactile hallucinations



Stage 3
Withdrawal seizures

These are characterized by muscle rigidity and relaxation that usually alternate rhythmically in rapid succession and in groups of 2-6.



Stage 4
Delirium tremens

Confusion
Inattentativeness
Disorientation
Fever
Nausea, vomiting
Incoherence
Hyperirritability
Relentless insomnia

Treatment: Stimulant Toxicity

- Scene safety
- ALS
- ABCs