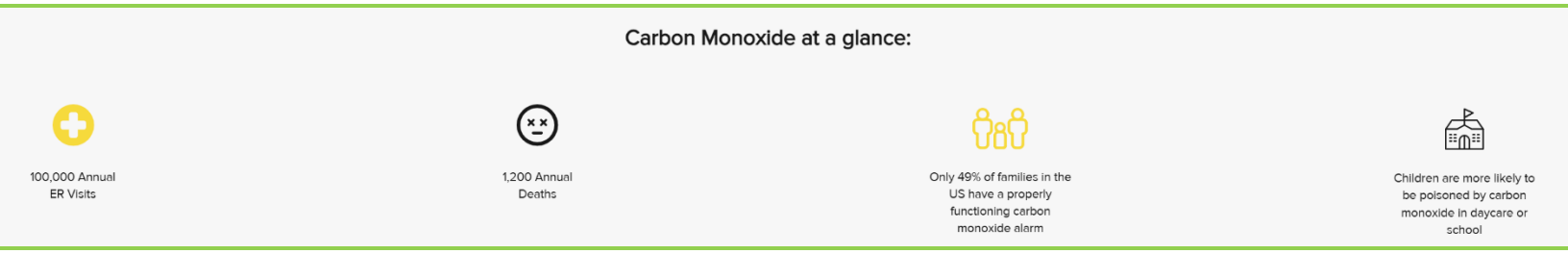
SAFETY TALK

NORTH DAKOTA STATE UNIVERSITY • UPPER GREAT PLAINS TRANSPORTATION INSTITUTE • NORTH DAKOTA LOCAL TECHNICAL ASSISTANCE PROGRAM

November is Carbon Monoxide Awareness Month



Carbon Monoxide is often called the silent killer, carbon monoxide is an invisible, odorless, colorless gas created when fuels burn incompletely.

Carbon monoxide, more commonly referred to as CO, is a highly toxic gas, produced by devices that burn fuels – often found in our everyday lives. Carbon monoxide can't be seen, smelled, or heard, but can be extremely dangerous to humans. Carbon monoxide is only detectable with an electronic carbon monoxide sensor.

A fuel source can be anything that burns: paper, gasoline, wood, coal, propane, or natural gas. Improperly ventilated appliances and engines, particularly in tightly sealed or enclosed spaces, may allow carbon monoxide to accumulate to dangerous levels.

Carbon monoxide in the air rapidly enters all parts of the body, including blood, brain, heart, and muscles when you breathe. The carbon monoxide binds to hemoglobin in the bloodstream and starves the body and all of its systems of oxygen.

Sources inside your home	Sources outside your home	Sources at work
Stoves/ovens	Transportation	Welding Equipment
Air & Water Heating Systems	Gasoline powered engine driven tools	Forklifts + manufacturing equipment
Boilers	Portable & fixed generators	Kitchens
Furnaces/fireplaces	Portable heaters	Work Trucks
Clothes dryers	Charcoal & gas grills	Auto Repair
Vehicles in attached garages		Ice Resurfacing

To avoid carbon monoxide poisoning, the World Health Organization recommends breathing no more than 3.5 ppm over a period of 24-hours. Poisonings come in all shapes and sizes and are classified as acute or chronic.

Acute poisoning occurs by breathing large amounts of carbon monoxide over a short period of time. Whereas, chronic poisoning occurs by breathing small amounts of carbon monoxide, over an extended period of time.

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The severity of poisoning and the subsequent symptoms depend on the total amount of carbon monoxide breathed over time, as well as the person's physiological condition. Once carbon monoxide reaches the bloodstream, it quickly starves the body of oxygen, causing hypoxia.

It can also cause toxic overload up to several weeks later, which can interfere with fundamental organ and gland functions.

Early warning signs of carbon monoxide poisoning include:

- Slight headache
- Nausea
- Vomiting
- Fatigue
- Flu-like symptoms

With continued exposure, you will experience:

- Drowsiness
- Confusion
- Fast heart rate

After prolonged exposure, you may experience

- Convulsions
- Unconsciousness
- Brain damage
- Heart & lung failure, followed by death

In addition to its known moniker of 'the silent killer,' carbon monoxide poisoning can be called the 'great imitator' because its symptoms closely resemble those of other illnesses. This leads to frequent misdiagnosis, mistreatment, and/or continued poisoning.

Carbon monoxide poisoning can only be treated (i.e. get carbon monoxide out of a person's bloodstream) through fresh air, high-dose oxygen through masks or oral equipment, or in severe cases, requiring placing the person in a full-body oxygen chamber known as a HBO2 chamber, though the use and efficacy of HBO2 chambers for carbon monoxide poisoning is somewhat controversial. Doctors can diagnose acute poisoning but, only if an arterial blood test is performed within 2.5-4 hours (ideally < 2 hours) after the poisoning occurs, or with the use of an FDA-approved breath diagnostic tool.

Resource:

National Carbon Monoxide Awareness Association - NCOAA

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Safety Talk Sign-in Sheet Topic

November is Carbon Monoxide Awareness Month

Agency: _____

Crew: _____

Supervisor/Talk Leader: _____

Date: _____

	Print Name	Signature
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