Reporting Carbon Monoxide Poisoning

Jon Meiman, MD
Chief Medical Officer

Jenny Camponeschi, MS
Program Manager
Wisconsin Environmental Public Health Tracking

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Wisconsin Department of Health Services
Wisconsin Division of Health
Bureau of Environmental and Occupational Health
www.dhs.wisconsin.gov/air/co.htm
Carbon Monoxide (CO) is a Gas

- Colorless
- Odorless
- Produced through incomplete combustion
CO is Harmful When Breathed

Carbon monoxide takes the place of oxygen in the blood.
Symptoms of Poisoning are Flu-Like

- Headache
- Dizziness
- Weakness
- Upset stomach
- Vomiting
- Chest pain
- Confusion
- Loss of consciousness
- Death
CO Poisoning

**Diagnosis**

- Carboxyhemoglobin (COHb) *blood* test or *pulse* CO-oximetry. COHb expressed as % of total hemoglobin
- Blood test performed in laboratory
- Pulse CO-oximetry is point-of-care
Treatment for CO Poisoning

Supplemental oxygen

Hyperbaric treatment (extreme cases)
Pop Quiz
Carbon Monoxide Basics

Carbon Monoxide Poisoning Data

Tracking Carbon Monoxide

Key Messages

Questions & Discussion
Mortality: CO Poisoning

National Statistics

374
Mortality: CO Poisoning

Wisconsin Statistics

5
Emergency Department Visits: CO Poisoning

National Statistics

7 per 100,000
Emergency Department Visits: CO Poisoning

Wisconsin Statistics

9 per 100,000
Notable Outbreaks
Why We Need CO Poisoning Surveillance

- Better data and idea of how exposures occur
- Key to prevention and education focus
- Nationally-notifiable condition
Tracking CO Poisoning Helps Us...

• Learn about causes of CO poisoning
• Monitor trends
• Identify high risk groups
• Supports policy development aimed at preventing CO poisoning
Case Definition

- Based on blood test (COHb %) and smoking status
- If no lab evidence, can be determined based on symptoms, *pulse* CO-oximetry (COHb %), and/or exposure information
### Case Definition: Blood Test + Smoking Status

<table>
<thead>
<tr>
<th>Case Classification</th>
<th>Non-Smoker Or Unknown and &lt;14 yrs of age</th>
<th>Smoker Or Unknown and ≥14 yrs of age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confirmed</td>
<td>Blood COHb ≥ 5.0%</td>
<td>Blood COHb &gt; 12.0%</td>
</tr>
<tr>
<td>Probable</td>
<td>N/A</td>
<td>Blood COHb ≥ 9.0% and ≤ 12.0%</td>
</tr>
<tr>
<td>Suspect</td>
<td>Blood COHb ≥ 2.5% and &lt; 5.0%</td>
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**Note:** COHb values < 5% will not go to WEDSS.
# Case Definition: Symptoms & Exposure

## Clinical Criteria

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<tr>
<th>Presumptive</th>
<th>Loss of consciousness or death</th>
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<tbody>
<tr>
<td>Supportive</td>
<td>CO poisoning symptoms</td>
</tr>
<tr>
<td></td>
<td>Elevated pulse CO-oximetry ≥5%</td>
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## Case Definition: Symptoms & Exposure

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<th>Environmental Criteria</th>
<th>Description</th>
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<tr>
<td><strong>Confirmatory</strong></td>
<td>Exposure to measured, elevated CO level for known duration consistent with CO poisoning</td>
</tr>
<tr>
<td><strong>Possible</strong></td>
<td>Alarm of CO detector, or CO-related symptoms associated with a CO-emitting source</td>
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### Case Definition: Symptoms & Exposure

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<td>Confirmed</td>
<td>Presumptive OR supportive clinical evidence AND Confirmatory environmental exposure</td>
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<tr>
<td>Probable</td>
<td>Presumptive clinical evidence AND possible environmental exposure OR Presumptive or supportive clinical evidence AND Epidemiological linkage to confirmed case</td>
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### Case Definition: Symptoms & Exposure

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Category II

- Reported within 72 hours
- Electronically reported through WEDSS, mail, or fax
Case Investigation

Local health department investigates:

- Phone, in person, in writing, medical record review
- Document follow-up
Pop Quiz
Let’s Take a Stroll Through WEDSS

PHIN
PUBLIC HEALTH INFORMATION NETWORK
Take Action to Stop CO Poisoning

Install CO alarms.

Use grills and generators outdoors.

Don’t leave cars running inside garages.

Routinely do maintenance.
KNOW THE SIGNS AND SYMPTOMS OF CARBON MONOXIDE POISONING

IF YOU SEE SKATERS OR SPECTATORS EXPERIENCING THESE SYMPTOMS, MOVE THEM TO FRESH AIR AND CALL 911

- SHORTNESS OF BREATH
- HEADACHE
- IMPAIRED COORDINATION
- NAUSEA/VOMITING
- DIZZINESS
- LOSS OF CONSCIOUSNESS

Find more CO resources:
www.dhs.wisconsin.gov/air/co.htm
Prevention Guidelines: You Can Prevent Carbon Monoxide Exposure

- **DO** have your heating system, water heater and any other gas, oil, or coal burning appliances serviced by a qualified technician every year.
- **DO** install a battery-operated CO detector in your home and check or replace the battery when you change the time on your clocks each spring and fall. If the detector sounds leave your home immediately and call 911.
- **DO** seek prompt medical attention if you suspect CO poisoning and are feeling dizzy, light-headed, or nauseous.
- **DON’T** use a generator, charcoal grill, camp stove, or other gasoline or charcoal-burning device inside your home, basement, or garage or near a window.
- **DON’T** run a car or truck inside a garage attached to your house, even if you leave the door open.
- **DON’T** burn anything in a stove or fireplace that isn’t vented.
- **DON’T** heat your house with a gas oven.
- **DON’T** use a generator, pressure washer, or any gasoline-powered engine less than 20 feet from any window, door, or vent.

CDC Resources

Public service announcements

Web course for physicians and clinicians

Fact sheets
Contact for Consultation

• Medical management of CO poisoning
  Wisconsin Poison Center: 1-800-222-1222

• Questions about reporting
  Wisconsin BEOH: 608-266-1120
  DHSTracking@wi.gov
Three Key Takeaways

COHb levels $\geq 5\%$ will go to WEDSS

Expectation: local health department interview affected patient

Contact us for further questions