INDICATIONS:
- Suspected carbon monoxide (CO) exposure.
- CO exposure may be associated with the following:
  - Smoke inhalation
  - Burn injuries
  - Automotive exhaust exposure
  - Faulty indoor heating systems
  - Improperly vented fuel-burning devices (e.g., kerosene heaters, camping stoves)
  - Methylene chloride exposure

CONTRAINDICATIONS:
- Exhaled CO detectors are not yet approved for use by Idaho-licensed EMS personnel.

PRECAUTIONS:
- Airway, breathing, circulation and scene safety always take precedence over CO oximetry.
- CO oximetry should not delay patient transport when indicated.
- High flow supplemental oxygen should not be delayed or withheld to obtain CO oximetry.
- Carboxy-hemoglobin (CO-Hb) levels do not always correlate with symptoms and may not predict CO toxicity or delayed neurologic sequelae. Most importantly, a normal CO-Hb level does not rule out illness and/or the need for transport and ED evaluation. In other words, CO oximetry may not be used to rule out a CO exposure.
- Non-smokers may have CO-Hb levels up to 3%; smokers may have levels of 10-15% at baseline.
- Pulse oximetry monitors may give falsely normal readings in patients who have been exposed to CO.
- Ambient light such as strobes, direct sun & extra bright lights may affect both pulse and CO oximetry.
- Cyanide exposure may accompany CO exposure (e.g., house fire).
- Certain severe cases of CO toxicity may benefit from hyperbaric oxygen therapy.
- Consider CO poisoning in the setting of unexplained symptoms such as headache, nausea/vomiting, dizziness, lightheadedness, dyspnea, confusion or altered level of consciousness.

1. Assess the patient for indications, contraindications and higher treatment priorities (e.g, ABCs). Manage higher treatment priorities prior to CO oximetry.

2. If necessary, move the patient a safe distance away from the suspected source of CO exposure.

The Idaho EMS Bureau has taken extreme caution to ensure all information is accurate and in accordance with professional standards in effect at the time of publication. This protocol must be followed by EMT and AEMT personnel. This protocol may not be modified by the EMS Medical Director except at the Paramedic level. It is recommended that care be based on the patient’s clinical presentation and on authorized policies and guidelines.
3. Assess patient for symptoms of CO toxicity, which may include headache, nausea/vomiting, blurred vision, dyspnea/shortness of breath, chest pain, syncope/loss of consciousness, dizziness, lightheadedness, weakness, unsteady gait, seizures, confusion or altered level of consciousness.

4. If altered level of consciousness is present, perform automated blood glucometry if this skill is within the local scope of practice. If hypoglycemia is present, treat in accordance with local protocol.

5. Measure SpCO.
   a. Before using the CO oximeter, the provider must be trained and have demonstrated competency with the specific device being used.
   b. Prepare the device according to the manufacturer’s instructions.
   c. Fingers should be clean especially if covered in soot from a fire.
   d. Always confirm high readings with 2 additional finger measurements using different fingers.

6. Determine need for treatment and transport.
   a. Is patient symptomatic? All symptomatic patients should be transported regardless of SpCO measurement with 100% oxygen for ED evaluation.
   b. Is SpCO >25% with loss of consciousness or neurological impairment? If yes, transport on 100% oxygen for ED evaluation. Consider transport to a hospital with a hyperbaric chamber in accordance with local destination protocol. If no, go to step c.
   c. Is SpCO >12% with or without symptoms? If yes, transport on 100% oxygen for ED evaluation. If no, go to step d.
   d. Is SpCO \( \leq 12\% \) without symptoms of CO exposure? If yes, no immediate treatment is required. If patient becomes symptomatic, further evaluation is required. Consider source of CO exposure if patient is a non-smoker. Consider transport if other conditions warrant ED evaluation.

7. Patient refusal of care should be managed in accordance with local protocol.

8. Patient non-transport should be managed in accordance with local protocol.

Note:
1. According to the EMSPC Standards Manual, CO Oximetry is an optional skill for the EMT and AEMT.
2. The EMT and AEMT must obtain EMS Bureau-specified training prior to skill credentialing.
3. The EMT and AEMT must perform CO Oximetry in accordance with this EMSPC protocol.