7.09 CARBOXYHEMOGLOBIN SCREENING

INDICATION

- Suspected carbon monoxide exposure (see 2.10 Poisoning and Overdose- Carbon Monoxide)

PROCEDURE

1. Use a carboxyhemoglobin (CoHb) monitor
2. Place probe on finger or apply nasal device.
3. Place patient on 100% high-flow **Oxygen.**

NOTES

- In even severe Carbon monoxide (CO) poisoning may result in normal oxygen saturation readings.
- Carboxyhemoglobin CO-oximetry screening is helpful in ruling in, but not ruling out significant exposures to CO; thus, maximal oxygen therapy should be delivered to the patient with suspected exposure and symptoms.
- Duration of exposure and concentration of CO will determine onset and severity of symptoms.

Table 1: Examples of COHb levels and associated symptoms

COHb Levels	Symptoms
10-20%	Typically mild and nonspecific, may include headache and nausea
20-30%:	Drowsiness, ataxia, muscle weakness and impaired cognition
30-50%:	Myocardial ischemia, seizures, and unconsciousness
>50%	Circulatory and ventilatory failure, cardiac arrest, death

Table 2: Examples of CO exposure levels and symptoms

Exposure Level	Symptoms
> Approx. 35 ppm (0.0035%)	Headache and dizziness within 6 - 8 hours of constant exposure.
200 ppm (0.02%)	Slight headache within 2 - 3 hours. Loss of judgment/confusion.
800 ppm (0.08%)	Dizziness, nausea, altered mental status and convulsions within 45 min, followed by unconsciousness within 2 hours.
1,600 ppm (0.16%)	Headache, tachycardia, dizziness and nausea within 20 min. Death in less than 2 hours.
6,400 ppm (0.64%)	Headache and dizziness in one to two minutes. Convulsions, respiratory arrest and death in less than 20 minutes.
12,800 ppm (1.28%)	Unconsciousness after 2–3 breaths. Death in less than three minutes.