



Wintergreen Fire and Rescue Standard Administrative Policy	
Subject:	Zoll X-Series
Reference Number:	EMS 03-017
Effective Date:	1-Aug-19
Last Revision Date:	22-Feb-22
Signature of Approval	Curtis Sheets, Chief

Purpose:

This policy is in place to provide necessary guidance and guidelines for using the Zoll X-Series monitor at Wintergreen Fire & Rescue.

End-tidal CO₂ Monitoring Zoll X-Series

Description:

A device which allows for a continuous non-invasive monitoring of End-Tidal CO₂ and respiratory rate in patients requiring ventilatory support.

Indications:

The Zoll X-Series EtCO₂ option is indicated for the continuous noninvasive monitoring of end tidal carbon dioxide (EtCO₂) and respiratory rate in patients.

All intubated patients will have capnography initiated and documented including endotracheal tube, supraglottic airway, BVM ventilations via tracheostomy tube.

- Verification of placement
- Surveillance during transport
- CPR: compression efficacy
- Optimize ventilation of patients

Contraindications:

1. Mouth to adjunct ventilations
2. Patient's less than 15 kg (30 lbs) in weight

Documentation:

Upon confirmation of successful endotracheal intubation (positive waveform), press the snapshot button on the monitor to document the initial reading. Document any airway or pharmacologic interventions based on capnography readings. With any patient movement and upon arrival to the Emergency Department and **AFTER** transferring the patient to the hospital's bed, press the snapshot button on the monitor to document a continued positive waveform. Transfer the capnography reading into ESO (This is done upon transferring the case at the end of the call as required per this policy).

SpCO Monitoring

Description:

Non-invasive medical device used to monitor blood levels of substances such as methemoglobin and carboxyhemoglobin.

Indications:

The Masimo CO-Oximeter is indicated for the continuous, non-invasive monitoring saturation of total hemoglobin concentration (SpHb), carboxyhemoglobin saturation (SpCO) and/or methemoglobin saturation (SpMet).

- Should be used for monitoring firefighters during rehab on a fire scene
- Fire and Rescue personnel showing signs and symptoms of CO poisoning
- Workers at increased risk of occupational CO exposure
- Individuals presenting with nonspecific symptoms or illness

Limits:

Patient Type	SpCO Alarm Limits	SpMet Alarm Limits
Adult	0-10%	0-3%
Pediatric	0-10%	0-3%
Neonate	0-10%	0-3%

Smokers have been found to have CO levels of up to 8%, but otherwise the non-smoking population has CO levels less than 5%. Treatment is generally indicated when the SpCO exceeds 10 to 12%. Severe CO poisoning is likely for patients who have altered mental status or a history of a loss of consciousness, neurologic deficits, cardiac symptoms, and patients with CO levels of 20–25%. Because of the risk to the fetus, patients who are pregnant and have a COHb level greater than 15% should be considered dangerously poisoned.

A value above 20% establishes a high-risk poisoning, and the need for oxygen treatment and consideration of removal to a center with hyperbaric oxygen capability. A value above 30% is usually in a patient who has frank and obvious symptoms of CO poisoning.

Notes:

Some factors that may interfere with accurate readings are blood pressure, compression by the probe, cardiac arrest, AV fistula can reduce distal flow, dark nail polish, and heart rate extremes.

References

Augustine MD, J. J. (October 2010). The New Vital Sign Parameter. Retrieved from <https://www.jems.com/articles/2010/10/new-vital-sign-parameter.html>

Masimo International. (n.d.). Noninvasive, Field-based Measurement of Carbon Monoxide Levels in the Blood. Irvine, CA. Masimo

Transferring Data

Note: This is **REQUIRED** for all reports and patients utilizing the Zoll X-Series monitor

Procedure:

1. Press the back arrow on the left-side bottom soft keys, then press the Log soft key
2. Assure you are connected to the MiFi indicated by the signal icon located near the middle-top of your monitor screen that will show green
3. Press the soft key that looks like an envelope
4. Press the Enter button (black dot) to Close Case, if not already done so
5. Press Enter button to select cases
6. Use up or down arrow to select the appropriate case based on date/time of your run
7. Press enter button once you have located your record
8. Press Home key, then press Enter button to start the data transfer (Note: the green light at top of monitor will illuminate when data is being transferred).