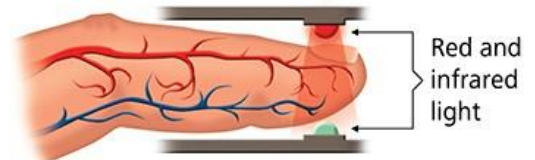




PULSE OXIMETERS

The pulse oximeter is a tool used for evaluating the oxygen status of victims. It provides continuous, non-invasive monitoring of **oxygen saturation** of the blood.

The pulse oximeter determines the oxygen saturation by passing two wavelengths of light through the finger to a photodetector. The photodetector compares how much red light and infrared light is absorbed by oxygenated vs. deoxygenated hemoglobin in the blood. The oxygen saturation reading depends on the ratio of light absorbed.



A normal saturation level in an otherwise healthy individual is 95-100%. Individuals with pre-existing respiratory conditions (such as COPD) may have a baseline O₂ saturation (SpO₂) level of 88%-92%.

Supplemental oxygen can be harmful in the treatment of a victim suffering from a myocardial infarction if their blood oxygen saturation is greater than or equal to 94%.

The Lifesaving Society, as part of the Canadian Consensus on First Aid and Resuscitation, recognizes research that indicates pulse oximetry should be used as part of victim assessment prior to providing supplemental oxygen.

TREATMENT WITH SUPPLEMENTAL OXYGEN

The consensus in science is that there is some benefit to administering supplemental oxygen for specific hypoxic conditions regardless of the victim's oxygen saturation level. Therefore, it is recommended that oxygen be provided (regardless of oxygen saturation reading) to any victim suffering from:

- Drowning
- Decompression illness
- Carbon monoxide poisoning
- Respiratory arrest
- Respiratory emergencies with no previous history of cardiovascular signs or symptoms

Supplemental oxygen should only be given to victims suffering from other emergencies (e.g. chest pain, shock, bleeding, etc.) if they have a blood oxygen saturation of less than 94% as measured by a pulse oximetry device.

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USING A PULSE OXIMETER

The pulse oximeter is a tool to supplement a proper victim assessment. It is important that rescuers are careful to avoid tunnel visioning on the pulse oximeter as the victim's ABCs are the priority.



The pulse oximeter can produce inaccurate readings. Therefore, the pulse oximeter is NOT a replacement for a manual pulse check for vitals during a secondary survey; rescuers must still palpate (feel) the victim's pulse and compare it to the digital reading. If rescuers suspect an inaccurate reading, rescuers must use their best judgement based on the victim's signs and symptoms to determine if the victim should receive oxygen.

Some points to consider when applying the pulse oximeter to a victim's finger:

- Dry fingers prior to use
- Turn oximeter sideways if the victim is wearing fake nails or polish
- Warm hand prior to use for cold hands, poorly perfused hands or if victim is hypothermic
- Cover/shield the pulse oximeter from bright light shining on it

CARE AND STORAGE OF A PULSE OXIMETER

As an electronic tool, pulse oximeter care is important in an aquatic setting.

- Store with oxygen unit
- Keep dry as extreme moisture can affect oximeter lifetime and may cause damage.
- Replace batteries in a timely manner or when the oximeter indicates a need.

Pulse oximeters are available for purchase through our online shop at lifesaving.bc.ca