

# PULSE OXIMETRY

## PURPOSE

To perform a cost-effective and non-invasive measurement of arterial oxygen saturation.

To have an immediate and ongoing way to assess client response to treatment.

## APPLIES TO

- Registered Nurses
- Licensed Practical/Vocational Nurses
- Therapists
- Other (Identify): \_\_\_\_\_

## EQUIPMENT/SUPPLIES

- Pulse oximeter.
- Sensor (clip on or disposable adhesive sensor).
- Cutaneous sensor probe.

## ASSESSMENT CONSIDERATIONS

- Inaccurate oximetry readings can be associated with fever, hypothermia.
- Low blood pressure or low perfusion status, carbon monoxide poisoning or recent dye injection studies.
- Cold fingers give inaccurate readings.
- Blood pressure readings of less than 90 systolic may provide inaccurate results.
- Inadequate blood flow results in erroneous readings.
- Saturation on pulse oximeter is usually 2-4% higher than measured arterial oxygen saturation.
- Nail polish or artificial nails can distort readings.
- Use appropriate sensor probes - they are designated for fingers, toes, or earlobes (*recent studies have shown finger probes are more accurate*).

## PROCEDURE

1. Wash hands. Refer to the Hand Washing procedure.
2. Identify monitoring site. The oximeter probe may be applied to the ear, finger, toe or bridge of the nose in adults and to the foot, wrist or hand in infants.
3. Explain the procedure and Purpose to the client.
4. Use acetone to remove nail polish.
5. Turn machine on and attach sensor to the identified monitoring site. Make sure the sensor probes are aligned directly opposite each other. (*Oximeter sensors contain both red and infrared light emitting diodes and a photodetector. The photodetector registers light passing through vascular bed, the basis for microprocessor determination of oxygen saturation*).
6. Assess for proper sensing of pulse and verify with the client's actual pulse. Clients with peripheral vascular disease, *Reynaud's Syndrome*, or cold hands may have difficulty obtaining readings.
7. Read saturation level on the digital readout monitor; evaluate findings with previous levels and oxygen changes.
8. Remove probe and turn off oximeter.
9. Wash hands. Refer to the Hand Washing procedure.

## DOCUMENTATION GUIDELINES

1. Document in the clinical record:
  - a. Monitoring site.
  - b. Oxygen saturation results.
  - c. Oxygen administration rate.
  - d. Activity level at the time of testing.
  - e. Any other pertinent findings.

## RELATED PROCEDURES

None.