Testing Oxygen Levels in the Blood With Pulse Oximetry

What is Pulse Oximetry?

Pulse oximetry is a test that measures how much oxygen is in the blood (aka **oxygen saturation** or **SpO2**). It's a simple, painless way to check how well oxygen travels to portions of your body furthest from your heart, including your arms and legs. It may be used:

- During or after sedation-assisted surgery or procedures
- To test the effectiveness of lung medications
- To determine a person's ability to handle high levels of activity
- To determine if a ventilator is required to assist breathing or to assess performance
- To determine if a person's breathing stops during sleep (sleep apnea)

Where Can an Oximeter Be Placed?

Probes or sensors for pulse oximeters are placed on the finger, nose, ear, toes, or forehead. The most precise readings are obtained with the pulse oximeter clamped to the finger (specifically the middle finger) rather than in other body regions.

Examples:

Fingertip   **Handheld**   **Ear Clip**   **Forehead**

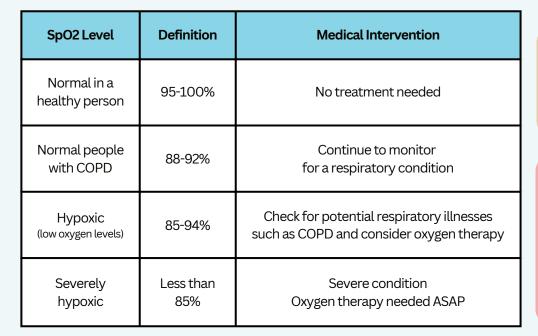| SpO2 Level	Definition	Medical Intervention
Normal in a healthy person	95-100%	No treatment needed
Normal people with COPD	88-92%	Continue to monitor for a respiratory condition
Hypoxic (low oxygen levels)	85-94%	Check for potential respiratory illnesses such as COPD and consider oxygen therapy
Severely hypoxic	Less than 85%	Severe condition Oxygen therapy needed ASAP

Self-Testing at Home

The device may not provide results if you have chilly hands or use nail polish or artificial nails. Warm up your hand, remove the nail paint, or try a different finger or toe without nail polish.

Misreading with Painted Nails

In the nail bed, an oximeter measures oxygenated and deoxygenated hemoglobin. It has two different wavelengths. It detects oxygen levels by passing a beam of light through it. Applying nail polish or anything else to your nail bed will prevent the pulse oximeter beam from passing through to your nail bed, resulting in inaccurate readings.

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