

# Pulse Oximetry and COVID-19

## What is pulse oximetry, and why is it important in COVID-19?

Many patients with COVID-19 disease have low oxygen levels even when they are feeling well. Low oxygen levels can be an early warning sign that medical intervention is needed. Pulse oximetry is the method that measures the percentage of blood hemoglobin carrying oxygen. Many consider it a vital sign, like blood pressure. A beam of red light is passed through the fingertip by using a device called a pulse oximeter. Oxygen level, or saturation (SpO<sub>2</sub>), is determined by measuring how much light is absorbed as it passes through the fingertip.

## What are normal levels, and when should I worry?

Normal SpO<sub>2</sub> is usually at least 95%. Some patients with chronic lung disease or sleep apnea can have normal levels around 90%.

A medical professional should be consulted for SpO<sub>2</sub> reading below baseline or per facility protocol if the patient is a long-term care facility resident or has been previously evaluated by a physician for COVID-19-related concerns. Supplemental oxygen or other treatments might be needed.

Other people in the community should contact a health care provider if they experience shortness of breath or when measured SpO<sub>2</sub> is <95%.

CDC defines severe illness of COVID-19 in people who have respiratory frequency >30 breaths per minute, SpO<sub>2</sub> <94% on room air at sea level (or, for patients with chronic hypoxemia, a decrease from baseline of >3%). [CDC: SARS-CoV-2 Illness Severity Criteria \(www.cdc.gov/coronavirus/2019-ncov/hcp/disposition-hospitalized-patients.html#definitions\)](https://www.cdc.gov/coronavirus/2019-ncov/hcp/disposition-hospitalized-patients.html#definitions).

### KEY POINTS:

If a long-term care facility resident with COVID-19 has SpO<sub>2</sub> reading is below baseline, refer for further evaluation and possible treatment.

Other people should contact a health care provider for shortness of breath or when SpO<sub>2</sub> is <95%.

## How do I measure a patient's oxygen saturation?

Follow manufacturer instructions for cleaning and disinfecting pulse oximeters. Be sure to disinfect the unit with an anti-viral wipe before and after use by each patient. Turn the unit on with the power button (if it does not turn on, check the batteries). Place the patient's finger in the unit and wait for the number to display. In addition to SpO<sub>2</sub>, the unit might display heart rate and the waveform of the pulse. This can be helpful, because more distinct pulse waves indicate better measurement quality.

Some factors that can make it difficult for the unit to read are:

- Dark colored nail polish
- Cold fingers or poor circulation
- Tremor or movement
- Too much pressure on the probe
- Low blood pressure



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