

The Village Sleep Lab
Juan A. Albino, MD

About Oximetry

Overnight oximetry is a simple, inexpensive screening test that is done at home. Sometimes it is used to help identify patients that may benefit from an overnight polysomnogram, or sleep study. An oximeter measures the amount of oxygen in a person's blood (oxygen saturation: SpO₂) during the night.

Obstructive sleep apnea and lung disease have distinctive low oxygen patterns that may be recognized during an overnight oximetry study. However, an abnormal oximetry does not diagnose sleep apnea, nor does a normal oximetry rule it out. So, a sleep study is necessary. Also, the oximetry can be repeated after the treatment of sleep apnea.

Please note that the information of interest is when the patient is *sleeping*, not when the patient is awake. Patients may have perfectly normal oxygen saturations while awake but very abnormal ones when they are sleeping, especially in deep sleep. Usually the patient is completely unaware of this situation, which can be quite dangerous. If a patient wakes up during the night, even a fairly low oxygen saturation normalizes quickly.

Detailed instructions and a demonstration on how to use the overnight oximeter will be given by our staff if the patient needs a study. But, in general:

1. An appointment will be made for the patient to pick up the oximeter in the afternoon and then return it the following morning. It is very important to return it promptly, since we have to clean, check the batteries, and prepare the oximeter for the next patient. The cost of these machines is over \$1,500.
2. The information from the oximeter will be downloaded to a computer, and then a report is printed and interpreted by the physician. Rarely, complete and accurate data is not obtained and the study may have to be repeated.
3. Thus, it is all important for the patient to follow the instructions carefully on how to put on the sensor or probe on the finger, tie it in place with a bandaid, and tie the cable to the base of the finger and wrist.
4. In the center of the oximeter is a button which turns on the machine. Once the probe is on the patient's finger and the cable is connected to the oximeter, pressing and holding this button for a few seconds turns on the oximeter. Then, two numbers are seen: the top one is the oxygen saturation (SpO₂) and the bottom one is the pulse (heart). Also, below is a light that flashes either orange, yellow, or green, which corresponds to unreliable, borderline, and reliable data, referring to the pulse and oxygen saturation. It may take 10 or more seconds before the light turns green.
5. Once the patient is in bed, the oximeter can be turned upside down (so the light does not bother the patient), and it should be kept at least a foot away from other electrical devices.
6. In the morning, the machine is turned off by pressing and holding the middle button for a few seconds. The patient can then take off the probe, put all the equipment carefully in the box, and bring it promptly to the office.