Intermountain® Healthcare

Overnight Home Oximetry

What is it?

Overnight (nocturnal) home oximetry is a test to monitor and record the level of oxygen in your blood as you sleep through the night at home. With this test, an oxygen sensor is clipped to your finger and connected to a machine called an **oximeter**. The oximeter measures and records your heart rate and the level of oxygen carried in your blood (your **oxygen saturation** or **O_2 sat**).

Why do I need it?

There are two common reasons that your doctor may recommend overnight home oximetry:

- **As part of an initial evaluation to screen for obstructive sleep apnea (OSA) and to determine the urgency for consultation.** OSA is a condition in which you briefly stop or reduce your breathing while you sleep. When this happens, the level of oxygen in your blood may drop, which will be measured and recorded on the oximeter. For more information on this disorder, see the fact sheet on *Obstructive Sleep Apnea (OSA)*.
- **To assess your need to start, continue, or increase home oxygen** for various conditions.

What happens before the test?

1 **Getting equipment.** The items you need may come from the clinic or you may need to pick them up from a home medical equipment provider. These include:
   - An **oximeter** (the machine that records your blood oxygen level). Some oximeters can be worn on your wrist like a watch, while others are a separate unit.
   - An **oxygen sensor** that clips on your finger, and the cable connecting it to the oximeter.
   - A booklet or paper that may be used to record when you start and stop the test, and any times you remove the finger clip to get up during the night.

Overnight home oximetry measures and records the level of oxygen in your blood as you sleep. This photo shows an example of one type of home oximeter.

2 **Preparing the day of the test.** For the most part, your doctor will want you to follow your normal daily routine. Ask whether you should take your usual medication.
   - If you use oxygen, your doctor will tell you whether you should use oxygen during the test.

3 **Setting up and going to bed.** Get ready for bed at the usual time, with these added steps:
   - **Attach the oxygen sensor.** Most often, this will be a clip you attach to your finger. You can wear it on either hand, and on any finger except your thumb. To make sure the sensor works effectively, remove any nail polish or artificial nail from the finger wearing the clip. Also be sure to place your finger all the way into the clip without tucking the lining inside.
   - **Attach and secure the cable.** Plug the cable into the oximeter. To help keep the clip from falling off your finger, you can use tape or a Band-aid to attach the cable to your finger. (Don't wrap the tape too tight.)

– **Turn on the oximeter.** Some oximeter units turn on automatically when you plug them in, while others also have a power button you need to press. When the oximeter turns on, you should see a screen come on with the date, time, and other readings. Make a note of the time.

What happens during the test?

- **You should try to sleep as usual.** Leave the machine on all night.
- **The oximeter displays and records** both your oxygen saturation (O_2 sat) and your heart rate.
- **If you get up during the night,** you can take the oximeter with you or unplug the cable and leave the oximeter by the bed. If you unplug the cable, remember to reattach it when you get back into bed, and **make a note of the time**.
- **If the sensor irritates your finger,** switch it to another one. Make a note of the time you do this.
- **If you usually use oxygen and you feel short of breath,** put your oxygen back on and continue the test. Note this change, including the time.

What happens after the test?

- **Turn off the oximeter and remove the clip** when you wake up in the morning. Note the time.
- **Do not remove the batteries, a**s this will erase the results.
- **Return the equipment and your notes,** following your healthcare provider's instructions.
- **Follow-up with your doctor** as advised to get the results and discuss next steps. You may need to have additional sleep testing to confirm a diagnosis of sleep apnea and evaluate treatment.

Talking with your healthcare providers about home oximetry

The table below lists the most common potential benefits, risks, and alternatives for home oximetry. Other benefits and risks may apply in your unique medical situation. Talking with your healthcare providers is the most important part of learning about the risks and benefits. If you have questions, be sure to ask.

Potential benefits	Risks and potential problems	Alternatives
• It can assess your **need for home oxygen** based on various conditions. • Can be a **first step in screening for a condition called obstructive sleep apnea (OSA).** • Offers the convenience of being at home.	Home oximetry is safe. The only potential problems are equipment damage or the chance of inadequate results: • If you turn off the oximeter in the night and don't remember to turn it back on, you won't have a full night's results. If you take the batteries out, the results will be erased. • The test does not provide all the information needed to diagnose sleep apnea or other conditions. • If you drop the oximeter (especially into water), it can be damaged.	Other sleep tests include other home testing with **multi-channel portable monitors**, or an overnight test called a **polysomnogram (PSG)** that typically happens in a sleep lab. A PSG is considered the best test to diagnose OSA and choose the best treatment.

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