

PULSE OXIMETER POCKET GUIDE

What is a pulse oximeter?

A pulse oximeter is a small device that can typically be clipped on a finger (toe or earlobe is also possible) to measure oxygen levels in the blood. This works completely painless and will give you a reading within a few seconds.



How does a pulse oximeter work?

You have to insert the finger into the clip nailside up. Light shines through the finger. The device measures the absorption of light. Blood that carries high levels of oxygen has a different absorption than blood carrying little or no oxygen.

What does a pulse oximeter measure?

Percentage of oxygenation of the blood

The measurement is calculated as a percentage of oxygenation of the blood:

100 %	indicates that the blood is fully oxygenated
99 % – 95 %	are measurements that indicate a normal level of oxygen
Below 94 %	indicates that something might be wrong

Heart rate

The device also measures the heart rate, which is displayed as beats per minute.

Heart rate	Too low	Normal	Too high
Adult	< 60 bpm may happen in young and sportive or sleeping patients < 50 bpm mostly indicates severe illness	60 – 100 bpm	> 100 bpm may be due to illness or heavy exercise
Child (up to 16 years)	< 80 bpm	80 – 120 bpm	> 120 bpm
Infant (up to 2 years)	< 80 bpm	80 – 140 bpm	> 140 bpm
Newborn	< 70 bpm	70 – 190 bpm	> 190 bpm

What action should you take?

Oxygen saturation

- Below 94 %** let the patient rest → retest
if better than 94 %: revisit within next day
if no improvement: report to health facility and see a doctor if possible
- Below 92 %** refer to next health facility immediately

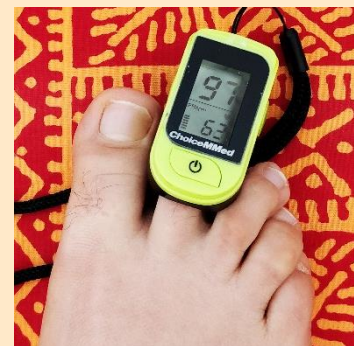
Heart rate (adults)

- above 100 bpm or below 60 bpm** retest and/or revisit within the next day, report to health facility
- above 120 bpm or below 50 bpm** refer to health facility immediately

How to measure oxygen levels correctly

- Keep the device clean! Clean after every use with a hand sanitiser on a soft tissue
- The device is clean if the red light shines visibly

- The patient needs to put the finger into the clip of the pulse oximeter nailside up
- The measurement will be not correct with any kind of nailcoloring (henna or artificial colors), if nails are colored, try using a toe
- Make sure the hands are clean and there is no visible dirt especially on the fingernail where you are putting the pulse oximeter on
- Make sure the patient sits or lies still. Movement of the hand or the whole person can impair the reading
- Make sure the patient sits in the shade or inside. This tool works with light, so with a lot of light around, e.g. in the bright sunlight, you might get wrong results
- Make sure the hands of the patient are warm. If you do not get a reading, you might try an earlobe or try warming the hands (e.g. putting them under a warm cover for 5 minutes and try again 2 minutes after taking the hands out of the cover)



If you are not sure whether your pulse oximeter works correctly, always try on your own finger. If you are healthy, it should show a normal oxygen saturation (95 – 100 %).

How to care for your pulse oximeter

- Clean with small amount of hand sanitizer on a soft tissue after use
- Store on a dry and light protected place (best in a small cover made from soft material)
- Protect from falling
- Do not immerse in water
- Do not put in bright sunlight or hot places