

Useful to Know About SpO2:

Definition: SpO2 stands for peripheral capillary oxygen saturation. It is a measure of how much oxygen your blood is carrying as a percentage of its maximum capacity. SpO2 levels reflect how effectively your body transports oxygen from your lungs to your blood and then to your organs and tissues.

Normal values:

- For healthy adults: **95-100%**.
- Values below **95%** may indicate the need for further investigation, especially if they persist.
- Below **90%** is considered low and may require medical attention, particularly if it happens frequently or over long periods.

Measurement: The Inspiring® smart ring measures SpO2 non-invasively through the skin using light (medical-grade PPG sensor). This occurs by sending light through the skin and measuring how much oxygen is present in the blood based on the absorption of light.

Health significance:

- SpO2 is an important indicator of lung function and the efficiency of the circulatory system.
- Low values can indicate respiratory problems or other health issues, such as sleep apnea, anemia, or lung conditions like COPD.

Factors affecting SpO2:

- **Altitude:** Oxygen levels are lower at higher altitudes, which can temporarily lower SpO2.
- **Air quality:** Polluted air can affect oxygen levels in the blood.
- **Smoking:** Reduces the lungs' ability to absorb oxygen.
- **Certain lung diseases:** Conditions like COPD and asthma can reduce oxygen levels in the blood.
- **Sleep apnea:** Episodes of breathing cessation during sleep can lower oxygen levels.
- **Anemia:** Low hemoglobin levels can affect the body's ability to transport oxygen.

Daily variations:

- SpO2 can vary somewhat throughout the day and night. A slight decrease during sleep is normal, but SpO2 levels should not fall below **90%**.

Monitoring over time:

- Regular monitoring can help detect trends or changes in respiratory health.
- Sudden or persistent drops in SpO2 should be discussed with a doctor, especially if combined with symptoms such as shortness of breath or fatigue.

Tips for maintaining or improving SpO2:

1. Regular exercise:

- Cardiovascular exercise can improve lung function and blood oxygenation, which can increase SpO2 levels over time.

2. Proper breathing technique:

- Deep, controlled breathing can increase oxygen intake and contribute to better SpO2 levels.

3. Good sleep hygiene:

- Adequate sleep and treatment of any sleep disorders, such as sleep apnea, can improve SpO2 during sleep.

4. Avoid smoking:

- Smoking reduces the lungs' ability to absorb oxygen and can lower SpO2 levels.

5. Exposure to fresh air:

- Regular exposure to fresh air can improve oxygen absorption in the lungs.

6. Stay hydrated:

- Good hydration supports efficient blood flow and oxygen transport in the body.

7. Healthy diet:

- A balanced diet rich in iron can support hemoglobin production, which is essential for oxygen transport.

8. Stress reduction:

- Stress can affect breathing and therefore SpO2. Techniques such as meditation and breathing exercises can help improve oxygen intake.

9. Altitude adjustment:

- When staying at high altitudes, give your body time to acclimatize, which can improve SpO2 over time.

10. Regular health check-ups:

- Have your lung function checked regularly, especially if you have risk factors or consistently low SpO2 levels.

By understanding and monitoring your SpO2, you can gain valuable insights into your respiratory health and overall well-being. Remember, while the Inspiring smart ring provides useful information, it is not a substitute for professional medical advice. Always consult with healthcare professionals if you have concerns about your SpO2 levels or general health.