

Ask The Experts

QUESTION: *What and when is the best use of pulse oximetry for someone like me with a neuromuscular disorder? I am concerned because I have a new device, and the number fluctuates up and down. This happened in the hospital too, and I was told the device was working properly.*

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When discussing pulse oximetry in neuromuscular disease, one must differentiate between a spontaneous finger pulse oximetry while awake and alert and an overnight pulse oximetry. To check pulse oximetry while awake and alert is to determine the oxygen saturation at that moment in time. In neuromuscular disease, this type of pulse oximetry is usually normal unless there is lung disease or infection, such as pneumonia.

Overnight pulse oximetry is used to determine sleep-related hypoventilation that results when a neuromuscular disorder affects the breathing muscles. An overnight pulse oximeter is used to record the oxygen saturation while sleeping over a period of six to eight hours. Figure 1 is an example of a normal overnight pulse oximetry. Figure 2 is an example of an abnormal pulse oximetry reading showing very pronounced sleep-related hypoventilation. The person in Figure 2 demonstrates the need for corrective action with a BiPAP or non-invasive ventilator during sleep.

To answer the question “what” and “when” is the best use of pulse oximetry: Pulse oximetry will fluctuate during the day according to how clear the lungs are and will react if there is a diseased lung or cardiologic interruption. Otherwise, for most people with neuromuscular disease, a pulse oximeter reading on the finger during the day will be normal (greater than 90 percent oxygen saturation). If the pulse oximetry during the day hours is only around 90 to 91 percent, then an arterial blood gas test is indicated to define further respiratory function.

Abnormal readings should be discussed with the care team. A good airway clearance regimen will help keep the lungs clear and free from infection. If you suspect you have sleep issues, an overnight oximetry test can be ordered by your doctor. ▲

Figure 1.

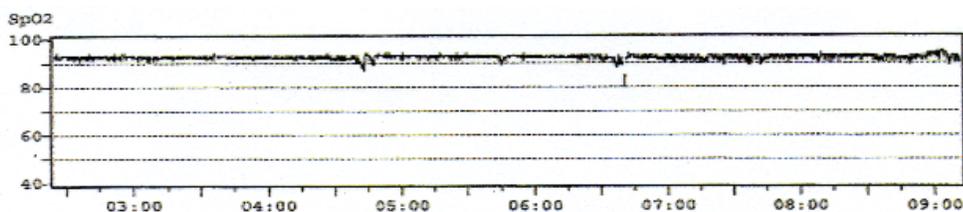
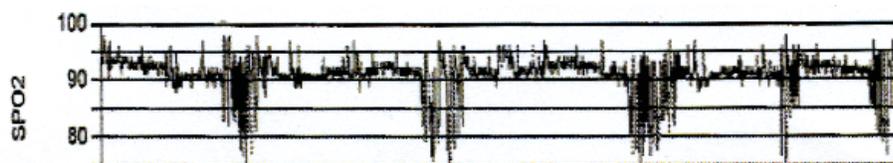


Figure 2.

Condition of Test: Overnight Room Air



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