Pulse Oximeters â€“ Understanding Their Usage

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A pulse oximeter is one of the most significant medical devices designed and developed for measuring the level of oxygen and hemoglobin in human blood. It is one of the simplest medical devices ever developed and is very user-friendly. One does not feel the need to visit a medical practitioner or consult any medical person before making use of the same.

Working of Pulse Oximeters

The oximeter is primarily supposed to connect with one end of your finger, toe, earlobe or nose in order to measure the hemoglobin saturation level in your body by shining a light through the fingertip. This is then compared to the normal levels, which generally range from 95 to 100% saturation.

This device basically detects the true or actual color of the hemoglobin in the blood and accordingly derives the outcome. This function relies on the fact that the hemoglobin changes its colour in accordance with the quantum of oxygen carried by the blood. It also contains a photo detector which captures these changes and passes it on further to a computer chip. This chip thereafter judges and establishes the color patterns of the hemoglobin present in the blood. These results are then shown on the oximeterâ€™s screen in a percentage form of the oxygen saturation level and the heartbeat levels.

Multiple Uses of Pulse Oximeters in Normal Life

â€¢ Medical Purposes:

These oximeters are often used during surgeries and emergency care rooms. These prove invaluable during such critical medical situations as they act as a quick and painless means for checking the oxygen saturation and hemoglobin levels in the blood.

â€¢ For Heart and Lung Patients:

Oximeters are now available in portable form and compact sizes for home use as well. These are especially beneficial to those patients who suffer from acute heart and lung problems and need to keep a constant track of their hemoglobin and oxygen levels. These are slightly different from the authentic surgical oximeters, yet equally reliable and accurate.

â€¢ Ashtma Patients:

These oximeters prove highly useful for several asthma patients, especially in critical attack situations. These help in determining the shortage in supply of oxygen to the blood. Special oximeters are designed for people with acute breathing problems and asthma so as to ensure easy usage and quick measurements.

Other General Uses of Pulse Oximeters:

Following are some other purposes where these oximeters can prove useful and significant:

â€¢ For people or athletes engaged in high altitude sports and training activities.

â€¢ For mountain climbers and trekkers so as to avoid hypoxia.

â€¢ For pilots of small and claustrophobic aircrafts, like helicopters, compact airplanes, gliders etc., so as to prevent any form of catastrophic incident.

â€¢ For free divers and professional swimmers so as to monitor their lung performance during training sessions.

â€¢ Special oximeters for veterinaries so as to keep a track of hemoglobin and oxygen saturation levels of several animals.

â€¢ For people suffering with sleep apnea, especially infants and new borns.

â€¢ Special form of oximeters to be kept with mobile emergency and medical service vans or units.

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