Pulse Oximeter Home Use for Management of COPD and CHF Patients

Beginning in late 2012, hospitals are being penalized for Medicare patients requiring readmission within 30 days of treatment for chronic obstructive pulmonary disease or chronic heart failure. Hospitals are changing their discharge procedures to achieve these goals but ultimately the patient is responsible for staying on track outside the hospital. Should the patient, you or your family member, return to the hospital within 30 days of discharge for previous treatment President Obama’s health care initiative significantly penalizes the hospital. If hospital’s instructions and patient’s course of treatment fail forcing the patient back to the hospital they may find themselves in "holding" to avoid being readmitted. During this period patients can receive some treatments and medications but this leaves you the patient on the hook for the bill.

No doubt this is not the intention of the 2010 health care act but it is a reality of it. There are several hospital focus groups with expanded follow-ups for patients after discharge investigating the most effective way to keep patients on track outside of the hospital walls but these groups incur more costs to the hospital and in these days of reduced Medicare reimbursements don’t yet fit into the budget. To avoid being a statistic in the new policy, you can take some measures on your own to stabilize your chronic heart and lung conditions with the home use of a pulse oximeter.

Pulse Oximeters are used to spot check COPD, CHF and asthma patients that are on supplemental oxygen at home. If oxygen saturation levels drop below a doctor recommended level the patient can administer oxygen to manage their situation. Avoiding low spikes allows the patient to live a more normal life without fear of having their condition get the best of them at the wrong time.

Pulse Oximeters are used to measure oxygen levels in the blood. These electronic devices use light emitting diodes projecting light through an extremity like a finger. One LED is infra-red wavelength and the other is red wavelength. Oxygenated hemoglobin absorbs infra-red light while deoxygenated hemoglobin absorbs red light. Detectors opposite the LEDs measure the light not absorbed and using an algorithm then displays oxygen saturation level SpO2%. Tracking this percentage helps the user manage their condition and treatment at home.

The most common pulse oximeter for home users are fingertip pulse oximeters. These devices are non-invasive and only about the size of a pack of gum. They are placed over your first finger so the LEDs emit through the fingernail. This is convenient and effective. Your heart rate and oxygen level are measured and displayed on an LED display. Typically the pulse oximeter is battery powered and operates with only the touch of one button. More advanced models are available with color displays but more importantly, memory. A pulse oximeter with memory allows the user to consistently track their levels over longer time periods and even while sleeping. These recorded sessions can be conveyed to the treating doctor in case
updates to the treatment are required.

Patients with CHF may have reasonable oxygen levels much of the time but using the data recording feature of a wrist pulse oximeter allows users to track their level over time to check for sporadic reduction of oxygen levels and heart rate. This can happen during the patient's sleep. More advanced pulse oximeters have audible alarms that can be set for specified minimum oxygen levels and heart rate. A **wrist pulse oximeter** still uses a sensor on the fingertip but the display unit and memory are worn on the wrist exactly like a wrist watch. These models are typically best for use at night while sleeping.

With inadequate blood flow during exercise or even resting, organs and tissue will not receive enough oxygen. Some **pulse oximeters** are capable of measuring and presenting perfusion index (PI) and can be used to assess a patient's blood flow over time. This is an indication of the plethysmographic signal where the pulse oximeter is taking its measurements. The normal PI measurement for individuals is relative. One person's acceptable value can be different than another. That is why consistent measurements over time at home are valuable and finding a quality, user friendly pulse oximeter that can provide accurate readings is important.

Medical devices such as the pulse oximeter for home use are sufficiently accurate and easy to use. Monitoring your health and treatment for chronic illness at home can lead to a more consistent and enjoyable life. **Fingertip pulse oximeters** are affordable and effective for home use to help keep patients on track outside the hospital and keep them safe from being stuck in the readmission limbo.

Changes in Medicare reimbursement to hospitals will soon be seen by some patients. Understanding your benefits and responsibilities are important as the new health care system is implemented. Your home health care is increasingly important and has taken on new significance going forward.