MRAD 223 – Patient Care 1

Pulse Oximeter and Tracheostomy

Purpose: *Describe the purpose of a pulse oximetry and an endotracheal tube (ET).*

Pulse Oximeter

This is a common monitoring device found in the diagnostic imaging (DI) department. Using a pulse oximeter with a patient doesn't require a physician's order. The device can be placed on the finger, toe or earlobe to continuously monitor both the *pulse rate and blood oxygen levels.* Pulse oximeters are used in conjunction with *routine measurements* of vital signs.

Pulse oximeters are often used to monitor patients during a radiographic endoscopic procedure of the biliary and pancreatic duct. It is also often used in magnetic resonance imaging (MRI) departments when a patient has received sedation that could influence their respiration rate.

A difference between deoxygenated and oxygenated hemoglobin is detected by a photosensitive cell and displayed as a digital readout. Normal oxygen values range from 95% to 100%. A reading of less than 95% may indicate that tissues are receiving inadequate oxygen perfusion.

Unreliable readings may occur with patients who have *poor circulation, coronary problems or who are taking vasoconstriction medications*. If the oxygen value falls below normal range, check the patient to see if they are exhibiting additional adverse changes such as decreased respiration. If the patient is not pale or diaphoretic, check equipment.

If a patient is *prescribed oxygen* and the oxygen value is below normal range, verify that the oxygen is flowing unimpeded, the tubing isn't pinched and the delivery device (nasal prongs or face mask) is in place. Seek assistance from a nurse or a physician if the patient is in distress and has an abnormal oxygen value.

Tracheostomy

A surgical procedure that creates an opening into the trachea to provide a temporary or permanent artificial airway. This opening, through which a tube may be placed, is called a tracheostomy.

Tracheostomies are necessary when an obstruction occurs in the upper respiratory tract due to *laryngospasm, cancer of the larynx or burns in the mouth and throat*. Another reason a tracheostomy may be performed is to provide *controlled respiration with a ventilator* in a patient with respiratory collapse caused by paralysis, pulmonary edema, trauma or adult respiratory distress syndrome (ARDS).

Patients with tracheostomies are often housed in the intensive care unit (ICU) where close monitoring and immediate access to suction equipment is available, as patients require frequent suctioning to keep the tube free of secretions. Therefore, a RT or nurse will accompany these patients to the DI department.

> **Note:** The tapes holding the tracheostomy tube are **NEVER** removed, because a sudden cough can expel the tube and the edges of the tracheostomy may close sufficiently to obstruct respiration.