Protocol
Pulse Oximetry

Pulse oximetry is a quick and reliable noninvasive method for measuring arterial oxygen saturation. Oxygen saturation is the percentage of hemoglobin sites that are chemically combined with oxygen. The use of pulse oximetry for monitoring oxygen saturation and pulse rate can provide early warning of pulmonary or cardiovascular deterioration before it is clinically apparent.

Factors which may reduce the reliability of the pulse oximetry reading include:

a. Poor peripheral circulation (blood volume, hypotension, hypothermia)
b. Excessive pulse oximeter sensor motion
c. Fingernail polish (recommend removal with an acetone pad before oximetry is measured)
d. Carbon monoxide bound to hemoglobin (cannot differentiate between carbon monoxide poisoning and normal oxygen saturation)
e. Irregular heart rhythms (atrial fibrillation, SVT, etc.)
f. Ambient lighting in the clinical area
g. Jaundice

It is within the scope of practice for professional registered nurses in the state of North Carolina to be able to recognize the signs and symptoms of hypoxia.

Management Guidelines
The nurse will be responsible for measuring oxygen saturation if hypoxia is suspected. Other school personnel are not expected or trained to do so.

Procedure:

1. Nurse should perform a self-test with oximeter before obtaining reading on the student/staff member being monitored.
2. Allow oximeter time to register the saturation level.
3. Verify the pulse rate on the oximeter with the actual pulse of the person being monitored.
4. In general, normal saturation is between 97 to 100%. Readings of 95 to 96% should be continually monitored to see if readings rise or fall. Readings of 94% or lower may indicate a suspected respiratory compromise and medical intervention should be initiated. Students/staff should be referred to their primary care physicians and/or emergency treatment initiated, depending on the severity of symptoms as determined by the nurse.
5. The oximeter will be used as an added tool for assessment, not in place of other data and nursing observations.
6. The pulse oximeter reading should never be used to withhold an inhaler from a student/staff member who is experiencing other signs and symptoms of respiratory distress or an asthma episode.

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