Subject: SPUTUM INDUCTION

Purpose: The therapeutic objective is to assist the patient in raising sputum to be collected for laboratory examination per physician’s order.

Policy: When indicated, an order to have Respiratory Care induce sputum may be written. If the order does not specify the method of induction, the therapist may ask the physician for a specific bronchodilator/nebulizer order or utilize therapy modalities in the Procedure below.

POTENTIAL HAZARDS:
1. Possible spread of contagious disease.
2. Bronchospasm
3. Emesis due to strong cough reflex.

PROCEDURE:
1. Check the order by comparing requisition with the physician’s order in the patient’s medical record.
2. Review the patient medical record to identify the following: conditions that indicate need for induction; or potential hazards of sputum induction for patient and practitioner. Wear appropriate personal protective equipment (PPE).
3. If the order does not specify method of induction. The RC sputum protocol will be used.
   a. First use cough technique. If not successful proceed to the next successive step. Follow each step with cough technique.
   b. May use 3-5 cc normal saline (NS) with Hand Held Nebulizer (HHN). If not successful, proceed to next step
   c. Add 1-3 cc Mucomyst (with 1-2 cc NS – add more if needed) to the HHN.
   d. Obtain an order for a bronchodilator and deliver if bronchospasm develops.
   e. Perform an airway clearance procedure: Flutter/acapella or CPT/PD if patient can tolerate. Flutter/acapella may be attempted prior to nebulized aerosols.
   f. Naso-tracheal suction and collect sputum in luki-trap, if appropriate.

EQUIPMENT:
1. Flow meter
2. HHN
3. O2 connecting tubing.
4. Normal Saline, Mucomyst or prescribed medication or Mucomyst
5. Flutter/Acapella.
6. Appropriate collection container.
7. Stethoscope

IMPLEMENTING PROCEDURE:
1. Introduce yourself and correctly identify the patient.
2. Explain the procedure, why it is being done, and any possible hazards.
3. If necessary, prepare patient by having him cleanse the oral pharyngeal airway as follows:
   a. Blow nose
   b. Brush teeth with water but no toothpaste.
   c. Gargle with water or normal saline but not with mouthwash.
4. Coach the patient to cough before other methods of sputum induction are attempted, then have the patient cough midway and at the end of the procedure, using the following process.
   a. Have the patient relax and take a maximal inspiration. Then…
   b. Make a prolonged exhalation through pursed lips. Repeat.
   c. After taking a third maximal breath, have the patient bend forward slightly and give a forceful cough.
   d. Assist the patient with pain control when necessary, i.e. splinting, PCA pump, etc.
5. Assemble equipment
   Fill the nebulizer with 3 cc’s of the prescribed solution
   Connect the flow meter to the oxygen outlet.
   Connect one end of tubing to flow meter nipple and the other end to the nebulizer.
6. Turn flow meter to 8 L. and adjust mask or mouthpiece for the patient.
7. Determine that the nebulizer is misting properly and that the patient is comfortable.
8. Coach the patient to breathe in the following manner:
   a. Diaphragmatically
   b. Through the mouth
   c. Slowly and deeply
   d. Use a 3-5 second inspiratory hold after every 4-5 breaths.

MONITOR PATIENT
1. Take the patient’s pulse and respirations.
2. Observe and identify any abnormalities in the patient’s breathing pattern.
3. Auscultate chest before and after the procedure.
4. Note any abnormalities in patient’s appearance or behavior.

COLLECTING SPUTUM:
1. Use the appropriate sterile container supplied for lab specimens.
2. Attempt to collect at least ½ cc sputum.
3. Label the container and fill out the appropriate forms for the lab.
4. Discard the sample if it is contaminated with food, an excessive amount of saliva or if it has been sitting for an unspecified amount of time.
5. Ideally, the samples should be sent to the lab as soon as possible after it has been collected and should be received no later than an hour after induction.

CONCLUDE THE PROCEDURE:
1. Place the patient in a comfortable position.
2. Answer any questions the patient may have.
3. If the patient is using supplemental oxygen, make sure it is in place and at the prescribed flow.
4. Record results in the RC flow sheet in CPSI and sign the MAR, if appropriate.
5. Confer with the nurse or physician concerning observations if other than routine.
6. Send or take the sample to the lab immediately.
SPECIAL CONSIDERATIONS:
The Respiratory Care Practitioner should use precautions when any sputum induction is done.
1. Use Universal Precautions.
2. Use disposable equipment whenever possible.
3. Use appropriate PPE when working with patients known or suspected of HIV, TB, or other contagious disease processes.

NOTE:
1. Samples collected to make diagnosis of TB should be done early a.m. (before breakfast).
2. This should be done for three mornings per lab protocol (even if x3 is not specified in physician order).

Charges should be made for the appropriate therapy modality and/or any medications used: Neb tx, CPT/PD, Meds, NT suction.

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