CONSIDERATIONS:

1. Sputum is a mucous secretion produced in the lungs and bronchi. There are two methods of obtaining specimens:
   a. Expectoration
   b. Tracheal suction
2. Sputum is collected and analyzed for three purposes:
   a. Test and follow pulmonary tuberculosis
   b. Culture and sensitivity of organisms causing lower respiratory tract infection
   c. Cytology to determine presence of cancer cells
3. General principles for obtaining a sputum specimen by expectoration include:
   a. Assure patient does not touch inside of container or the top
   b. Patient should clear nasal-pharangeal passage (clear post nasal discharge from back of throat) prior to specimen collection to decrease chance of naso-pharyngeal mucous from contaminating the specimen
   c. Patient should clean mouth well, but only with water, prior to expectoration, to rid mouth as much as possible of oral organisms and food particles
   d. To move mucous for expectoration, instruct patient to:
      i. Breathe deeply and hold breath for a few seconds x 2
      ii. Breathe deeply, hold breath for a few seconds, and blow air forcefully through lips
      iii. Breathe deeply in and cough
      iv. Release coughed up sputum into container
   e. Specimen should be at least 3 to 5 mL of mucous produced by a cough from deep in the chest
   f. If patient is suspected of having tuberculosis:
      i. Obtain specimen first thing in the morning
      ii. Others in room need to adhere to airborne transmission precautions
      iii. Attempt to obtain specimen in well ventilated, sunlit room
4. For tracheal suctioning of patients dependent on oxygen, pre- and post-oxygenate patient prior to suctioning.
5. Specimen must be transported in appropriately marked leak-proof, unbreakable container.

EQUIPMENT:

Gloves
Sterile specimen container
Tissues
Water and sink/basin to spit water
Biohazard specimen bag
Biohazard transportation bag
Impervious trash bag
For Tracheal Suctioning, include above except container
Mask and goggles
Tracheal suction kit:
- Sterile gloves
- Sterile water
- Sterile suction catheter
- Sterile in-line collection trap

If tuberculosis suspected/possible: N-95 fit tested mask

PROCEDURE:

1. Use two patient identifiers.
2. Adhere to Standard Precautions (and Airborne Precautions if tuberculosis suspected/possible).
3. Explain procedure to patient/caregiver.
4. Expectoration Method:
   a. Ask patient to sit by sink or place in high-Fowler's position
   b. Have patient clear throat and rinse mouth well with water several times
   c. Open container, hand it to patient, instructing to maintain sterility within. Keep inside lid sterile
   d. Instruct patient to breathe deeply several times, cough deeply and expectorate into sterile container
   e. Continue breathing and coughing until a 3 - 5 mL mucous specimen obtained
   f. Offer tissue to patient to wipe mouth
   g. Cap and label container
5. Tracheal suction method:
   a. Put on mask and goggles
   b. Check suction machine to be sure that it is operating correctly
   c. Connect in-line trap collection container to the suction tubing
   d. Apply sterile glove to dominant hand
   e. Attach sterile suction catheter to tubing of specimen trap container
   f. Lubricate catheter with sterile water
   g. Instruct patient to tilt head back
   h. Gently pass suction catheter through nostril into nasopharanx, which will stimulate cough
   i. When the catheter reaches juncture of larynx, patient will cough. Immediately pass catheter into trachea. Instruct patient to take several deep breaths to ease passage of catheter
   j. Apply suction for 5 to 10 seconds, using rotating motion, collect about 3 to 5 mL of mucous
   k. Discontinue suction and remove catheter
   l. Detach catheter from specimen trap
   m. Holding the catheter in gloved hand, remove glove, enclosing the catheter, and dispose in impervious bag

   n. Disconnect specimen container from suction machine, leaving tubing attached to lid
   o. Seal container by looping tubing to other opening on lid
   p. Label specimen container
6. Place specimen container in biohazard bag.
7. Place completed requisition in pocket of biohazard specimen bag. Mark on requisition if patient on antibiotic therapy.
8. Dispose of used supplies in impervious trash bag.

AFTER CARE:

1. Document in patient record:
   a. Date and time of specimen collection
   b. Method of specimen collection
   c. Color, consistency and odor of sputum
   d. Patient's response to procedure
   e. Name of lab, date/time delivered

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