Small Volume Nebulizers (SVN)
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Objectives

- Following presentation, participant will be able to describe the process for the delivery of Small Volume Nebulizer therapy.
  - Participant should be able to:
    - Identify equipment
    - Describe nebulizer therapy delivery
    - Identify adverse medication reactions
    - Define therapy documentation requirements

What is a Small Volume Nebulizer?

- A nebulizer is a device that uses pressured air to turn a liquid medication into a fine mist for inhalation.
- Since the nebulizer takes a few minutes to deliver the medication, it is inhaled over a longer period of time than if you were using an inhaler. (MDI)
What is Needed to Deliver a Small Volume Nebulizer Treatment?

• A physician order is needed and should include:
  – Type of therapy (SVN)
  – Name of Drug
  – Drug dosage
  – Frequency of therapy
• Equipment needed:
  – Disposable nebulizer (includes nebulizer, tee piece, 5 in. large bore tubing, oxygen connecting tube and mouthpiece)
  – Flowmeter with nipple adapter (air or oxygen)
  – Medication (unit dose vial)

Preparing Equipment For The SVN Treatment

• The nebulizer cup is a 2-piece unit with threaded screw on top and bottom pieces. Check to make sure that the pieces are securely tightened.
• Connect one end of oxygen connecting tubing to the bottom of the nebulizer and the other to the nipple adapter of the flowmeter.
• Insert medication through the top of the nebulizer then place tee adapter on nebulizer. (Medication may be added to the nebulizer without unscrewing the nebulizer cup.)
• Attach mouthpiece to the large end of the tee piece and place 5 in. large bore tubing to the smaller end to act as a reservoir.
• If a mask is used: remove tee piece and attach mask to the top of the nebulizer. Mask is preferred with infants, young children and frail elderly.
• An alternative method is the blow-by method where aerosolized medication is directed towards the nose and mouth (less effective but preferable to struggling with a child or frail, confused adult).

Delivering The SVN Treatment

• Before delivery of aerosolized bronchodilator, monitor the heart rate, respiratory rate and breath sounds.
• Instruct patient to breathe normally through their mouth and every 5-10 breaths, to take a slow deep breath and hold it for a few seconds then exhale as usual.
• Turn on the flowmeter to between 6-8 lpm and observe for mist production.
• Have the patient place the mouthpiece between their lips and teeth and breathe as instructed above.
• Treatment lasts about 6-10 minutes depending on flow and patient’s respiratory pattern.
• Observe/monitor the patient during the aerosol delivery for signs and symptoms of adverse effects to the medication.
Adverse Reactions to Bronchodilators

- Side effects are due to the alpha, beta₁, and beta₂ receptors of the medications.
- Side effects include:
  - tachycardia
  - tremors
  - light headedness
  - nausea
  - worsening bronchospasm
- If any side effects occur, discontinue treatment and contact physician to discuss therapy alternatives.

Delivering The SVN Treatment - continued

- Tapping the side of the nebulizer once or twice during the delivery of the medication assists in aerosolizing more of the medication.
- When the aerosol mist is no longer visible, turn off the flowmeter and empty the nebulizer of any residual medication by pulling off the tee and inverting the nebulizer to drain liquid. A good shake will help to fully empty the nebulizer.
- **DO NOT RINSE** nebulizer with tap water.
- Store the nebulizer in a plastic bag, labeled with the patient’s name.

Delivering The SVN Treatment - continued

- Evaluate the patient’s heart rate, respiratory rate, breath sounds, and have them cough.
- Examine any sputum produced for volume, color, consistency and odor.
- Wash hands upon completion of SVN treatment.
- Nebulizers are to be changed every three days for delivery of bronchodilators.
Who Delivers SVN Therapy?

- Delivery of SVN can be shared between therapists and nurses.

Documentation of SVN

- At Allenmore: All therapy performed by respiratory therapists is documented on the Focused Charting Form.
- At Tacoma General: All Respiratory Therapy procedures must be documented on the Respiratory Multidisciplinary Charting Form (nursing and therapists utilize the one form).
- Completion of the Respiratory Multidisciplinary charting form:
  - Top portion includes patient information and therapy ordered.
  - Treatment section includes documentation of each treatment (date, time, vital signs, breath sounds, cough production, etc.).
  - Back of form is used for documentation of additional comments (adverse reactions, patient’s perception of therapy, response to therapy, etc.).