

JET MEDICATION NEBULIZER

DEFINITION

The jet medication nebulizer utilizes a high velocity gas flow to generate particles from the prescribed solution. Either oxygen or compressed air powers the nebulizer.

EQUIPMENT

1. Oxygen cylinder / wall oxygen outlet with flow meter
2. A clean tray with:
 - Oxygen nipple adopter to fit the connection tubing
 - Nebulizer kit consisting of:
 - i. Face mask / mouth piece
 - ii. Nebulizer jar and nebulizer cap
 - iii. Oxygen supply tubing
3. Physician's written order
4. Prescribed nebulizer solution
5. 0.9% NaCl ampoules as diluent if prescribed
6. 5 ml syringe with needle
7. Disposable sputum cup
8. Box of disposable tissues

PROCEDURE

SN	Action	Rationale
	Follow steps on "Metered-dose nebulizer from 1 to 5.	
6.	Unscrew the nebulizer jar and instil the prescribed dose of solution (dilute with prescribed solution).	
7.	Re-screw cap on nebulizer jar.	To prevent any leakage of the medication.
8.	Connect one end of the oxygen tubing to the nebulizer and attach the other end of the supply tubing to the oxygen flow meter.	To ensure effective functioning of the system.
9.	Place the patient in a comfortable sitting or semi-Fowler's position.	To ensure maximal distribution and deposition of aerosolized particles to basilar areas of lung.

SN	Action	Rationale
10.	Adjust the oxygen to a flow rate of 6-8 litres per minute or until a fine mist appears.	To ensure adequate and effective flow of aerosol.
11.	Place the mask snugly over the patient's face to cover the nose, mouth and chin and adjust the elastic strap around the patient's head.	To ensure an airtight seal between the mask and the patient's face for effective nebulization.
12.	Instruct the patient to take a deep breath, repeat hold breath briefly, then exhale until all the medication is nebulized.	To encourage optimal dispersion of the medication into the lower respiratory tract.
13.	Observe expansion of the patient's chest during therapy. Do not leave the patient unattended.	To ensure that medication is deposited below the level of the oropharynx by taking deep breaths. To allay fear and anxiety.
14.	Observe the patient throughout the procedure and give constant reassurance.	To determine the patient's comfort and also to observe for any side effects of the medication.
15.	Turn off the oxygen when all the solution has vaporised and remove the face-mask.	Medication usually will be nebulized within 10- 15 min. at a gas flow rate of 5 - 6 l/min.
16.	Encourage the patient to cough after several deep breaths.	The deep lung inflation will encourage forceful coughing and facilitate the expectoration of secretions.
17.	Assist the patient to a comfortable position and wipe off the moisture from the face with face towel or disposable tissues. Change jacket / gown if necessary.	To maintain patient's comfort, hygiene and dignity.
18.	Dismantle the nebulizer kit and decontaminate in hot soapy water. Dry and store in dry plastic bag between treatments.	To prevent spread of nosocomial infections.
19.	Wash and dry hands (refer to Hand Washing procedure).	To prevent cross - infection.
20.	Document the procedure in the appropriate charts. Evaluate the effects of the procedure and report abnormal findings.	

Nursing Alert

Safety and hazards of oxygen administration should be observed.

Recording of peak flow meter reading to be maintained pre and post procedure if indicated.