NEBULISATIONS

Keywords: salbutamol, nebuliser, nebulisation, bronchodilator, atrovent, nebules

AIMS

- To relieve bronchial spasm.
- To moisten bronchial secretions.
- To deliver a prescribed dose of medication via aerosol mist within 10-20 minutes.

KEY POINTS

1. Medication for nebulisation must be prescribed by a Medical Officer. Delivery of short acting beta 2 agonist (e.g. Salbutamol) and anticholinergic (e.g. Atrovent) bronchodilators using a pressurised metered dose inhaler via a spacer should be the preferred method of delivery. Nebulisers and spacers have been shown to have no significant difference in their medication delivery in acute adult asthma treatment with beta-agonists. An advantage of nebulisers is that they require less co-ordination from the patient. An advantage of nebulisers is that they require less co-ordination from the patient.

2. Solutions for nebulisations will be supplied in nebules, where available, not in multi dose bottles. Where possible, the nebules will be kept by the patient’s bedside to allow direct administration into the nebuliser.

3. Syringes should be avoided for drawing up medication for nebulisation.

4. If a syringe is required it must be an oral / enteral syringe and is single use.

5. Nebuliser should not be given to patients with influenza like illnesses.

6. All nebuliser equipment is single patient use.

7. Masks with straps are recommended for use in acutely ill women or when the womans coordination is difficult.

8. Mouthpieces are recommended for use in all other circumstances with nebulised:
   - Steroids- to prevent deposition on the face.
   - Antimicrobials- with a high efficiency filter, in a single room, to prevent exhalation of antibiotic into the air. The filters should be discarded after each use. The door to the patients room should be closed during the therapy and remain closed for 10 minutes after completion of the therapy. Occupational exposure can result in bronchospasm or asthma type symptoms.
   - Anticholinergics (e.g. Atrovent) as they may exacerbate glaucoma.

9. The mouth should be rinsed out with water following the administration of nebulised steroids and antimicrobials to prevent the development of oral thrush.

10. Ensure the mask / mouthpiece and tubing are clearly labelled with the womens identification label and date and time of issue / first use.

11. Patients with asthma or patients who are receiving continuous oxygen therapy over 6L/min should have their nebulisers driven by oxygen.

12. Nebulisation should be administered via:
   - Compressed air machine
   - Piped medical air at 6-8L / minute
   - If the woman is on oxygen via nasal prongs, give the nebuliser by nebuliser unit and continue the oxygen as prescribed.
   - If the woman requires continuous oxygen therapy over 6L / minute, administer the nebuliser with oxygen.

13. Remain with the woman if she is unable to manage the nebuliser independently.

14. If nebulised steroids have been administered through a face mask, wash the womans face after administration.

15. After each use the nebuliser shall be dismantled, rinsed with sterile water and allowed to air dry and placed by the bedside for next use.

16. Nebuliser equipment shall be discarded either when soiled, every 7 days or on discharge.
## PROCEDURE

<table>
<thead>
<tr>
<th>PROCEDURE</th>
<th>ADDITIONAL INFORMATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Check correct order &amp; patient (6 medication rights) and familiarise the woman with the nebuliser equipment and its use.</td>
<td>Patient education as to the correct use of the device is essential to maximise therapeutic benefit.</td>
</tr>
<tr>
<td>2. Inform the woman of the effects and specifics pertaining to the specific nebulised medication.</td>
<td></td>
</tr>
<tr>
<td>3. Add the medication to nebuliser</td>
<td>Follow the drug checking procedure.</td>
</tr>
<tr>
<td>4. Add diluent solution e.g. 0.9% sodium chloride or sterile water as prescribed. Ensure the total volume is 2.5 - 5mL.</td>
<td>Follow individual maximum capacity as per nebuliser.</td>
</tr>
<tr>
<td>5. Attach the tubing to the nebuliser then to compressed air/oxygen as ordered.</td>
<td>Use oxygen with caution in patients who suffer from chronic obstructive airways disease.</td>
</tr>
<tr>
<td>6. Position the patient in an upright position, as clinically indicated to optimise lung deposition.</td>
<td>Physiological principles is to increase the size of the thorax to increase negative pressure in the thorax.</td>
</tr>
<tr>
<td>7. Place mask on face. Ensure the woman is wearing protective spectacles if she has glaucoma.</td>
<td>Ensure the mask fits closely on the face.</td>
</tr>
<tr>
<td>8. Switch on air compressor or adjust oxygen flow meter to 6-8L/min or as prescribed.</td>
<td>The flow required will depend on the design of the nebuliser and the dimensions of the connective tubing.</td>
</tr>
<tr>
<td>9. Instruct the woman to breathe through her mouth. Document medication administration.</td>
<td>Tidal breathing through the mouth allows the diaphragm to contribute 70% and intercostal 30%.</td>
</tr>
<tr>
<td>10. The nebuliser is finished when it begins to splutter normally 10 minutes.</td>
<td>Time varies depending on volume to be administered and air flow. May be up to 15 minutes.</td>
</tr>
<tr>
<td>11. Continue to nebulise for approximately one minute after the first splutter</td>
<td>Little drug delivery occurs after this time.</td>
</tr>
<tr>
<td>12. Turn off compressor/flow meter</td>
<td></td>
</tr>
<tr>
<td>13. Remove the mask from the woman.</td>
<td></td>
</tr>
<tr>
<td>14. If nebulised steroids have been administered through a facemask, wash the woman’s face.</td>
<td>Contact of drug with the skin of the face increases the risk of allergic reactions and fungal infections.</td>
</tr>
<tr>
<td>15. Encourage the woman to cough.</td>
<td>Aids expectoration of pooled secretions.</td>
</tr>
<tr>
<td>16. Detach tubing from compressor/flow meter Wash and dry unit and store for re-use by the same woman.</td>
<td>Discard the residual 0.5 - 1.5mL.</td>
</tr>
<tr>
<td>17. Report and record observations, e.g. pre and post peak flows.</td>
<td>Post nebuliser peak flows may also be ordered.</td>
</tr>
</tbody>
</table>
REFERENCES / STANDARDS


SCGH Nursing Practice Guideline No 11. Nebulisation 2011

National Standards – 1, 3,4
Legislation - Nil

Other related documents – Nil

RESPONSIBILITY

Policy Sponsor Nursing & Midwifery Director OGCCU
Initial Endorsement August 2001
Last Reviewed May 2014
Last Amended January 2015
Review date May 2017