

PAEDIATRIC NURSING PRACTICE MANUAL
SECTION 7

CARE OF THE CHILD WITH A RESPIRATORY CONDITION

7.1 DELIVERY OF INHALED MEDICATIONS

7.1.5 ADMINISTRATION OF A NEBULISATION USING PARI NEBULISERS®

Aim

To administer pulmozyme or antibiotic treatment via aerosol mist to patients.

Key points

1. A pari nebuliser is used instead of a conventional nebuliser pot for administration of all antibiotics and Pulmozyme, as it reduces particle size and increases the lung deposition of the medication.^{1,2}
2. Pari nebulisers are more expensive than the sidestream disposable nebuliser pots.² Encourage patients to bring in their own from home where appropriate.
3. Nebulisers may be driven by air or oxygen. If the patient has an oxygen requirement or is in respiratory distress, then oxygen should be used to drive the nebuliser. (Refer to [PNPM 7.1.1 Administration of a Nebuliser using Compressed Gases](#)).
4. If driving the nebuliser by oxygen, use green or clear tubing. Use red tubing if the nebuliser is being driven by air. (Refer to [PNPM 7.1.1 Administration of a Nebuliser using Compressed Gases](#)).
5. Pari tubing is not compatible with the hospital flow meters and should be given to the patients parents for home use.
6. Wherever possible encourage patients to use the PARI mouthpiece to deliver medication from the nebuliser.¹ Using the PARI mask encourages children to nose breathe and significantly reduces deposition of the medication into the lungs.¹
7. Bronchodilators may be necessary before nebulising antibiotics, mucolytics and hypertonic saline.¹

PROCEDURE	ADDITIONAL INFORMATION
Follow checking procedure for medications.	
Add medication to the PARI nebuliser bowl.	
Use a different pot for each medication. ¹	Label each pot to identify each medication.
Add normal saline to the PARI nebuliser bowl to make up a total volume of 4mL. ³ Do not dilute or mix Pulmozyme nebulisers with any other medication.⁴	Best drug deposition is achieved with a total of 4mL.
Position the child in a sitting position.	Optimises lung expansion.

PROCEDURE	ADDITIONAL INFORMATION
Attach appropriate tubing to the gas flow. Adjust the flow to 8L.	
Instruct the child to breathe slowly through the mouth on the PARI mouthpiece. ²	If a PARI mask is to be used consider the use of a nose clip to encourage mouth breathing.
Discontinue the nebuliser at the first splutter.	Little drug delivery occurs after this point.
Wash patients face after use with a mask.	When a mask is used the drug may be deposited on the skin causing irritation. ³
Completely disassemble the PARI nebuliser pot. Discard remaining solution.	
Wash PARI nebuliser pieces in warm soapy water, then rinse in warm water. Shake out excess water, and dry PARI nebuliser pieces using a clean, lint free cloth.	Between same patient use.
Keep PARI nebuliser pieces in a clean lidded container by the bedside between nebulisations.	Minimises the risk of contamination from the surrounding environment.
PARI nebuliser can be sent home with patient if treatment is to continue. OR Send to HSSD for disinfection when patient discharged.	Thermal disinfection is required between different patients.

References:

1. Heijerman H, Westerman E, Conway S, Touw D & Doring G. Inhaled medication and inhalation devices for lung disease in patients with cystic fibrosis: A European consensus [Expert opinion]. *Journal of Cystic Fibrosis*, 8(5):295-315; 2009.
2. Kesser K & Geller D. New aerosol delivery devices for cystic fibrosis. [Expert opinion]. *Respiratory Care*, 54(6):754-768; 2009.
3. Hess D, Fisher D, Williams P, Opoolwer S & Kacmarek R. Medication nebuliser performance: effects of diluent volume, nebuliser flow and nebuliser brand [Level III-2]. *Chest*.110(2):498-505; 1996.
4. CMP Medica. Pulmozyme Inhalation solution; Full prescribing information. MIMS Online 2010. Available from: https://www.mimsonline-com-au.pklibresources.health.wa.gov.au/Search/FullPI.aspx?ModuleName=Product%20Info&searchKeyword=Pulmozyme+Inhalation+solution&PreviousPage=-/Search/QuickSearch.aspx&SearchType=&ID=32250001_2. Accessed: 4 May 2010.