



Guidelines for nebulising hypertonic saline

Hypertonic saline (H/S) has been prescribed to help cough out mucus (sputum) during physio. This strong, salty water (generally 7%) works by increasing the amount of sodium (salt) in the airway. Salt attracts water into the airways, which thins the mucus, making it easier to cough out. Research has shown inhaling H/S twice a day helps people with cystic fibrosis (CF) experience fewer lung infections.

The first dose of H/S is usually given in hospital to ensure it's well tolerated. For children aged 6 and over who can perform a lung function, the first dose of H/S is given as a "hypertonic saline challenge" and is supervised by medical personnel.

Side effects of H/S include increased coughing, sore throat and chest tightness caused by irritation of the airways.

Inhaling the H/S becomes an important part of airway clearance regime. A physiotherapist will show you the correct technique and equipment dependent on age.

Facts about hypertonic saline

- H/S is available on a funded prescription, stated cystic fibrosis on script.
- Unopened and opened 7% H/S bottles can be kept in a cupboard.
- Discard opened 7% H/S bottles after 1 week.
- Give H/S either before or during a physiotherapy session.
- Do not mix H/S with other medication.

Note: H/S can be given via PARI LC Sprint Nebuliser combined with PARI PEP-S, or for young children use PARI BABY Mask or PARI Starfish Mask & PARI LC Sprint Nebuliser.

Equipment

- Medium output compressor eg PARI BOY SX
- Breath-activated nebuliser eg PARI LC SPRINT.
- Syringes/needles or bag spikes (if used in your centre).
- PARI PEP-S if used, as advised by physiotherapist.
- For young children who can't manage a mouthpiece, use a PARI Starfish Mask or PARI BABY Mask with PARI BABY Bend.
- Nose clip.

How to prepare hypertonic saline

1. Wash your hands and check the expiry date on the bottle.
2. Remove white plastic wrapping from the bottle and peel off the silver paper.
3. Using needle or bag spike with syringe, draw up the prescribed amount (usually 4mls) or tip out required amount into nebuliser barrel.

Hypertonic saline combined with PARI PEP-S

1. Assemble equipment as shown in picture – always use mouthpiece **without** expiratory valve.
2. Flick top off the nebuliser and place the H/S into the barrel, replace top.
3. Attach tubing to nebuliser and compressor.
4. Turn compressor on – a fine mist will blow from the PARI PEP-S/nebuliser mouthpiece.
5. Sit upright, nose clip on and keep lips firmly around the mouthpiece.



A physio session with PARI PEP-S and H/S will take about 20mins – follow advice from physiotherapist.

Hypertonic saline given without PARI PEP-S

1. Assemble equipment as shown in picture – always use mouthpiece **with** expiratory valve.
2. Flick top off the nebuliser and place the H/S into the barrel, replace top.
3. Attach connection tubing to nebuliser and compressor.
4. Turn compressor on – a fine mist will blow from the PEP-S/nebuliser mouthpiece.
5. Sit upright, nose clip on and keep lips firmly around the mouthpiece.



Nebulising time will take 15–20mins, until the nebuliser is dry or “spluttering”.

Hypertonic saline given with BABY Mask or Starfish Mask

1. Assemble equipment as shown in picture below.
2. Flick top off the nebuliser and place the H/S into the barrel, replace top.
3. Attach connection tubing to nebuliser and compressor.
4. Turn compressor on – a fine mist will blow from the mask.
5. Make sure the child is sitting upright and the mask fits snugly on the child’s face.

Note: The Starfish Mask has elastic straps to hold firmly in place and it has an exhalation valve at the base of the mask. Make sure the valve is pushed outwards or “open”.

Nebulising time will take about 20mins, until the nebuliser is dry or “spluttering”.



PARI LC Sprint Nebuliser with BABY Mask and BABY BEND



PARI LC Sprint Nebuliser with Starfish Mask