Nebulized Hypertonic Saline

Use of this Medicine
Hypertonic saline is used to help increase lung function and decrease the number of lung infections by thinning mucus in the airways.

Dose
The usual dose is 4 mL of 3% or 7% salt solution nebulized twice daily. A breathing medicine such as albuterol is often used before the hypertonic saline to avoid any shortness of breath. Patients who cannot tolerate 7% hypertonic saline often can use 3% hypertonic saline by Nebulizer.

What is a small volume nebulizer?
A small volume nebulizer (neb-U-lie-zer) is a device that holds liquid medicine. The medicine is turned into a fine mist by a small air compressor. The mist of medicine is deeply inhaled into the airways and lungs. A nebulizer treatment of one dose of medicine will take about 10 to 20 minutes to finish.

How do I prepare the hypertonic saline solution?
The hypertonic saline solution comes in a single dose vial. It is preservative free.

- Wash your hands well with soap and water.
- Assemble the nebulizer parts.
- Snap off the top of a single dose vial and squirt it in the nebulizer cup.
- Plug the air compressor into an electrical outlet. Make sure the compressor is on hard surface such as a table.
- Attach one end of the smooth tubing to the air compressor and the opposite end to the nebulizer cup. Turn the air compressor on. A fine mist should be visible. If not, make sure the compressor is working by disconnecting the smooth tubing. Feel for air coming from the compressor. If the compressor is working properly, check all connections. If the nebulizer is still not misting, use a different small volume nebulizer kit.
- Place the mouthpiece in your mouth. Children may use a mask over their mouth and nose rather than a mouthpiece.
- Take slow, deep, even breaths through your mouth.
- Make sure the medicine cup is kept upright.
- Stop the treatment if you notice any side effects or reactions to the nebulized medicine.
- Continue the treatment until the medicine is finished (no medicine is coming out, or the sound of sputtering occurs).
- After the treatment is over, take the medicine cup apart. Follow the cleaning
instructions below for cleaning the equipment. Your nebulizer cup must be rinsed after each use with hot water.

- Treatments are generally done twice daily. Do not combine the hypertonic saline solution with any other nebulized medicine.

Take all of your medicine and airway clearance treatments in the following order. If you have not been prescribed a certain medicine you can skip that step. Please follow any specific orders you have been given from your doctor.
1. Bronchodilator (Albuterol)
2. Hypertonic Saline (Hyper-Sal™)
3. DNase (Pulmozyme®)
4. Airway clearance (Vest, Acapella, Flutter, Manual Chest Physiotherapy)
5. Asthma Controller Medications (Flovent®, Advair, Symbicort)
6. Aerosolized antibiotic (Cayston®, TOBI®, Colistin)

Are there any side effects?
Some people have increased coughing while nebulizing the hypertonic saline solution, a sore throat and perhaps some chest tightness. It is known that hypertonic saline can irritate the airways, so a medicine to relax the airways, such as Albuterol, is given before the hypertonic saline.

How Do I Clean and Disinfect My Nebulizer?
All of your nebulizer parts must be cleaned and disinfected twice a week. There are 3 different ways a nebulizer may be cleaned and disinfected: by hand; or by heat methods: dishwasher or microwave.

How do I clean and disinfect by hand?
To clean and disinfect by hand, you can use either vinegar and water method or rubbing alcohol method. If you have

Cystic Fibrosis (CF) do not use the vinegar and water method.

Vinegar and Water Method
1. Take the nebulizer apart. Wash the pieces in warm soapy water.
2. Rinse with hot tap water.
3. Place the nebulizer pieces in a bowel and add enough vinegar and water solution to completely cover the equipment. Make the mixture of 1 part white vinegar (5% solution from your grocery store) to 2 parts water (1 cup vinegar to 2 cups water).
4. Soak the nebulizer for 30 minutes to 2 hours.
5. Rinse all of the parts of the nebulizer with sterile water. Do not use water from the faucet, bottled, or distilled water; it could be contaminated. You can make water sterile by boiling it for 5 minutes. Use this water once, and then throw it out.
6. Place the pieces on a paper towel to dry.

Rubbing Alcohol Method
1. Take the nebulizer apart. Wash the pieces in warm soapy water.
2. Rinse with hot tap water.
3. Place the nebulizer pieces in a bowl and add enough rubbing alcohol (isopropyl alcohol) to completely cover the nebulizer pieces.
4. Soak the nebulizer pieces for 5 minutes.
5. Rinse the nebulizer pieces with sterile water. Do not use water from the faucet, bottled, or distilled water. You can make water sterile by boiling it for 5 minutes. Use this water once, and then throw it out.
6. Place the nebulizer pieces on a paper towel to dry.
How do I clean and disinfect by heat?

Note: Use the following heat methods only for sturdy, hard plastic nebulizer cups. Heat cleaning may melt lighter, clear plastic nebulizers.

How do I clean and disinfect in the dishwasher
1. Take the nebulizer apart.
2. Place the pieces in a dishwasher basket on the top rack of the dishwasher.
3. After the dishwasher cycle is done, remove the pieces and shake out the extra water.
4. Air-dry the nebulizer pieces on a paper towel.

How do I clean and disinfect in the microwave?
1. Take the nebulizer apart. Wash the pieces in warm soapy water.
2. Rinse with hot water.
3. Place the nebulizer pieces in a bowl. Add enough water to completely cover the nebulizer pieces.
4. Microwave for 3-5 minutes; shorter time in high power microwaves to keep the nebulizer from melting.
5. Place the nebulizer pieces on a paper towel to dry.

Equipment
If you have questions or need more supplies, contact your Home Health Equipment provider.