

Nebulized Colistimethate (Coly-Mycin®) or Colistin

When to Use this Medicine

Colistimethate is used to treat lung infections caused by *Pseudomonas*, a type of bacteria.

Dose - Either 75 mg or 150 mg twice a day through a nebulizer (each vial contains 150mg).

Supplies for One Month of Treatment (75 mg or 150mg Nebulized Twice Daily)

Product name	Quantity
Colistimethate sodium 150 mg vial 2mL	60 vials
Sterile water for injection flip top vial 10 ml	600 mL (60 vials x 10 mL)
Sodium chloride inhalation solution 0.9% 3mL OR 5mL	180 mL (60 vials x 3 mL)
	300 mL (60 vials x 5 mL)
3mL Syringe (with needle)	60 syringes
Alcohol wipes	1 box (100/box)

How do I prepare the colistin?

Colistimethate comes as a powder in small vials. Store the unused vials at room temp. Before use, you must dilute with sterile water.

- **Once diluted, colistimethate must be inhaled within 1 hour after mixing.**
- Only make enough colistimethate for a single dose.

How to Prepare

1. Prepare a clean area for mixing.
2. Wash your hands.
3. Wipe off the top of one sterile water vial and the colistimethate vial using a separate alcohol wipe for each vial. Discard the alcohol wipes.

How to Mix

1. Open the package for one 3 mL syringe with attached needle. Pick up the 3 mL syringe by the barrel. **Do not** touch the tip of the syringe.
2. Carefully remove the cap from the needle.
3. Pull 2 mL of air into the syringe by holding the barrel of the syringe with one hand and pulling on the flat end of the plunger with the other hand. **Do not** touch the sides of the plunger.
4. Insert the needle into the sterile water vial and push the needle into the rubber stopper until the tip is visible in the vial.
5. Push the air into the vial, then turn the water vial upside down to allow water to cover the tip of the needle.
6. While holding the vial with one hand and the flat end of the syringe plunger with the other hand, slowly withdraw 2 ml of water into the syringe being careful not to touch the sides of the syringe plunger (only touch the flat end of the plunger).
7. Remove the needle/syringe from the vial. Insert the needle into the colistimethate vial and push down on the plunger to add the 2 mL of sterile water into vial. Swirl gently to mix. Do not shake the vial as this will make the medicine foam.

The sterile water vial must be discarded after use. It cannot be saved for reuse even if there is water left in the vial since it has no preservative to prevent bacterial growth.

Measuring the Correct Dose of Colistimethate for Nebulization

Each vial of colistimethate contains 150 mg of drug in a 2 mL volume.

1. Using the same 3 mL syringe with attached needle, draw up 2 mL of air into the syringe and push the needle into the vial. Push air from the syringe into the vial and then pull back on the plunger of the syringe to draw up the correct dose.
 - A 150 mg dose is 2 mL of solution (one vial provides the full dose).
 - A 75 mg dose is 1 mL of solution
 - **Your dose is _____ mg which is _____ mL of solution.**
2. Withdraw the needle/syringe from the vial and slowly push the colistin solution from the syringe into the nebulizer cup.

Diluting the Medicine in the Nebulizer Cup

1. Add enough sodium chloride (0.9%) solution to the nebulizer cup to total about 3 mL in the cup. Adding the sodium chloride to the colistimethate in the nebulizer cup makes it easier to nebulize the medicine without coughing. If your pharmacy supplies you with sodium chloride 0.9% 3 mL vials:
 - Add about 1/3 (or 1 mL) of the vial to the cup if your dose is 150 mg.
 - Add about 2/3 (or 2 mL) of the vial to the cup if your dose is 75 mg.

2. If your pharmacy supplies you with sodium chloride 0.9% 5 mL vials:
 - Add about 1/5 (or 1 mL) of the vial to the cup if your dose is 150 mg.
 - Add about 2/5 (or 2 mL) of the vial to the cup if your dose is 75 mg.

If you add more of the sodium chloride 0.9% solution to the cup, this will not affect the treatment. Adding more will only increase the length of time needed to nebulize the medicine.

Use a separate sodium chloride 0.9% vial for each treatment. **The vial is designed for single use only and must be tossed after a single use.**

Storage Guidelines

Once colistimethate is prepared, it must be used within 1 hour. Throw away any mixed and unused medication after 1 hour.

How to do a Nebulizer Treatment

1. Attach one end of the smooth tubing to the air compressor and attach the other end to the nebulizer and turn on. You should see a fine mist. If not, make sure the compressor is working by taking off the smooth tubing. Feel for air coming out. If the compressor is working, check all connections. If the nebulizer is still not misting, use a different nebulizer kit.
2. Place the mouthpiece in your mouth. Some small children use a mask over the mouth and nose rather than a mouthpiece.
3. Take slow, deep, even breaths through your mouth. Make sure the medicine cup is kept upright.

4. Do the treatment until the medicine is finished (no mist comes out). If the medicine sticks to the side of the cup, gently tap the sides of the cup.
5. Foam may develop in the medicine cup during treatment. This is normal.
6. After the treatment is over, pour 2 teaspoons of clean water into your nebulizer. Turn the air compressor on and let the water mist through the nebulizer for 15 seconds just as if you were doing a treatment. This will clean out any medicine that remains in the tiny tubes.

Order of Treatment

Take all your medicine and airway clearance treatments in the order below. If you have not been given a certain medicine listed below, you can skip that step. Please follow any specific orders your doctor gives you.

1. Bronchodilator (Albuterol)
2. Hypertonic saline (Hyper-Sal™)
3. DNase (Pulmozyme®)
4. Airway clearance (vest, acapella, flutter, manual chest physiotherapy)
5. Asthma controller medicines (Flovent®, Advair, Symbicort)
6. Aerosolized antibiotic (Cayston®, TOBI®, Colistin)

How Often Treatments are Done

Treatments are most often twice daily. Your symptoms should improve or remain stable as you do the treatments. If your infection does not improve or if it gets worse, call your doctor.

Side Effects

Some people have shortness of breath and increased coughing. If these occur, call your doctor.

How to Clean and Disinfect the Small Volume Nebulizer

You need to clean and disinfect your nebulizer daily to prevent infection and keep the device working well.

Dishwasher Cleaning

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

The reservoir tubing (pleated tube) cannot be placed in the dishwasher. This piece needs to be cleaned according to the hand cleaning directions below.

Hand Cleaning

1. Take the nebulizer apart and wash the pieces in warm soapy water.
2. Rinse the pieces with hot tap water.
3. Place the parts in a bowl and add enough rubbing alcohol (isopropyl alcohol) to fully cover them.
4. Soak all parts for 5 minutes.
5. Rinse all parts of the nebulizer with sterile water. **Do not use water from the faucet, bottled water or distilled water.** To make water sterile, you can boil it for 5 minutes.
6. Use this sterile water once, and then throw it out.
7. Place the parts on a paper towel to dry.

Microwaving

1. Take the nebulizer apart and wash the pieces in warm soapy water.
2. Rinse with hot water.
3. Place nebulizer pieces in a bowl, and then add water to cover.
4. Microwave the bowl for 5 minutes.
5. Air dry the pieces on a clean paper towel.

Equipment

If you have questions about your nebulizer, contact UW Health Care Direct at (608) 203-2273.

If you have questions about your colistin or need more supplies, contact the dispensing pharmacy.

Your health care team may have given you this information as part of your care. If so, please use it and call if you have any questions. If this information was not given to you as part of your care, please check with your doctor. This is not medical advice. This is not to be used for diagnosis or treatment of any medical condition. Because each person's health needs are different, you should talk with your doctor or others on your health care team when using this information. If you have an emergency, please call 911. Copyright © 8/2023 University of Wisconsin Hospitals and Clinics Authority. All rights reserved. Produced by the Department of Nursing. HF#5851