

## AEROSOL THERAPY (JET NEBULIZER)



**PURPOSE:** Aerosol therapy is used to moisten the air or oxygen breathed by a patient and to thin out secretions to aid in their removal. An aerosol is the suspension of particles of liquid or solid in a gas. Large amounts of aerosol can be delivered by way of a jet nebulizer.

**TYPES:** There are many types, sizes, and brands of aerosol generating devices. The type most commonly used is called a jet nebulizer because the gas source creates a jet of air that creates and disburse the aerosol. Jet nebulizers may be disposable or non-disposable.

**ACCESSORIES:** Aerosol delivery devices generate a lot of moisture and this can only be accommodated with larger bore tubing. This tubing, which is about one inch in diameter, is corrugated to help control any condensation or rained out water from reaching the patient. Water traps are sometimes used in the middle of the large bore tubing to collect this condensed water.

The aerosol delivered by the jet nebulizer travels through the large bore tubing to an aerosol mask, tracheostomy collar, or similar device. There is an adjustable ring on the top of jet nebulizers marked in percentages. These markings represent the percentage of oxygen delivered if oxygen is being used as the gas source. A respiratory therapy practitioner should only adjust this setting.

**USE:** Always wash your hands prior to assembling or working with jet nebulizers and their accessories. The jet nebulizer reservoir has a minimum and maximum fill line marked on the exterior; the sterile distilled water used should always be kept between these two markings. Never use tap water to fill the jet nebulizer reservoir. Before refilling the reservoir, empty out any remaining water, rinse with sterile water, and then fill to the maximum fill line.

The flowrate used to power the jet nebulizer is adjusted to provide a constant flow of mist. The aerosol mist must not disappear when the patient is taking a breath. The aerosol mist must be constant – during inhaling and exhaling. When large compressed cylinders are used, make sure you understand when they should be changed. Always make sure you maintain two jet nebulizers and extra large bore tubing.

**MAINTENANCE:** The primary concern when dealing with aerosol therapy is keeping the equipment clean and disinfected. The equipment must be changed or cleaned and disinfected every 24 hours. Always verify once per day that the percentage setting is set correctly and that the mist does not disappear when the patient is inhaling. The tubing will need to be drained occasionally. To drain the tubing, disconnect the tubing from the patient's mask or tracheostomy collar, and then drain the water in the direction of the patient. Do not allow the water to go back into the jet nebulizer reservoir. Excess water in the tubing will affect the oxygen percentage delivered.

## CLEANING

**Your jet nebulizer should be cleaned daily with the procedure below.**

1. Prepare a new jet nebulizer, tubing, and mask.
2. Turn off the compressed gas source.
3. Disconnect your jet nebulizer from the compressed gas source.
4. Reattach the new set and turn the gas source back on.
5. Disassemble the jet nebulizer, tubing, and mask.
6. Wash in hot water with dishwashing soap to remove any debris.
7. Rinse well with clean hot water.
8. Completely submerge and soak the jet nebulizer's parts in a solution of one part vinegar to three parts hot water for 30 minutes.
9. Rinse well with hot water and allow to air dry.
10. Reassemble the unit and store in a new Ziploc® Bag.