

# How to Use Inhaled Medications for Your Child's Asthma: Nebulizer

## How to use inhaled medication:

Inhaled medication is an advance in asthma therapy. The drug goes into the lungs where it is needed, so side effects are decreased.

A NEBULIZER is a medication holder that delivers medication as a fine mist when connected to a compressor or other air source. Nebulizers are useful for children who are too young or too sick to take in and hold a deep breath. It takes 10 to 20 minutes to deliver a full dose of medication via a nebulizer. The time required to give a nebulized "breathing treatment" and the need to use a cumbersome piece of equipment limits the usefulness of nebulizers for the long term care of school age children.

## Set-Up:

The LC PLUS Nebulizer was designed to be used with a PARI compressor.

1. Unwind the tubing.
2. Insert one end of the tubing directly to the compressor air outlet. Make sure the tubing is firmly inserted or attached.
3. Make sure nebulizer has been cleaned and/or disinfected before use and since last treatment (see back of page for proper instructions). Remove the top of nebulizer by twisting counter-clockwise until it stops and lift up.
4. Pour prescribed medication into bottom of nebulizer. Do not fill past the mix line. **Caution:** LC Star (part #22F51) is for 5cc (ml) of medication maximum.
5. Replace the top of the nebulizer. **The semi-circle should face the nebulizer outlet.**
6. If using a mask (optional, part #'s 14F15 or 14F20), attach mask directly to the nebulizer outlet. (Do not use mask and mouthpiece at the same time.)
7. If using the mouthpiece, attach the mouthpiece to the nebulizer outlet with the valve facing up. Then attach the inspiratory valve by pressing firmly into the top of the nebulizer. **The valve is also designed to fit snugly on the air intake.**
8. Connect the other end of the tubing to the air intake on the bottom of the nebulizer. Press on firmly. **The tubing is also designed to fit snugly on the air intake.**

## Operating Procedure:

The LC PLUS Nebulizer has 2 valves that open and close during the inhalation treatment when the mouthpiece is used. These valves help to maximize aerosol delivery and minimize medication waste.

1. Sit in a relaxed, upright position and turn on compressor or air source.
2. Close lips around mouthpiece and inhale the aerosol mist slowly. As you inhale, a valve on the top of the nebulizer opens.
3. Exhale slowly. As you exhale, the valve at the top of the nebulizer closes. At the same time, a valve on the mouthpiece opens, allowing the exhaled mist to escape.
4. Continue steps 2 and 3 until medication is gone or you hear sputtering. Turn off compressor or air supply.
5. If using a mask, (optional, part #'s 14F5 or 14F20) place the mask over the nose and mouth and inhale and exhale slowly. **The valves are not intended to be used with these masks.**

### Cleaning the LC PLUS Nebulizer:

#### WARNING

1. To reduce the risk of increased bacterial growth, infection, illness, or injury from contamination: at the end of each treatment, thoroughly clean and dry all parts of the nebulizer and thoroughly dry any moisture or condensation in the tubing, following the instructions below.
2. Never use a nebulizer with a clogged nozzle. If the nozzle is clogged, the aerosol mist will be reduced, altered or stopped, which will diminish or eliminate the effectiveness of the treatment. If clogging occurs, replace with the same model LC PLUS Nebulizer.

1. Disconnect the tubing from the bottom of the nebulizer.
2. If there is any moisture or condensation in the tubing, let the compressor run with only the tubing attached for 10 minutes. The warm air from the compressor will dry the moisture of condensation. Alternatively, you can dry the tubing by removing it from the compressor and hanging it up with the "ends down" to allow any moisture or condensation to drain out and evaporate.
3. Disassemble nebulizer parts.
4. Wash all parts (except tubing and tubing adapter) with warm water and liquid soap.
5. Rinse thoroughly with warm water and shake out water.
6. Air dry or hand dry nebulizer parts on a clean, lint-free cloth. Reassemble nebulizer when dry and store.
7. You can wash all parts of the nebulizer in a dishwasher (except mask and tubing). Place the nebulizer parts in a dishwasher basket, then place on the top rack of the dishwasher. Remove and dry the parts when the cycle is complete.

### Disinfecting and Sterilizing the LC PLUS Nebulizer:

#### WARNING

1. The nebulizer is designed for single patient use (one person) only. Do not share your nebulizer with other patients.
2. You must regularly disinfect or sterilize the nebulizer between treatments. Failure to do so could lead to serious or fatal illness.

1. Clean the nebulizer as described. Every other treatment day, soak all parts of the LC PLUS Nebulizer (except tubing and mask) in a solution of 1 part distilled white vinegar and 3 parts hot tap water for 1 hour. You can substitute respiratory equipment disinfectants (like Control III®) for distilled white vinegar (follow manufacturer's instructions for mixing). Rinse all parts of the nebulizer thoroughly with warm tap water and dry with a clean, lint-free cloth. Discard the vinegar solution when disinfection is complete.
2. The nebulizer parts (except tubing, mask and tubing adapter) may also be sterilized by boiling them in water for a full 10 minutes. Hospitals and clinics can sterilize the nebulizer parts (except mask and tubing) by autoclaving (a maximum of 277° F or 136°C up to 10 minutes), follow autoclave manufacturer's instructions. Dry parts on a clean, lint-free cloth.