



## Proper Order of Multiple Therapies for Cystic Fibrosis

Dr. Chaudary has prescribed a number of inhaled medicines to better treat your Cystic Fibrosis. It is important to take these medications in the proper order to get the best effect.<sup>1</sup>

1. **First take your Albuterol.** It will relax the airway muscles. That makes it easier to cough out the mucus. Then other medicines can get deeper into the lungs to do their work.
2. **Follow that with hypertonic saline (if Dr. C has ordered it.)** This helps you cough out the mucus.
3. **Follow this with Pulmozyme** to break down the mucous over time.
4. **Next do your airway clearance technique.** Vest, Acapella/Flutter, CPT, and Coughing to clear the mucus.
5. **Then take your inhaled steroid and/or long acting bronchodilator.** This decreases airway inflammation.
6. **Finally take your inhaled antibiotic.** Now it can get deeper into your lungs killing more bacteria.

To save time it is okay to use the Vest while nebulizing Albuterol,  
Hypertonic Saline and Pulmozyme.

**BRONCHODILATORS<sup>2</sup>** work to relax the muscles in your airways. This makes it easier to move air in and out, and clear mucus.

- **Examples of short-acting bronchodilators:** Albuterol [liquid for nebulizing, or as a Metered Dose Inhaler (MDI)]
- **Examples of long-acting bronchodilators:** Serevent (MDI), Formoterol (MDI), Performist (liquid for nebulizer)

**Examples of other bronchodilators that your doctor may prescribe in addition to above:** Atrovent (liquid for nebulizing or MDI, sometimes combined with albuterol), Spiriva (MDI)

**INHALED STEROIDS<sup>2</sup>** to reduce the airway swelling and tendency of the the airway muscles to clamp down that results from inflammation.

- **Examples of inhaled steroids:** Flovent (MDI), Pulmicort (liquid for nebulizer), Qvar (MDI)
- **Examples of inhaled steroids combined with long-acting bronchodilators:** Advair (Discus or MDI), Symbicort (MDI), Dulera (MDI)

**MUCOLYTICS** help thin mucous secretions so that they are easier to cough out

**Examples:** Hypertonic Saline, Pulmozyme

**INHALED ANTIBIOTICS** help to reduce the bacteria in your lungs.

**Examples of inhaled antibiotics:** Tobi (inhaled tobramycin solution or TOBI inhaler), Cayston (inhaled aztreonam), inhaled Colistin

<sup>1</sup>These recommendations are based on CF Pulmonary Guidelines for Chronic Medications for Lung Health published in the American Journal of Respiratory and Critical Care Medicine in 2007

<sup>2</sup> Long Acting bronchodilators and inhaled steroids are often combined