Currently, 7% hypertonic saline solution for inhalation is not commercially available. Compared with commercially prepared saline solutions compounded hypertonic saline solution has a relatively short shelf life, so the CF Services Pharmacy has decided not to offer a compounded version of this product. Instead, the CF Foundation and the CF Services Pharmacy recommend preparing 7% hypertonic saline solution for inhalation by mixing commercially available 0.9% and 10% saline solutions at the time of use.

As of May 15, 2006, the CF Services Pharmacy will accept prescriptions for patients to prepare their own 7% hypertonic saline solution by mixing commercially manufactured 0.9% and 10% solutions. Orders dispensed from the CF Services Pharmacy will include the CF Foundation’s FAQ on hypertonic saline (available on Port CF) and will also include a patient version of the guidelines (available on Port CF) based on the Australian clinical trial.

**Summary of the Australian clinical trial:**
- Maintenance hypertonic saline treatment was **not studied** in patients with severe obstructive lung disease (FEV₁ < 40% predicted).
- Hypertonic saline was **not substituted** for other proven therapies.
- The **first administration** of hypertonic saline was done under observation in a clinical setting.
- Pre and post **spirometry** was done with the first dose.
- A **bronchodilator** was used (fast-acting agent via inhaler or nebulizer) 15-60 minutes before the hypertonic nebulized therapy.
- Aerosol therapies were administered in the following **order**:
  - bronchodilator
  - hypertonic saline
  - airway clearance
  - DNase
  - corticosteroids
  - antibiotics
- Hypertonic saline solution should be used with a **PARI LC PLUS® jet nebulizer** and a **PARI PRONEB® Turbo compressor**.
- Hypertonic saline solution was **not mixed/nebulized** with other medications.
- 4 mL of 7% hypertonic saline was **administered twice daily**.
- Hypertonic saline solution did **induce coughing**. Side effects also included **sore throat** and **chest tightness**.

**Directions for preparing a 4 mL 7% saline solution:**
Directions for preparing a 4 mL 7% saline solution:

- The vials of 0.9% and 10% saline solution provided in the 7% hypertonic saline “kit” from the CF Services Pharmacy are for single-use only. There are no preservatives in these single-use vials, so patients should use the amount indicated for one dose and dispose of the remaining mixture and the open vials of unused saline solution.
- Good sanitary technique should be used when preparing the 7% hypertonic saline solution. Individuals should wash their hands and create a clean working area to prepare the mixture.
- The 10 mL graduated cylinder provided by the CF Services Pharmacy to use when preparing the 7% hypertonic saline solution should be carefully cleaned after each use in the same manner as the nebulizer cup.
- A 7% hypertonic saline solution is prepared by mixing 3 mL of 0.9% saline solution and 6 mL of 10% saline solution in the graduated cylinder. 4 mL of this mixture, or the amount prescribed by the treating physician, should be poured into the nebulizer cup. The remaining 7% saline mixture and any open vials unused saline solution should be discarded.

Prescriptions should be written as follows (separate prescription is needed for each item):

- 0.9% hypertonic saline; quantity = 60 vials (3 mL/vial, total 180 mL)
- 10% hypertonic saline; quantity = 60 vials (15 mL/vial, total 900 mL)
- Days supply: 30
- Instructions: Add 3 mL of 0.9% saline solution to 6 mL of 10% saline solution. Nebulize 4 mL of this mixture twice daily.

Prescriptions can be called or faxed in to the CF Services Pharmacy and must include a patient name and phone number. Orders dispensed by the CF Services Pharmacy will include the CF Foundation’s FAQ on hypertonic saline and a patient version of the self-preparation guidelines listed above.

- **CF Services Colorado:** (800) 541-4959 - phone, (800) 263-0251 - fax
- **CF Services Texas:** (866) 574-1414 - phone, (866) 574-1418 - fax