Inhalers and Nebulizers

Inhalers and nebulizers for the treatment of respiratory diseases:
Several types of inhalation devices are used in the treatment of asthma or other chronic obstructive pulmonary diseases, such as emphysema. Inhalers are often effective in delivering medication directly to the lungs with less side effects than medication taken by mouth or injection. There are several types of inhalation devices. The type of inhalation device will vary, depending on your medical history, preference, and severity and frequency of the symptoms. Inhalers can contain anti-inflammatory medications or bronchodilator medications. The most common types of inhalation devices are:

- **metered-dose inhaler (MDI)**
  The most common type of inhaler, the metered-dose inhaler, in most cases, uses a chemical propellant (chlorofluorocarbons, or CFCs) to emit the medication out of the inhaler. There are now some MDIs that do not use CFCs to propel the medication. Many new types of delivery systems are being developed.

  A metered-dose inhaler is held in front of or inserted into the mouth as the medication is released in puffs. Consult your physician for specific instructions on how to properly use a metered-dose inhaler.

- **nebulizer**
  A nebulizer is a type of inhaler that sprays a fine, liquid mist of medication. This is done through a mask, using oxygen or air under pressure, or by using an ultrasonic machine (often used by persons who cannot use a metered-dose inhaler, such as infants and young children, and persons with severe asthma). A mouth piece is connected to a machine via plastic tubing to deliver medication to the patient. Consult your physician for specific instructions on how to properly use a nebulizer.

- **dry powder or rotary inhaler**
  A breath-activated, non-pressurized dry powder inhaler that may be used for children and adults, this type of inhaler does not use chlorofluorocarbon (CFC) to propel the medication out of the device. Consult your physician for specific instructions on how to properly use a dry powder or rotary inhaler.

Making metered-dose inhalers more environmentally friendly: Although many metered-dose inhalers still use chlorofluorocarbon (CFC) to propel the medication directly into the lungs, more and more inhalers are being replaced with devices that do not use CFC. CFC, although safe for the person to inhale, is known to damage the earth's ozone layer - a shield that protects the earth against harmful sun rays. Other devices that previously used CFC, such as air conditioners and refrigerators, have already been changed to non-CFC alternatives.