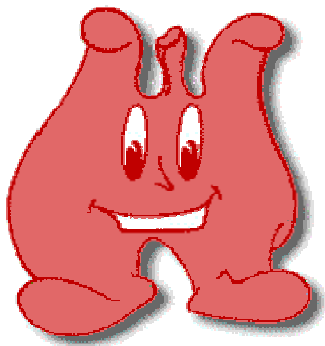




**Al-Rahba Hospital**

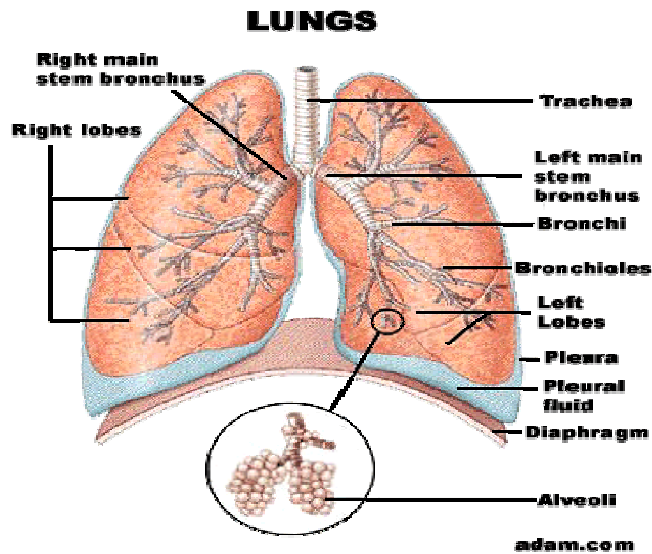
**Department of Pharmacy**

**General Authority For Health Services for  
the Emirate of Abu Dhabi**



**LIVING WITH ASTHMA**

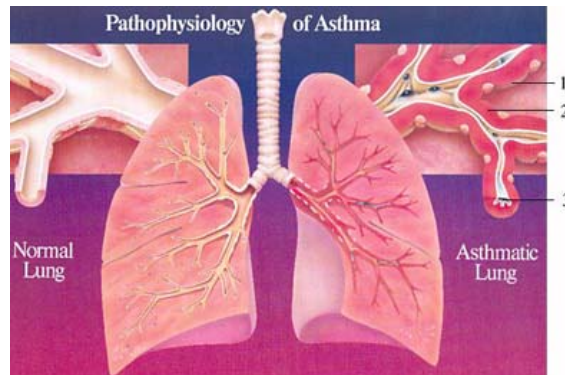
# 1- How lungs work?



In someone with normal lung function, air is inhaled through the nose and mouth. It passes through the trachea before moving into the bronchi (large airways), which are branching tubes leading away from the trachea. The bronchi branch into smaller and smaller tubes, ending in many small sacs called alveoli. It's in the alveoli that oxygen, which the body needs, is passed to the blood, while carbon dioxide, which the body doesn't need, is removed from it.

# 2- What is Asthma?

Asthma is a chronic condition, meaning it needs to be monitored and controlled over a lifetime.



People with asthma often have trouble breathing when they're in the presence of what are called "Triggers." When someone with asthma has asthma symptoms, it means that the flow of air is obstructed as it passes in and out of the lungs.

During an asthma attack, the following changes in the airways may be seen:

1. The muscles surrounding the bronchial tubes contract excessively (bronchospasm), causing narrowing of the airways.
2. The lining is red and swollen (inflamed) causing further narrowing.
3. Sticky mucus secretions block the airways.

### 3- Symptoms of asthma?



#### **Symptoms of asthma can:**

- Be mild, moderate or severe.
- Vary from person to person.
- Flare up from time to time and then not appear for long periods.
- Vary from one episode to the next.

#### **Symptoms:**

- Shortness of breath.
- Tightness in the chest.
- Coughing.
- Wheezing.

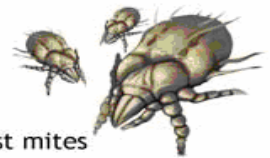
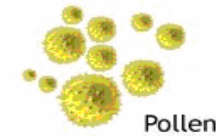
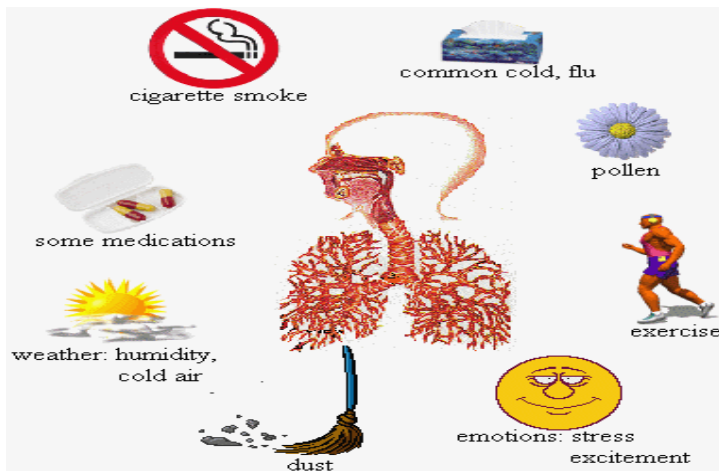
## 4- Causes of Asthma

The cause of asthma is not known, and currently there is no cure. However, there are many things you can do so you can live symptom-free.

## 5- Common Asthma Triggers

Triggers often bring on asthma attacks. A trigger is any thing or condition that causes inflammation in the airways, which then leads to asthma symptoms.

Your personal triggers can be very different from those of another person with asthma. But in every case, it's important to avoid your triggers in order to keep airway inflammation to a minimum and reduce the symptoms.



Triggers include:

- Dust mites
- Animals
- Cockroaches
- Moulds
- Pollens
- Viral infections
- Certain air pollutants
- Smoke
- Exercise
- Cold air
- Chemical fumes and other strong-smelling substances like perfumes
- Certain food additives like sulfites
- Certain air pollutants
- Intense emotions

## 6- Controlling your asthma

Asthma doesn't have to control your life. Instead, you can control your asthma by:

- Becoming educated about asthma.
- Taking your medications as directed.
- Avoiding your triggers.
- Developing a personalized action plan.

The goal of asthma management is to obtain total asthma control and maintain it over time. Total asthma control means:

- No day-time symptoms.
- No night-time symptoms.
- Not need to use your reliever medication (no more than 4 or more times in a week).
- No school or work absenteeism due to asthma.
- Normal breathing tests.

**Peak Flow Meter:** is a portable, inexpensive, hand-held device used to measure how air flows from your lungs in one "fast blast." In other words, the Meter measures your ability to push air out of your lungs.



## 7- Treatment

Most people with asthma take two kinds of medications. That's because each asthma medication treats only one aspect of the condition:

### **A- Controllers, also called "preventers":**

- 1- Reduce inflammation in the airways.
- 2- Controllers should be taken every day. You will know that the controller medication is working because you will, over time, have fewer and fewer symptoms.
- 3- When your asthma is totally controlled and you have no symptoms, do not stop taking them. If you do, the airway inflammation may return.
- 4- Controllers do not immediately relieve wheezing, coughing or chest tightness, and should not be used to treat a severe asthma attack.
- 5- Must gargle after using them to prevent fungal infections.

### **B- Relievers:**

- 1- Are very good at helping to alleviate symptoms immediately.
- 2- If you are coughing or wheezing, use a reliever medication to reduce symptoms.
- 3- Relievers are only a short-term solution to breathing problems and indicate that there is underlying inflammation present that requires a controller medication.
- 4- Monitor how often you use your reliever. Increased use over time is telling you the asthma is worsening.

However, reliever medications do nothing for the underlying problem of inflammation.

## **Types of inhalers:**

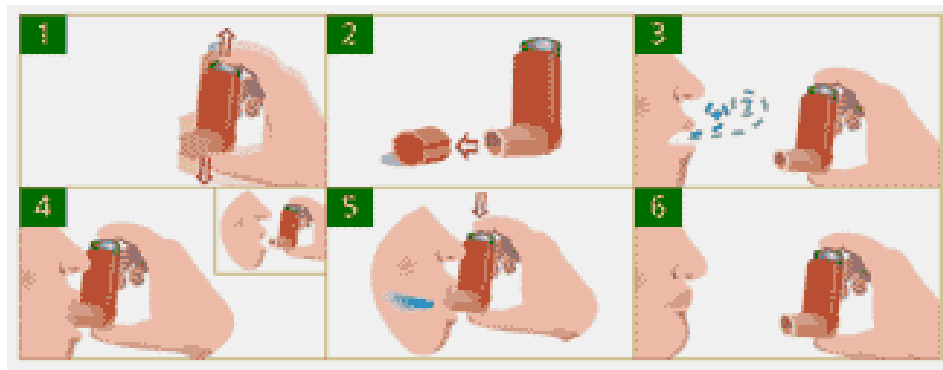
- \* **Metered dose inhalers (MDI).**
- \* **Diskhaler.**
- \* **Turbohaler**

**Also you can use Nebulizer .**

## Metered dose inhalers (MDI)



### How to Use a Metered-Dose Inhaler "Puffer"



1. Shake the inhaler well before use (3 or 4 shakes).
2. Remove the cap.
3. Breathe out, away from your inhaler.
4. Bring the inhaler to your mouth. Place it in your mouth between your teeth and close your mouth around it.
5. Start to breathe in slowly. Press the top of your inhaler once and keep breathing in slowly until you have taken a full breath.
6. Remove the inhaler from your mouth, and hold your breath for about 10 seconds, then breathe out.

### Cleaning Your MDI:

To clean your MDI, follow the instructions that came with it. In most cases, they will advise you to:

1. Remove the metal canister by pulling it out.
2. Clean the plastic parts of the device using mild soap and water. (Never wash the metal canister or put it in water.)
3. Let the plastic parts dry in the air (for example, leave them out overnight).
4. Put the MDI back together.
5. Test the MDI by releasing a puff into the air.

### Common mistakes when using MDI:

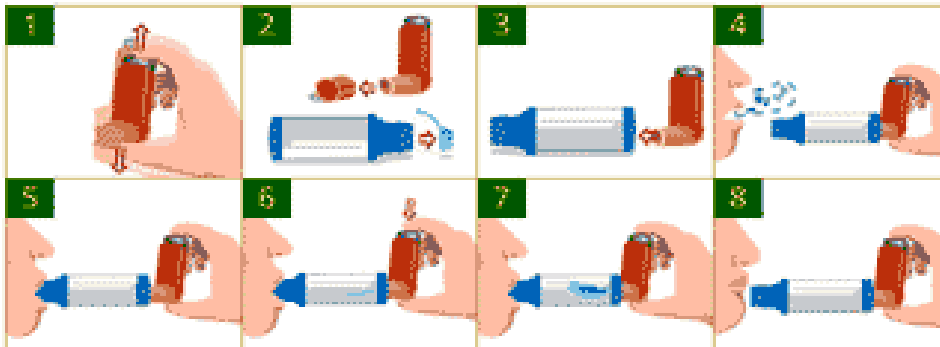
- 1- Wrong handling of MDI.
- 2- Wrong timing between pressing the MDI & taking inhalation
- 3- several pressing to take only one inhalation.
- 4- Taking fast inhalation.
- 5- Not holding the inhaled medication for sometime.

# Spacer



- ✚ Spacers should always be used with MDIs that deliver inhaled corticosteroids.
- ✚ Easier for medication to reach the lungs.
- ✚ Less medication gets deposited in the mouth and throat, where it can lead to irritation and mild infections.

## To Use a Spacer:



1. Shake the inhaler well before use (3-4 shakes).
2. Remove the cap from your inhaler, and from your spacer, if it has one.
3. Put the inhaler into the spacer.
4. Breathe out, away from the spacer.
5. Bring the spacer to your mouth, put the mouthpiece between your teeth and close your lips around it.
6. Press the top of your inhaler once.
7. Breathe in very slowly until you have taken a full breath. If you hear a whistle sound, you are breathing in too fast. Slowly breath in.
8. Hold your breath for about ten seconds, then breath out.

## Types of Spacers:



### 1- Adult (blue color)



### 2- Children (yellow color)



### 3- Neonates (orange color)



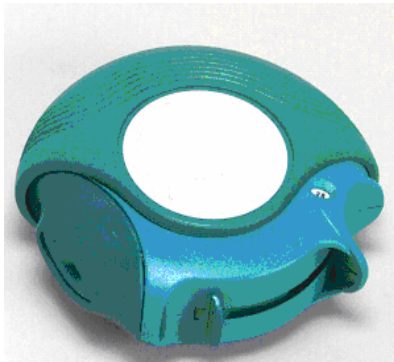
## Cleaning Your Spacer:

To clean your spacer, follow the instructions that come with it. In most cases, they will advise you to:

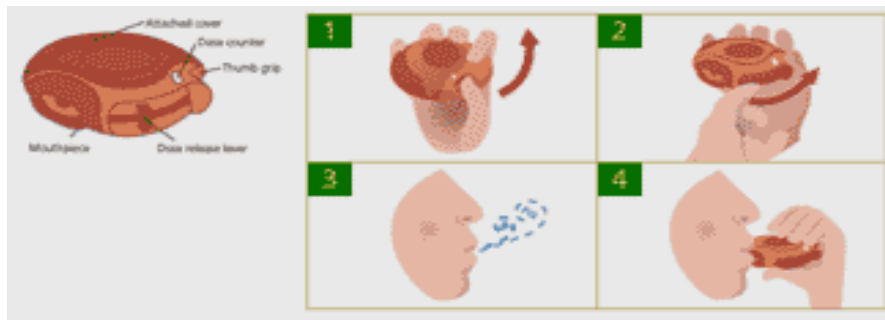
1. Take the spacer apart.
2. Gently move the parts back and forth in warm water using a mild soap. Never use high-pressure or boiling hot water, rubbing alcohol or disinfectant.
3. Rinse the parts well in clean water.
4. Do not dry inside of the spacer with a towel as it will cause static. Instead, let the parts air dry (for example, leave them out overnight).
5. Put the spacer back together.



# Diskhaler



## How to Use a DISKUS:



1. Open your DISKUS: Hold it in the palm of your hand, put the thumb of your other hand on the thumb grip and push the thumb grip until it "clicks" into place.
2. Slide the lever away from you as far as it will go to get your medication ready.
3. Breathe out away from the device.
4. Place the mouthpiece gently in your mouth and close your lips around it.
5. Breathe in deeply until you have taken a full breath.
6. Remove the DISKUS from your mouth.
7. Hold your breath for about ten seconds, then breathe out.
8. Always check the number in the dose counter window to see how many doses are left.

If you drop your DISKUS or breathe into it after its dose has been loaded, you may cause the dose to be lost. If either of these things happen, reload the device before using it.

## Cleaning your Diskus:

Clean the mouthpiece with dry napkin, never use water.

## How I will know when to replace the Diskus?

- 1- Diskus is a plastic inhaler device containing a foil strip with 60 blisters.
- 2- The blisters protect the powder for inhalation from the effects of the atmosphere.
- 3- Diskus doesn't need maintenance or refill.
- 4- Diskus has a dose counter which tells you the number of doses remaining. It counts down from 60 to 0 to show when the last five doses have been reached the numbers appear in red.

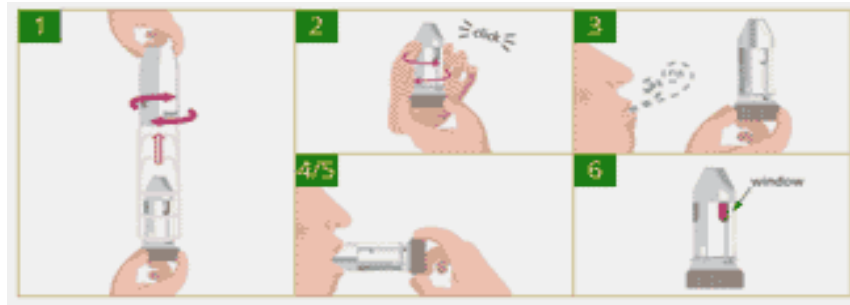
## Common mistakes when using Diskus:

- 1- Wrong handling of Diskus.
- 2- Not holding the inhaled medication for sometime.
- 3- Sliding the lever more than once.

# Turbohaler



## How to Use a Turbohaler:



1. Unscrew the cap and take it off. Hold the inhaler upright.
2. Twist the colored grip of your Turbohaler as far as it will go. Then twist it all the way back. You have done it right when you hear a "click".
3. Breathe out away from the device.
4. Put the mouthpiece between your teeth, and close your lips around it. Breathe in forcefully and deeply through your mouth.
5. Remove the Turbo haler from your mouth before breathing out
6. Always check the number in the side counter window under the mouthpiece to see how many doses are left. For the Turbohaler that does not have a dose counter window, check the window for a red mark, which means your medication is running out. When finished, replace the cap.

If you drop your Turbohaler or breathe into it after its dose has been loaded, you may cause the dose to be lost. If either of these things happens, reload the device before using it.

## Cleaning your Turbohaler:

Clean your Turbohaler as needed. To do this, first wipe the mouthpiece with a dry tissue or cloth. Never wash the mouthpiece or any other part of the Turbohaler - if it gets wet, it won't work properly.

## How will I know when to replace the Turbohaler?

The dose indicator tells you approximately how many doses are left in the Turbohaler, starting with either 60 or 120 when full.

You should be reassured that Turbohaler delivers the dose even if you may not notice a movement in the dose indicator.

For the last 10 doses, the background of the indicator is red. When the 0 reaches the middle of the window, it's time for you to discard the Turbohaler.

## Common mistakes when using Turbohaler:

- 1- Wrong handling of Diskus.
- 2- Not holding the inhaled medication for sometime.
- 3- Twist the colored grip more than once.
- 4- Inhaling too fast.
- 5- Don't use more than the prescribed dose.

## Dry powder capsules devices Inhalers



Dry powder capsules contain slightly powders, put it in special device & by special movement the capsule will break so you can inhale it. It's very easy especially seniors.

## Home Nebulizer



A nebulizer changes liquid medicine into fine droplets (in aerosol or mist form) that are inhaled through a mouthpiece or mask. Nebulizer can be used to deliver bronchodilator (airway-opening) medications.

### We advise to use the nebulizer:

- I. When the patient cannot use the MDI's.
- II. For children below 4 years old who cannot use the MDI's.
- III. For elderly patients.

## 8- Prevention

- ✚ Wash bed linen under high temperature to kill any dust mites
- ✚ Avoid using pillows filled with natural feathers.
- ✚ Don't put curtains made of heavy material.
- ✚ Don't cover the floor of rooms by carpet or rugs.
- ✚ Avoid exposure to smoking or smoking.
- ✚ The patient should know the triggers of his asthma and try to avoid it.
- ✚

**My dear patient:** You must know your disease very well & avoid any excitatory factors to minimize the frequency of asthma.