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General Surgery

PRESENTS

Dr. Mufa T. Ghadiali is skilled in all aspects of General Surgery.
His General Surgery Services include:

- General Surgery
- Advanced Laparoscopic Surgery
- Surgical Oncology
- Gastrointestinal Surgery
- Hernia Surgery
- Endoscopy

ASTHMA

Multimedia Health Education

Disclaimer

This film is an educational resource, and should not be used for decisions about asthma treatment. All such decisions must be made in consultation with a physician or a healthcare provider. Asthma patients with concurrent breathing problems must seek immediate medical attention.

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MULTIMEDIA HEALTH EDUCATION MANUAL

TABLE OF CONTENTS

The Respiratory System

Let us start at the beginning. To understand asthma, it is important to crack the mystery of the lungs. Now go on…

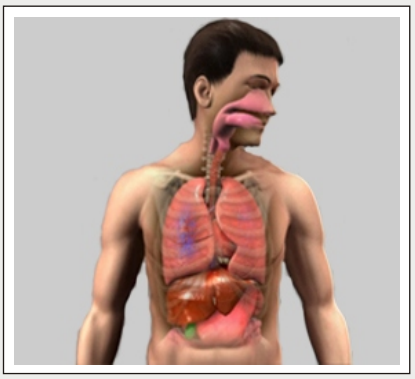
What you see in this figure are parts of the respiratory system, the human breathing apparatus. To explore further, just move your mouse over each of the labels.

The Respiratory System:

- Sinuses And Nasal Passages
- Mouth
- Windpipe (trachea)
- Lungs
- Airways (bronchial Tubes)
- Air Sacs (alveoli)

(Refer fig.1 & 2)

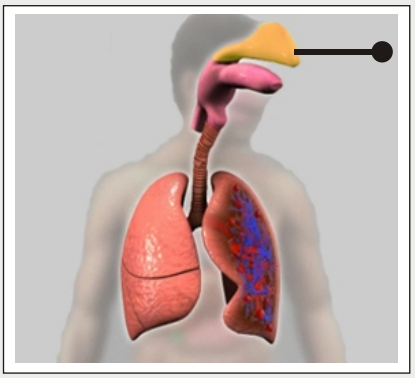
(Fig.1)



(Fig.2)

Sinuses And Nasal Passages

(Refer fig.3)

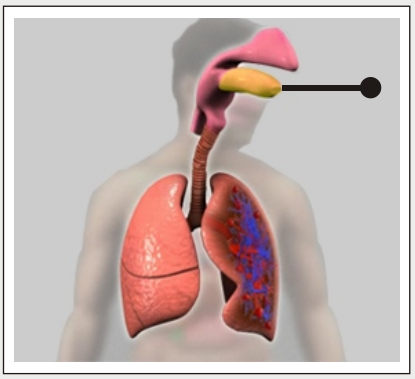


Sinuses And Nasal Passages

(Fig.3)

Mouth

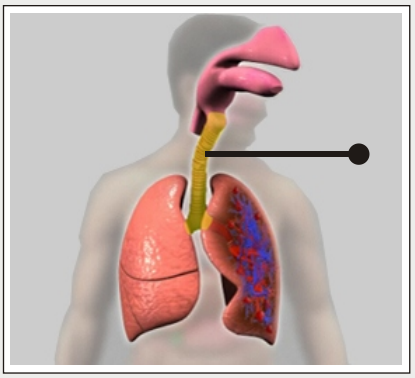
(Refer fig.4)



Mouth

(Fig.4)

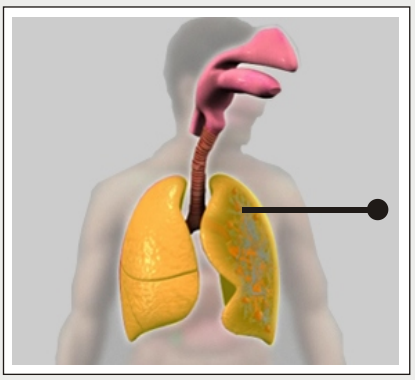
Windpipe (trachea)
(Refer fig.5)



Windpipe (trachea)

(Fig.5)

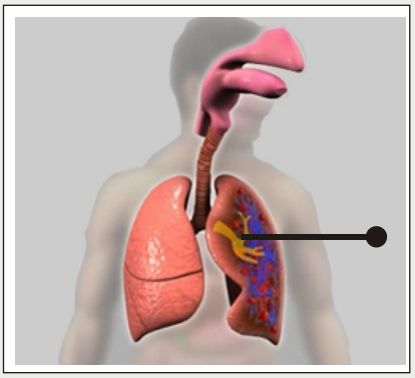
Lungs
(Refer fig.6)



Lungs

(Fig.6)

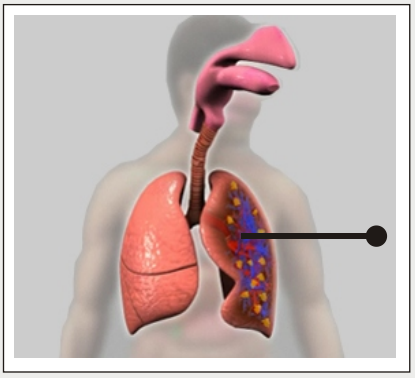
Airways (bronchial Tubes)
(Refer fig.7)



Airways (bronchial Tubes)

(Fig. 7)

Air Sacs (alveoli)
(Refer fig.8)



Air Sacs (alveoli)

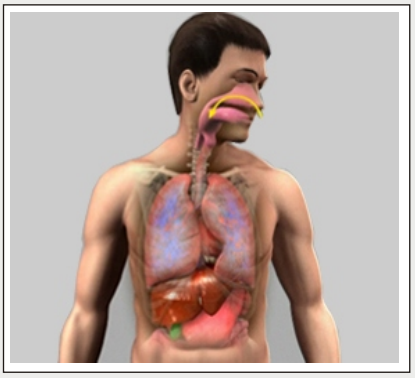
(Fig. 8)

Do you see air moving in and out of the lungs? This is what happens when we breathe. This is a non-stop function that keeps us alive!

The Small Airways

Air in the lungs travels through many small airways. Let us take a closer look.

(Refer fig. 9)



(Fig. 9)

These airways are also known as bronchial tubes. The side of the tube is called the airway wall. The inside of this tube is lined with mucus-producing glands. See how the muscle bands surround the outside of the tube. When the muscles relax, the airway opens up.

(Refer fig. 10)

(Fig. 10)

The Bronchial Tube:

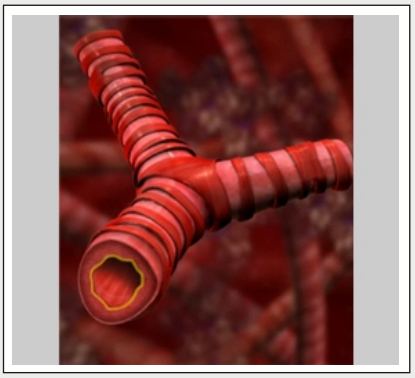
Muscle

(Refer fig. 11)

(Fig. 11)

Airway Lining (contains Mucus Glands)

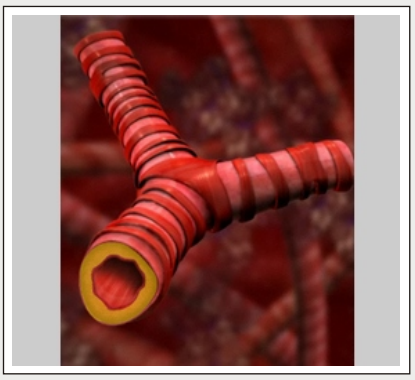
(Refer fig. 12)



(Fig. 12)

Airway Wall

(Refer fig. 13)



(Fig. 13)

When the airways are clear, air moves in and out of the lungs easily. As you will see in the next section, an asthma attack constricts the airways. This interferes with the normal breathing process.

(Refer fig. 14)

(Fig. 14)

During an ASTHMA attack

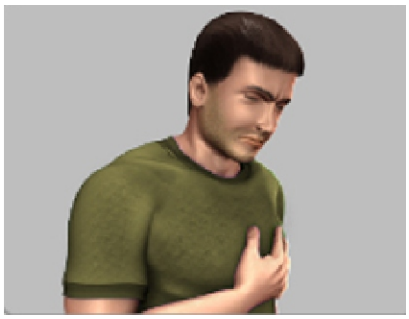
Now that we know how lungs function, let us see what happens during an asthma attack.

(Refer fig. 15)

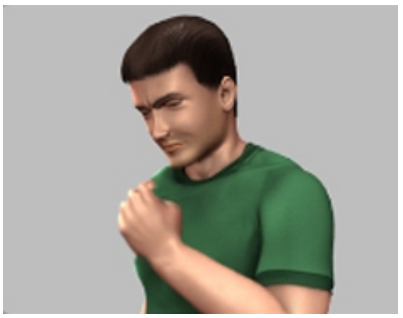
(Fig.15)

Symptoms and Triggers

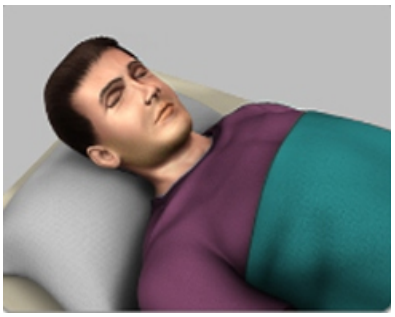
You must understand that though many people suffer from asthma attacks, the symptoms are different. For example, some may experience wheezing and tightness in the chest, while others may suffer from incessant coughing. Those who exercise may have difficulties and might stop for breath often.



Wheezing or breathing trouble



Coughing



Interruptions in sleep

(Fig.16)

(Refer fig. 16)

As people get used to their asthma attacks, they learn to recognize specific triggers that contribute to these attacks and try to stay away from them. There are individual triggers for each person. Some of the more common ones are –

(Refer fig. 17)

Mold

Dust or Dust Mites

Tobacco Smoke

(Refer fig. 17)

Exercise

Strong smells

(Fig.17)

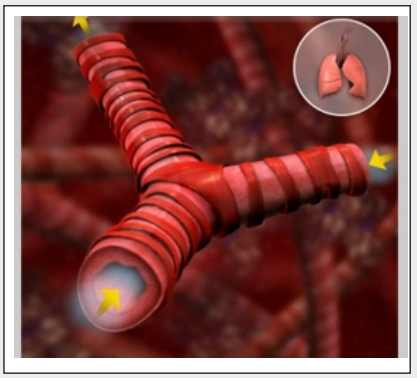
But this is only the beginning…

Start of an asthma attack

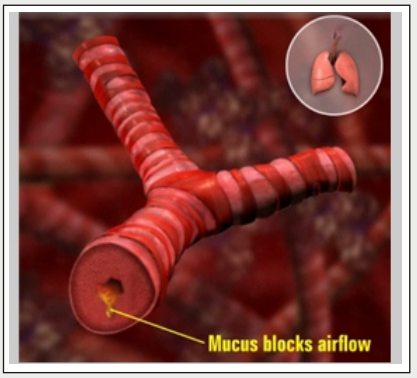
So, what happens during an asthma attack? Let's find out…. What you see is a normal airway passage or the bronchial tube. Imagine that an asthma attack has just been triggered…

Notice the difference? This is due to the inflammation of the airways and as a result, the bronchial tube becomes smaller. What follows is a series of reactions - muscle bands tighten, mucus blocks the airway and the bronchial tube wall soon becomes swollen. This hampers the normal functioning of the lungs. Can you imagine air moving through a nearly blocked passage?

(Refer fig. 18 & 19)



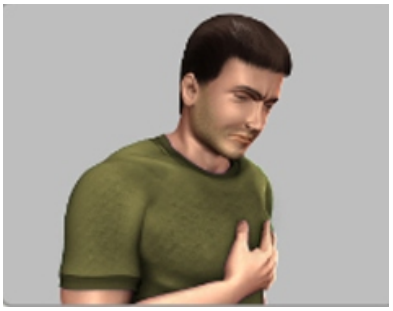
(Fig.18)



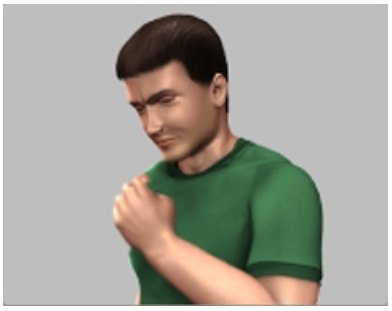
(Fig.19)

How do you treat ASTHMA?

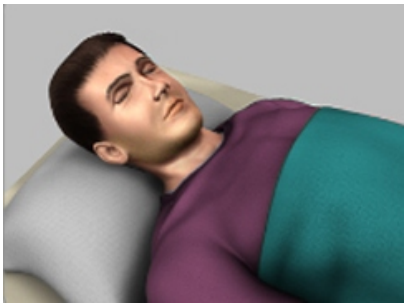
Now that you know what causes asthma, the most natural question to follow is - can an asthmatic lead a normal life? The good news is, they can! Let us find out how….



Wheezing or breathing trouble



Coughing



Interruptions in sleep

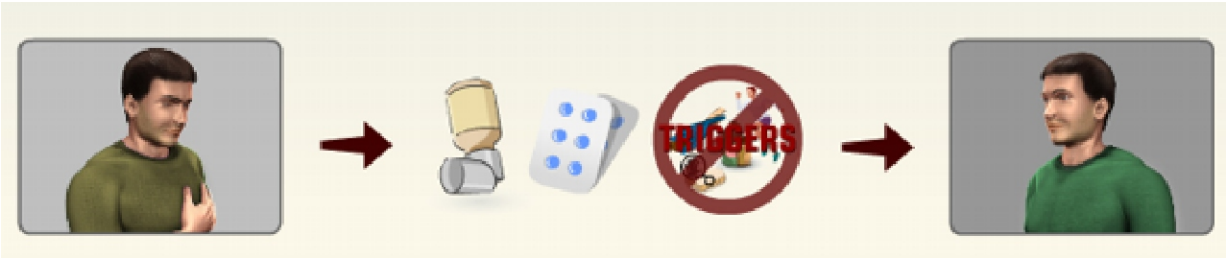
(Fig.20)

(Refer fig. 20)

The key to good asthma management is knowledge. You must know as much as you can about asthma, its triggers, and how to recognize and avoid them. It is also good practice to take regular medication as your condition demands.

Prevention of attacks is the best treatment, and all asthmatics and their families should aim to know the disorder very well and become an expert in managing it.

Remember, there isn't a cure for asthma. But avoiding the triggers and with the right medication, an asthmatic can have a perfectly normal life.



(Fig.21)

(Refer fig. 21)

There are three kinds of asthma medication –

- Relievers
- Preventers
- Symptom Controllers

Let us know a little more about these medications.

Relievers

- Relax the muscles around the airways.
- Make it easier to breathe right away.
- Give temporary relief.
- Should be taken during an asthma attack.

Preventers and Symptom controllers

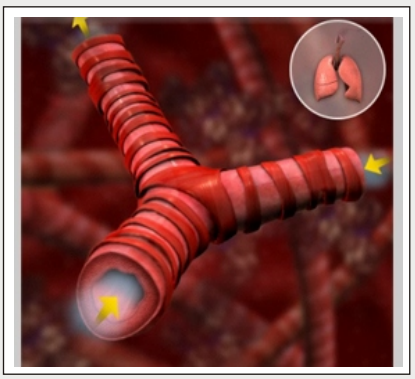
- Treat the main problem in asthma: airway inflammation
- Reduce swelling mucus and muscle tightening.
- Give long-term control of asthma symptoms.
- Help prevent asthma attacks.

Let us see how the relievers work. When inhaled properly, relievers immediately seep into the small airways and relax the muscles around them. This makes breathing easier. Their effect does not last long and they do nothing by way of a permanent cure, so the symptoms may return in a few hours.

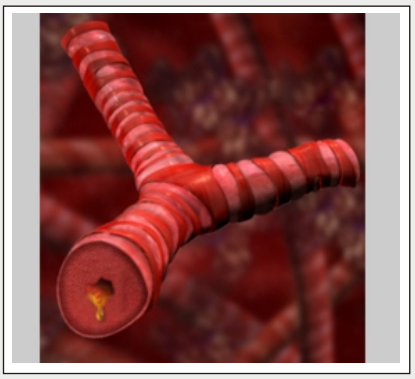
(Refer fig. 22)

Remember, that is how the airways look during an asthma attack before taking any medicine.

(Refer fig. 23)



(Fig.22)



(Fig.23)

Relievers do not reduce the underlying inflammation associated with asthma and therefore do not prevent asthma attacks. They work by relaxing the muscle around the airways and allowing the airways to open up. They start to work within a few minutes of being taken, and the effect last between 4 to 6 hours. These medicines relieve symptoms but do not help to make your disease better.

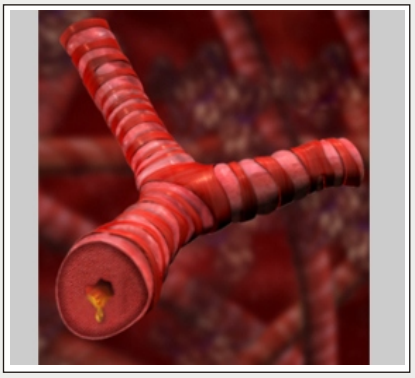
(Refer fig. 23)

Preventers and Symptom controllers

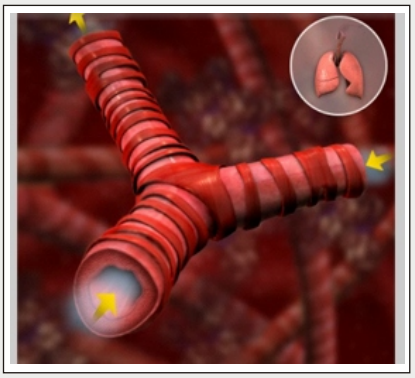
In order to control asthma and prevent attacks, many people need to take preventers and symptom Controllers.

Preventer and symptom controllers attack the problem at the root. They actually treat airway inflammation, and this gradually leads to a decrease in swelling, mucus formation, and muscle tightening. In the long run, this helps keep the airway open for increased periods.

(Refer fig. 24 & 25)



(Fig.24)



(Fig.25)

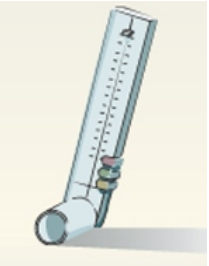
- Preventer medication can take up to three weeks to take effect and must be administered every day even when the asthmatic does not have an attack. Preventer medication is available in both steroid and non-steroid forms.
- Preventers are taken daily whether asthma symptoms occur or not. A common mistake is for asthmatics to stop taking their preventer when they have fewer symptoms. Their asthma slowly worsens again, the need for relievers increases and this can result in a serious, uncontrolled asthma attack.

Never stop your preventive medication without consulting your doctor.

During an asthma attack, Reliever medicines make it easier to breathe right away. Preventers help prevent the symptoms of asthma and asthma attacks. Both the medicines are important. Symptom controllers should not be taken during an asthma attack.

In order for asthma medicines to work, they must be taken properly and in conference with a doctor. If asthma symptoms are not controlled by these medicines, it is important to tell a doctor. If there is trouble breathing, an asthmatic should seek immediate medical attention.

Spacer



Peal Flow Meter

Medicines

Trigger Management

Medicines are not the only answer to the problem. You must learn to identify your triggers and manage them. Triggers are both allergic and non-allergic.

Some triggers are found in the workplace, living accommodation, and play areas, and can set off allergy symptoms, and, subsequently, asthma.

Tobacco Smoke

Smoke is an asthmatic's worst enemy. You need to watch out for smoke from cigarettes, pipes and cigars. Passive smoking is also damaging. You need to make your environment smoke-free.

Here's how:

(Fig.26)

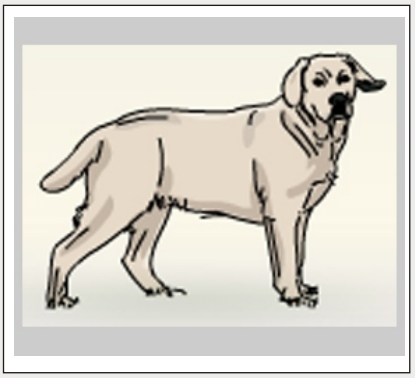
- If you have an asthmatic at home, lay down rules forbidding smoking.
- If you are a smoker, seek your doctor's advice and look for ways to quit.
- Ask family members to quit smoking. If this is not possible, send them outdoors for that puff.

(Refer fig.26)

Animals and Pets

Watch out! Dead skin, saliva and urine of furry or feathered animals are a very potent asthma trigger.

This is what you should do:



(Fig.27)

- As cruel as it sounds, it is best to keep your pets outdoors or give them away.
- Keep pets out of sleeping areas and have the bedroom doors firmly shut
- Fabric-covered furniture and carpets are out of bounds for pets
- Cover air vents in bedrooms with filters
- Consider non-allergenic pets like fish, lizards and frogs

(Refer fig.27)

Pollen

As harmless as they look, trees, grass and flowers are the main sources of pollen. Some seasons of the year abound in pollen grains, making life difficult for the asthmatic.

Here's what you should keep in mind:

(Fig. 28)

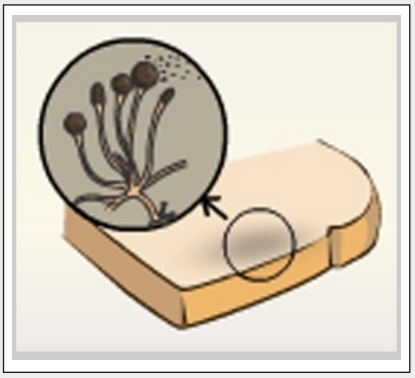
- Watch out for the allergy season. Shut doors and windows, and stay indoors as much as possible.
- Don't litter your house with plants. A few will do
- Roll up your car windows all the time
- Try and wear a mask when outdoors
- Consult your doctor or anti-allergy medicines that you may take before the allergy season
- Keep an eye out for pollen conditions
- Check your local weather report regularly

(Refer fig. 28)

Mold

Mold grows on damp material, and is found indoors and outdoors. The one way to stop mold from growing is to control moisture:

How to deal with indoor mold:



(Fig. 29)

- Don't dot your house with old food and garbage. Throw them out
- Fix leaky taps, pipes and other water sources
- Leave the fan on or open windows in the bathroom and kitchen while showering, cooking or using the dishwasher

How to deal with outdoor mold:

- Clean gutters constantly and avoid rainwater collecting around the base of the house

(Refer fig. 29)

- Wear a mask while working in the yard
- Arrive at the need for or alteration in the dose of your allergy medicine with your doctor, before the start of the allergy season

(Refer fig. 29)

Food and Medicines

Allergy to specific types of food or particular medicines can set off an asthma attack.

Remember:

- If you are allergic to sulfites avoid foods like wine, beer, shrimps and dried fruit
- Consult your doctor and arrive at a list of medicines which can make your asthma worse
- Some examples are aspirin, cold medicine and eye drops
- Alert your doctor if other medicines you take lead to asthma symptoms.

(Fig. 30)

(Refer fig. 30)

Dust Mites

These are minute insects which are not visible to the human eye. Dust mites mainly thrive in mattresses, pillows, bed linen, fabric-covered furniture and clothes.

To control these pests:

Wash your bed sheets and other linen in hot water at least once a week

Use dust mite-proof covers on mattresses and pillows

Vacuum your carpets and floors periodically. Clean your furniture frequently

Reduce the humidity indoors to less than 50 percent. Use a de-humidifier, if necessary.

Keep stuffed toys out of bed and wash them in warm water once week.

(Fig. 31)

(Refer fig. 31)

Pests

Aside from making you squirm, pests like cockroaches and mice can also lead to asthma attacks.

Here's how you can prevent that:

- Keep all food out of the bedroom
- Store food and garbage in sealed containers
- Clean eating areas and cabinets from time to time
- Don't shirk the habit - clean out trash daily
- Get rid of old newspapers, grocery bags, boxes, bottles and cans
- Seal cracks and holes. They are the easiest way pests can enter your home
- Use traps, sprays and other devices to kill roaches and mice. While using sprays, stay out of the room till the odor goes away

(Fig. 32)

(Refer fig. 32)

Strong Smells

Strong smells and fumes from chemicals and air pollution can make asthma worse.

Remember:

- Don't use scented soaps, perfumes, aerosol sprays and paints
- Stay away from common household cleaners like bleach or floor cleaners, which emit strong odors and chemical fumes
- Avoid gas and kerosene space heaters and wood stoves
- Use a mask while cleaning, or stay outdoors during a cleaning activity

(Fig. 33)

(Refer fig. 33)

ENVIRONMENTAL CONTROL -NON-ALLERGIC TRIGGERS

These triggers are not totally under your control. But knowing about them helps. So,

Exercise

A common complaint is that asthma symptoms are at an all time high during or after a workout. This does not mean that you should stop exercising completely.

Here's what you can do:

- Ask your doctor for appropriate medicines you can take before a workout to prevent symptoms
- Do a 10-minute warm up before any exercise session.
- Try to stay indoors during conditions that can aggravate asthma symptoms.

(Refer fig. 34)

(Fig. 34)

Infection

Respiratory infections like cold and flu trigger asthma symptoms.

This is what you should do:

- Get a flu shot.
- Discuss with your doctor and find out about vaccines that can prevent illness.

(Refer fig. 35)

(Fig. 35)

Strong Emotion

Stress never did anyone any good, and asthmatics can certainly do without it.

Why don't you try this?

- Think of ways and means of reducing stress.
- Consider special techniques and keep worry at arm's length.

(Refer fig. 36)

(Fig. 36)

Weather

Weather changes lead to problems in asthmatics. Cold air, warm air, wet or windy weather can all make conditions worse.

Don't forget:

- Cover your nose and mouth with a scarf on cold or windy days.
- Think about staying indoors. It helps, more than anything else.

(Fig. 37)

Now you have learned all that you need to know about asthma. Stay alert and watch out for those triggers, take your medicines and talk to your doctor. Most importantly, don't forget to live and have fun!

(Refer fig. 37)

Disclaimer

Although every effort is made to educate you on ASTHMA and take control, there will be specific information that will not be discussed. Talk to your doctor or health care provider about any concerns you have about ASTHMA.

☐ ☐ ☐ **YOUR SURGERY DATE**

☐ **READ YOUR BOOK AND MATERIAL**

☐ **VIEW YOUR VIDEO /CD / DVD / WEBSITE**

☐ **PRE - HABILITATION**

☐ **ARRANGE FOR BLOOD**

☐ **MEDICAL CHECK UP**

☐ **ADVANCE MEDICAL DIRECTIVE**

☐ **PRE - ADMISSION TESTING**

☐ **FAMILY SUPPORT REVIEW**

Physician's Name : _____

Physician's Signature: _____

Date : _____

Patient's Name : _____

Patient's Signature: _____

Date : _____