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ASTHMA

Asthma is the most common recurring medical problem in children after ear infections and is the leading cause of school absenteeism. It is estimated that as many as 10% of all children have asthma symptoms at one time or another.

A child with asthma has inflammation in the airways. In response to a trigger, three things happen in the airway of an asthmatic:

- The muscles in the bronchial tubes go into spasm.
- The lining of the bronchial tubes becomes swollen.
- The mucous production increases.

All three of these reactions combined can narrow the airways and cause coughing, wheezing, or labored breathing. In the past, asthma was thought of as a spasm that took place in the lungs on and off. We now know that the inflammation of asthma can be more long lasting and that the proper approach to asthma must involve addressing both the spasm and the inflammation.

TRIGGERS

Many factors can trigger an asthma attack in a susceptible child. Some of the more common triggers are:

- Viral infections such as cold viruses
- Allergies to such things as dusts, mold, pollen, animal dander, insects, and certain foods
- Cigarette smoke
- Pollution from wood burning stoves, kerosene heaters, hair sprays, paint sprays, and some perfumes
- Exercise
- Aspirin
- Psychological stress

TREATMENT

- **Avoidance** - the best way to treat asthma is to identify and avoid the triggers that cause your child to have an attack. NEVER EXPOSE YOUR CHILD TO TOBACCO SMOKE or avoidable pollutants in the environment. Minimize the use of woodstoves and kerosene heaters. If allergies to animals, molds, or certain foods trigger your child, they should also be avoided.

- **Medications** - In most cases, it is impossible to avoid all the triggers of asthma, and treatment with medications is necessary to help control the wheezing.

    - Bronchodilators such as Proventil (albuterol), and Xoponex are most commonly used to treat asthma. These medicines, sometimes called adrenalins, relax the muscles around the bronchi, opening up the breathing tubes. These medications may be taken by mouth as liquid or pill, given by injection,

or may be breathed, using an inhaler or a nebulizer. Possible side effects include restlessness, rapid heart rate, flushing, and shakiness.

* Leukotriene Inhibitors are the newest asthma medications. Examples are Singulair and Accolate. These drugs are taken by mouth on a daily basis to decrease the frequency of flare-ups. They decrease inflammation in the bronchial tubes.

* Steroids are an extremely important type of medication for asthma. The steroids used for asthma are corticosteroids, not the anabolic steroids abused by some athletes. Steroids are excellent medications for reducing inflammation, and are considered an essential part of managing persistent asthma. There are two types of steroids used for asthma: systemic and inhaled.

Systemic steroids are taken by mouth or by IV (intravenous). They are called "systemic" because they circulate through the whole system via the bloodstream. They are most commonly used as a "burst" or "pulse" for a flare-up of asthma. That is, the medicine is given for less than 10 days at a time. When taken this way, oral steroids are safe. Rarely, steroids must be taken by mouth over long periods of time to control severe asthma. When asthma is well-controlled, systemic steroids are rarely needed.

Inhaled steroids are an extremely important option for controlling frequent asthma flare-ups. Since tiny doses are inhaled directly into the lungs, side effects are minor and uncommon.

* Cromolyn, also known as Intal, is an inhaled medication for preventing asthma attacks for some patients. It must be taken three to four times daily and is not often used.

* Theophylline is another medication occasionally used for asthma. Slo-bid and Theo-dur are examples. Like adrenalins, theophylline relaxes bronchial muscles and opens breathing tubes. Theophylline can be taken by mouth in liquid, pill, or granules sprinkled on food. They are also used intravenously when a child is hospitalized. Side effects may include stomach upset, restlessness, and poor sleeping. The necessary dosage varies greatly from one child to another and it is usually necessary to monitor blood levels of this medication. Theophylline is rarely used nowadays.

* Combination inhalers allow children with asthma to benefit from both a long-acting bronchodilator to reduce spasm and an inhaled steroid for controlling inflammation. However, combination products are used only when single-drug products are not providing good control.

Spacers - Devices called spacers give children the opportunity to benefit from metered-dose inhalers. The inhaler canister is discharged into the spacer, which holds the aerosol in suspension for a few seconds, removing the need for the patient to perfectly coordinate squeezing the canister and inhaling. Instead, the patient breathes in when ready. The spacer removes the largest aerosol particles, which give some patients an unpleasant sensation in the back of the throat. There are several types of spacers available; your pediatrician will recommend which is best for your child. All inhalers should be used with a spacer every time.

Depending upon your child's type of asthma, medicines may be used every day or only when needed. For children 6 and older, tools such as peak flow meters can be used at home to monitor airflow and help make decisions about when to medicate at home and when to seek medical care. Close cooperation between parent and pediatrician is essential in managing asthma. A vital goal in controlling asthma is parent/patient

education. As you begin to understand your child's triggers, symptoms and medicines, you will learn to take control and provide much of the treatment at home with back-up form your doctors.

If your pediatrician recommends daily controller medication, it is **extremely important** to continue the medication even though your child seems well. Visit your pediatrician every three to four months when your child is taking daily medication so the treatment plan can be updated regularly.

In summary, asthma does not have to be the scary condition it once was. There are many new treatments available and through close cooperation with your pediatrician, you and your child can learn to effectively manage asthma.

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