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Asthma

Asthma is a very common lung disorder affecting both children and adults.

Two things happen with asthma:

1. The airways within the lungs become inflamed, or swollen
2. The muscles around the airways tighten

As a result, the airways become smaller, making it difficult for air to move in and out of the lungs. The airways also become sensitive, or "twitchy." This creates the symptoms of asthma:

- Cough
- Wheeze
- Chest tightness, or sensation of not being able to take a full, deep breath.
- Shortness of breath

Some asthmatics experience only one or two of the above symptoms, and others may experience all of them.

Risk Factors

Allergy is the strongest identifiable predisposing factor for developing asthma. Paternal history of asthma is also a risk factor.

Triggers of asthma

Asthma symptoms can be triggered by several factors, including:

- Infections (common cold, sinus infection, etc)
- Allergens (pollens, animals with fur or hair, dust, molds)
- Irritants such as tobacco smoke, strong odors, chemicals
- Weather changes (cold weather for some)
- Exercise, especially running/sprinting
- Obesity – Asthma improves after losing weight
- Emotions

Different asthmatics have different triggers. Respiratory infections and allergen exposure tend to be the most common causes of significant asthma flare-ups.

Goals of asthma therapy

- Prevent chronic and troublesome symptoms (e.g., coughing or breathlessness in the daytime, in the night, or with exercise)
- Maintain (near) normal lung function – Assessed by breathing test in doctor's office.
- Maintain normal activity levels (including exercise and other physical activity and attendance at work or school)
- Prevent recurrent exacerbations of asthma and minimize the need for ER visits

Athma Treatment

1) <u>AVOID</u> asthma triggers:
   - Avoid allergens/irritants when possible (Dust mite, animal dander, indoor mold)
   - Treat rhinitis, sinusitis. Lose weight if needed.
2) <u>MEDICATIONS</u> (see below)
3) <u>IMMUNOTHERAPY</u> (Allergy shots) – for some. Can significantly decrease allergen triggers

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Some people have mild, intermittent asthma with symptoms occurring once per week or less. These patients require an "as needed" or "rescue" inhaler. People with more frequent asthma symptoms usually require a daily "maintenance" asthma medication in addition to a rescue inhaler.

Asthma medication categories:

1) **Maintenance medications**: Medications that decrease airway inflammation, preventing asthma symptoms. Works GRADUALLY (Within several days typically). Needs to be taken EVERY DAY. Examples include:
    a. Inhaled steroids: The most effective medication of this class. Have been shown to significantly reduce asthma symptoms, decrease asthma flare-ups, mortality. Benefits far outweigh risks.
    b. Anti-leukotrienes such as Singulair: May decrease airway inflammation and constriction, decrease mucous productions. Not as effective as inhaled steroids for most people. May help exercise-induced asthma.
    c. Long-acting bronchodilators – Keeps airways open by relaxing muscles around the airways for up to 12 hours. Should only be taken in conjunction with inhaled steroid since they do not decrease airway inflammation on their own. May help exercise-induced asthma.
2) **Rescue medications** such as albuterol, Ventolin, Proventil, Maxair, Xopenex, etc: For temporarily relief of asthma symptoms: Works QUICKLY. Take only AS NEEDED. Does not treat airway inflammation, but works by relaxing muscles around the airways, opening them within 5 minutes, for a duration of 4-6 hours typically. Used during asthma flares, or prior to physical exertion to prevent exercise-induced asthma. Every asthmatic should have a rescue inhaler.

Your asthma is not under control if:

1) You have asthma symptoms more than two days per week on average
2) Asthma awakens you from sleep more than once per month
3) Asthma limits your activities, affects school/work attendance or performance.
4) Your spirometry (breathing test) or peak flow is abnormal.
5) You have frequent or severe asthma flare-ups.

Asthma Follow-up Care

Asthma patients should be seen in the office at least every 6 months typically – For spirometry (breathing test to assess lung volumes), to review symptoms and medications. Patients should bring inhalers with them to each visit in case inhaler technique needs to be reviewed. Some patients may benefit from having a peak flow meter at home to help monitor their asthma, especially those with more severe asthma. During asthma flare-ups, medications may need to be adjusted – See Asthma Action Plan.