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Allergies are Nothing to Sneeze at

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- Humans strive for survival
- The immune system
- Simple one cell organisms
- Allergy or hypersensitivity
- A healthy house
- Immunoglobulin E or IgE
- Mild progressing to deadly allergy
- Allergic airway diseases
- Allergy has doubled in the last 40 years

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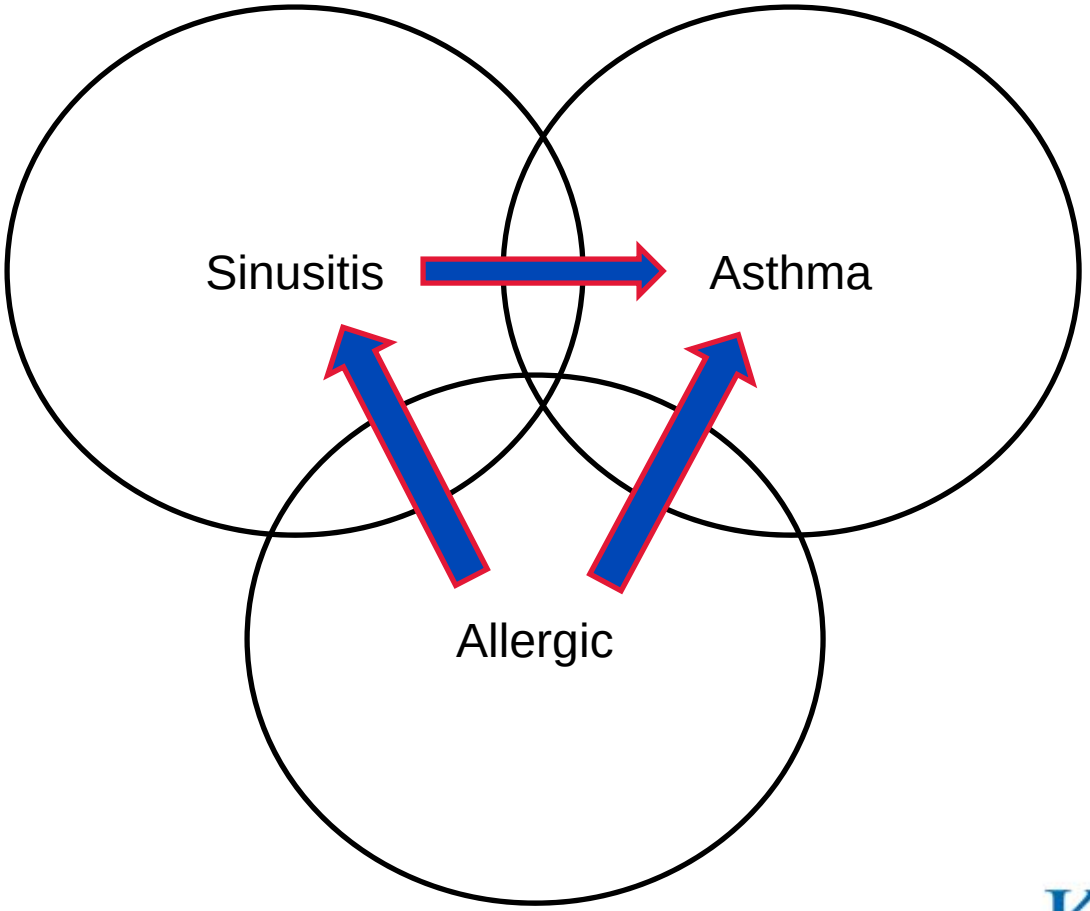
One Airway, One Disease



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Allergic Rhinitis

Allergen causes:

Dust mite

Dog

Cat

Other furry pets

Cockroaches

Mold spores

Tree pollen

Grass pollen

Weed pollen

Predisposition:

Genetics/family Hx

Atopic tendency/High IgE

Environmental

Exposures-Aeroallergens, pollution, tobacco smoke

Living in Western society

Tobacco exposure in early childhood

Duration of breast feeding

Antibiotic use in childhood

Diet

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Allergic Rhinitis

Symptoms:

Itchy eyes

Tearing

Redness of eyes

Swelling

Itchy nose or palate

Sneezing

Drainage-anteriorly,
post nasal drainage

Swelling-plugging

Fatigue

Signs:

Swollen conjunctiva, tearing

Pale bluish color of nasal mucosa

Clear drainage

Sneezing

Nasal obstruction

Allergic Rhinitis

Tests:

Prick skin tests

Intradermal skin tests

Total immunoglobulin E (IgE)
IgE RAST tests to specific allergens (dog, cat, mite, mold, pollen)

Complete blood count/Eosinophil count

Stain nasal secretions for eosinophils

Therapy:

Avoidance

Remove indoor pets that cause allergy

Decrease dust mite exposure
- -decrease humidity
- -encase pillows/mattress/box springs

Acoricides (kill mites)

Avoid indoor mold

Air filtration

Allergic Rhinitis

- **Medications**
  1. Oral antihistamines
  2. Topical antihistamine sprays
  3. Topical corticosteroids
  4. Leukotriene inhibitors
  5. Oral decongestants
  6. Topical cromolyn sodium

- **Allergy Immunotherapy**

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Sinusitis

- Acute or chronic inflammation
- Rhino-Sino-Bronchial Reflex
- Chronic Sinusitis
- Treatment

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Asthma

Definition: Global Initiative on Asthma

"A chronic inflammatory disorder of the airways in which many cells and cellular elements play a role. The chronic inflammation is associated with airway hyperresponsiveness that leads to recurrent episodes of wheezing, breathlessness, chest tightness and coughing, particularly at night or early in the morning. These episodes are usually associated with widespread, but variable, airflow obstruction of the lung that is often reversible either spontaneously or with treatment."

Factors predisposing to asthma:

1. **Genetic predisposition/family history**
2. **Atopy/high IgE/atopic dermatitis**
3. **Viral respiratory illness in early childhood**
   (RSV) Respiratory Syectial virus
4. **Environmental exposures (aeroallergens, pollution, tobacco smoke, occupational agents)**
5. **Living in an urban area**
6. **Exposure to secondary smoking in childhood**
7. **Low birth weight**
8. **Duration of breast feeding**
9. **Antibiotic use in childhood**
10. **Western lifestyle**
11. **Obesity**
12. **Diet**
13. **Vitamin D deficiency**

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Asthma

- Therapy of Asthma
- Education
- Avoidance

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Asthma

Medications

Anti-inflammatory medications are most commonly needed.

1. **Inhaled corticosteroids (ICS)**
   - Asmanex
   - Advair
   - Symbicort
   - Flovent
   - Azmacort
   - Pulmicort
   - QVAR
2. **Leukotriene receptor antagonists**
   - Montelukast (Singulair)
   - Zatirlukast (Accolate)
3. **Leukotriene synthetase inhibitors**
   - Zileutin (Zyflo)
4. **Short acting B-agonists (SABA)**
   - Albuterol HFA
   - Pirbuterol (Maxair)
5. **Long acting B-agonists (LABA)**
   - Salmeterol (Serevent)
   - Fomoterol (Foradil)
6. **Combination ICS/LABA**
7. **Theophylline**
8. **Oral corticosteroids**
9. **Anti-lgE antibody**
   - Omalizumab (Xolair)
10. **Occasionally other immune inhibitors**
    - Methotrexate
    - Cyclosporin
11. **Intravenous or subcutaneous immunoglobulin**

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Asthma

- **Regular Monitoring**
  1. Home peak flow meter
  2. Pulmonary function testing in office
  3. Chest x-ray when needed
  4. Physician visits every 6 months or less if needed
  5. Bone density testing

- **Allergy Immunotherapy**

- **Future Research Efforts**

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QUESTIONS?

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