

# ALLERGIES, EYES, & EAR CARE

## Learning Objectives

- Compare and contrast allergic rhinitis and the common cold
- Describe the common drug therapy and lifestyle modifications utilized to decrease allergy symptoms
- List common drug therapies for common eye problems
- Identify common drug therapies and lifestyle modifications for ear problems
- Provide instructions for the proper administration technique of ear and eye drops

## ALLERGIC RHINITIS

<u>Symptoms</u>	<u>ALLERGIC RHINITIS</u>	<u>THE COMMON COLD</u>
<u>PRESENTATION</u>	Bilateral and worse upon wakening	Unilateral and constant symptoms day and night
<u>SNEEZING</u>	frequent	Little to none
<u>RHINORHEA</u> (Runny nose)	Watery, runny nose	Posterior
<u>PRURITIS</u> (itchy skin)	Frequent	Absent
<u>CONJUNCTIVITIS</u> (red, itchy, watery eyes)	Frequent	Absent
<u>CONGESTION</u>	Variable	Usually present
<u>ANOSMIA</u> (Loss of smell)	RARE	Frequent
<u>EPISTAXIS</u> (Nosebleed)	RARE	Redcurrant

## Types of Allergies

- **Seasonal**—symptoms occur at SPECIFIC times throughout the year
  - Trees—March & April
  - Grasses—May & June
  - Ragweed—mid-August until the first frost
- **Perennial**—symptoms occur year round without pattern
  - Dust mites and molds
  - Animal dandruff (cats > dogs)

## ALLERGY SEVERITY

- **Intermittent**—symptoms occur LESS than 4 days a week for LESS than 4 weeks
- **Persistent** – symptoms occur GREATER than 4 days a week for MORE than 4 weeks
- **Mild**—symptoms do not interfere with sleep schedule or daily living other than a nuisance
- **Moderate to Severe**—sleep schedule and activities of daily living are compromised

## OTC TREATMENT OPTIONS

### 1. Allergen Avoidance

- Household
  - Hypo-allergenic bed covers, pillowcases
  - No smoking
  - Do not own animals you are allergic to
  - Bathroom fans—if allergic to mold
  - Use HEPA filters or dehumidifiers
  - Vacuum carpets often
- Outside the House
  - Avoid yard work during troublesome times of the year
  - Check the pollen count in the morning and evening
  - Close house and car so outdoor allergens cannot get inside

### 2. Pharmacological Options

- 2nd Generation Antihistamines
  - Little penetration into the brain—indicating low instance of sedation
  - Effects work for a longer time—so you only need to take them once a day
  - Less possibility that they will interact with other prescription medications (unlike diphenhydramine, aka Benadryl)
  - **DOSE**
    - **Loratadine** (Claritin) 10mg once a day
    - **Cetirizine** (Zyrtec) 10 mg once a day
    - **Fexofenadine** (Allegra) 180 mg once daily with **WATER** (can also be taken as a divided dose of 60 mg in the morning and 60 mg in the evening)
  - **Common Side Effects of the Drug Class**
    - Dry mouth
    - Fatigue (not outright sedation)
    - Headache
  - **Some QUICK Facts**
    - Fexofenadine should **NOT** be taken with **JUICES** and should be taken 30 minutes separate from antacids because it will decrease the effect of the fexofenadine
    - This class of drugs are **MOST** useful for nasal and ocular symptoms
    - **NO EFFECT ON CONGESTION**
  - **BIG POINT**
    - Better at preventing allergy symptoms than making them go away
    - Begin taking this class as soon as you are exposed to the allergen and continue taking it for chronic symptoms

- SYSTEMIC DECONGESTANTS
  - Help relieve the congestion associated with allergy symptoms
  - Pseudoephedrine is the “gold standard”
  - Works by binding to  $\alpha$ -adrenergic receptors to constrict blood vessels. This helps reduce sinus swelling.
  - Can buy 3.6 grams in a day or 9 grams in a month’s time—reduces issues of “abuse”
  - In combination with 2<sup>nd</sup> Generation Antihistamines
    - Aka Claritin-D, Allegra-D
    - Showed improved efficacy for BOTH of the drugs if given in combination
  - **Side Effects**
    - Increased blood pressure
    - Increased heart rate and palpitations
    - Anxiety or restlessness
  - **DO NOT USE IF...**
    - Uncontrolled hypertension
    - ADHD
    - Arrhythmias
    - Hyperthyroidism
  
- NASAL CHROMOLYN
  - Prevents mediator release from mast cells to prevent the allergic response
  - Slow onset of effects (3-7 days) before you begin to feel better
  - DO NOT use on an “as needed” basis because it will NOT be as effective—use it regularly
  
  - **DOSE**
    - 1 spray into each nostril 3 to 6 times a day
  - **Side Effects—around the time of dosing**
    - Bad taste in mouth
    - Burning sensation in the eyes
    - Throat irritation

**PRODUCT SELECTION (in a nutshell)**

- **Sneezing, itching, runny nose**—antihistamines or nasal cromolyn
  
- **Sneezing, itching, runny nose, congestion**—antihistamines + decongestant OR nasal cromolyn
  
- **Sneezing, itching, runny nose, conjunctivitis**—oral antihistamine + nasal cromolyn + ophthalmic antihistamine

# EYES

## DISORDERS OF THE EYES

- **Dry Eye**
  - Causes
    - Aging, eyelid defects, environment, medications (anticholinergics, BB, diuretics)
  - Symptoms
    - White or mildly red eye with excess tearing with sandy, gritty feeling as if something is in the eye
  - Non-pharmacological Treatments
    - avoid dry/ dust environments
    - use a humidifier
  - Pharmacological Treatments
    - Artificial Tear Solutions (ATS)
      - Contain-- buffering agent, preservatives, and a pH that mimics the eye
      - Stabilize tear film and decrease the rate of evaporation
      - Forms hydrophilic layer on the surface of the eye that mimics natural corneal mucosa
      - Use drops in the morning and in the evening
    - Non-medicated Ophthalmic Ointments
      - Ingredients are petrolatum and mineral oil
      - Better retention time, so the product stays in the eyes for a longer time
      - Makes visions blurry, so use it right before bedtime
  
- **Allergic Conjunctivitis**
  - Itchy, watery, red eyes caused by seasonal or perennial allergies
  - Use a cold compress over the eyes 3 to 4 times a day
  - Try artificial tear solutions
  - **Ophthalmic Decongestants + Ophthalmic Antihistamines**
    - Combination products are MORE effective than the single-drug products alone
    - Nefazoline (decongestant) + Pheniramine (antihistamine)
    - Constricts blood vessels to reduce redness, itching, and tearing
    - Side Effects
      - Burning, stinging upon dropping in to the eye
      - Rebound congestion of the cornea if used for long periods of time
  - **Antihistamine + Mast Cell Stabilizer**
    - Ketotifen (Alaway®)
    - Side Effects
      - Headache
      - Eye irritation
      - Rhinitis
  
- **Viral Conjunctivitis**
  - “Pink Eye”
  - Copious amount of watery discharge with the sensation that something is in the eye
  - Self-limiting within several days or up to 3 weeks depending on the virus
  - HIGHLY CONTAGIOUS
    - Wash hands, avoid sharing towels and make-up, discard tissues used on the eye appropriately

## **HOW TO PROPERLY DOSE EYE DROPS**

1. Wash hands and remove contact lenses before administration
2. Tilt head back
3. Pull the lower eyelid below the lashes away from the eye to make a pouch
4. Place dropper over eye and look directly at it to ensure it is over the eye. When you are ready to apply the drop—look up
5. As soon as you add the drop, release your bottom eyelid slowly and close your eyes for a minute and look down (this draws the medication into the cornea)
6. If you have to instill multiple drops, then wait at least 5 minutes between each drop—this insures that the eye can absorb all of the medication so it is not flushed away
7. If you have to use an ointment with eye drops, then dose the drops and wait 10 minutes before you apply the ointment

## **EARS**

### **SELF-CARE DISORDERS OF THE EARS**

- Excessive Ear Wax
  - Sense of fullness in the ear, gradual slight loss of hearing, and dull pain
  - Debrox<sup>®</sup> (carbamide peroxide 6.5% in anhydrous glycerin)
    - Mechanically breakdown and loosens ear wax
  - Use a damp, warm washcloth to remove earwax
  - **NEVER** use Q-TIPS
- Water-clogged ears
  - sense of fullness in the ear with no pain
  - manipulate the outer portion of the ear
  - place a hairdryer on a LOW setting and fan it over the clogged ear
  - Swim Ear Drops<sup>®</sup> (95% Isopropyl Alcohol in 5% anhydrous glycerin)
    - Acts as a drying agent

### **HOW TO PROPERLY ADMINISTER EAR DROPS**

1. wash hands before dosing ear drops
2. warm ear drops to warm temperature by holding the container in your palm for several minutes—warming the solution will allow for a less discomforting administration
3. tilt your head or lie down with the effected ear facing up
4. Open the container and place the tip of the dropper near—but not inside—the ear canal opening. Do not let the dropper touch the ear.
5. Pull the ear BACK and UP (for adults) or BACK and DOWN (for children younger than 3 years old)
6. Push down on the small flap over the skin canal opening to allow the medication to enter the ear canal and force our air bubbles.
7. Stay in that position for several minutes
8. If the drops were administered to a child—place a cotton ball in the child’s ear so that the medication does not drain out of the ear.