Study Guide
Pharmacology notes for upper respiratory system drugs

Trachea and up is upper respiratory. Most are OTC
Mostly allergies, suppresses symptoms, cough, cold, congestion.

ACTIONS-
**Decongestants** reduce nasal Edema
Decongestants cause local vasoconstriction that decrease blood flow to irritated and dilated capillaries of the mucous membranes lining the nasal passages and sinus cavities. The vasoconstriction leads to a shrinking of swollen membranes and opens clogged nasal passages promoting drainage of secretions and improved air flow. Antihistamine. Allergies

**Expectorants:**

**Antitussives** dry cough,

**mucolytics**, expectorant( increase secretions and brings up mucous, productive cough)

**Anti histamine** block h1 inflammatory response
1 gen CNS/PNS blocking mostly depression but sometimes stimulation
Itching and nausea
Second gen antihistamine are selective PNS h1 receptors only and are less sedating

**Uses**
Allergies: seasonal, rhinitis, vasomotor rhinitis, Angioedma in face and tongue (mild), blood plasma transfusion (benadryl), adjunct for analypalctic shock (Benadryl)
2nd gen mostly allergies.

1st gen Coughs; caused by colds, allergies,

Parkinsonism; anti-cholinergic adjunct (Benadryl)

Relief of motion sickness and unlabeled for sedation.

1st gen works faster than 2nd gen

**ADVERSE REACTIONS**
1st cns reactions, drowsiness, sedation, disturbed coordination.
Anticholinergic effects and thickening of bronchial secretions (1&2 gen)
**Contraindications / caution**
MAOI, angle-closure glaucoma, bladder obstruction, benign prostatic hypertrophy
Cetirizine with hydroxyzine
The nurse should monitor for hypotension, fever, nausea jerking motions of the leg, and in severe cases, coma in a patient who has been taking monoamine oxidase inhibitors and is being administered dextromethorphan

Caution
2nd gen: known hypersensitivity
Interactions: 1st gen CNS depressants
Maoi increase anticholinergic effects
Aluminum/magnesium antacids, decrease concentration of antihistamine

**ASSESSMENT**
Upper airway
1st gen risk for injury. Educate the patient on dosage regimen

**Decongestants**
Nasal decongestants, sympathomimetic
Uses;
SUDAFED AND PHENALEPHARINE OTC

**ADVERSE REACTIONS**
Tachycardia, cardiac arrhythmia, insomnia, blurred vision, nervousness, vomiting

**Contraindications**
Known hypersensitivity, maoi
Sustained release pseudophed contraindicated in kids under 12

**Precaution**
Hyperthyroidism, cardiovascular disease, diabetes, HTN, PVD, glaucoma
Pregnant women should talk to dr.

**INTERACTIONS**
MAOI HYPERTENSION CRISIS
BETA BLOCKER; HYPERTENSION FOLLOWED BY BRADYCARDIA

**ANTITUSSIVE**
DRY non productive cough (codine opioid antitussive) (Benadryl) (Teslon pearl "Benzonate")
Expectorants thin out secretions to bring them up and out of the body (mucinex) (potassium iodide)
Mucolytics used as a nebulizer (acetylcysteine)
ADVERSE REACTIONS
Lightheadedness, dizziness, sedation with codeine

Assessment
Risk for injury, ineffective airway clearance, impaired oral mucous membranes
Education, short term, can cause rebound nasal decongestant from dependence. Do not allow the nasal tip to touch the nasal mucosa, know Tylenol affect

CHAPTER 31 DRUG TABLE

1st Generation Antihistamines

Brompheniramine: LoHist, Bidhist, Lodrane, VaZol, Lodrane, BroveX
Uses: Allergy symptom relief, Vazol common cold, blood reactions, anaphylactic reactions.
Adverse reactions: drowsiness, sedation, disturbed coordination, hypotn, headache blurred vision, thickened secretions

Diphenhydramine: Benadryl, Banophen, Genehist, Tusstat, Dytan.
Uses: Allergic reaction, blood reactions, hypersensitivity reactions, anaphylactic, Parkinson's, antitussives.
Adverse Reactions: Drowsiness, Dry mouth, Anorexia, blurred vision, urinary retention.

Promethazine: N/A
Uses: Antiemetic, hypersensitivity, motion sickness, sedation
Adverse Reactions: Excessive sedation, drowsiness, dry mouth, confusion, disorientation, dizziness, fatigue, blurred vision

2nd Generation Antihistamines

Cetirizine: zyrtec
Uses: seasonal or perennial rhinitis, chronic urticaria
Adverse Reactions: sedation, dry mouth somnolence, dizziness

Fexofenadine: Allegra
Uses: seasonal rhinitis, urticaria
Adverse Reactions: Headache, drowsiness, nausea, dyspepsia, fatigue, back pain, upper respiratory infection.

Loratidine: Claritin, atavist, talvert
Uses: Allergic Rhinitis
Adverse Reactions: dizziness, headache, tremors, dry mouth, fatigue
**Decongestants**

**Oxymetazolin: Afirin 12 hour**  
**Uses:** Nasal congestion  
**Adverse Reactions:** Anxiety, restlessness, anorexia, nervousness, arrhythmia

**Phenylephrine:** neosynephrine  
**Uses:** Nasal congestion  
**Adverse Reactions:** Anxiety, restlessness, anorexia, nervousness, arrhythmia

**Pseudofedrine:** Sudafed  
**Uses:** Nasal Congestion  
**Adverse Reactions:** Anxiety, restlessness, anorexia, arrhythmia, nervousness, nausea, vomiting, blurred vision  
**Teaching:**  
As there is a possibility of CNS effects. A serious overdose could occur if patients are not cautioned against using other OTC drugs, as many of them also contain pseudoephedrine. To avoid rebound congestion it is also important to explain why excessive or frequent drug use should be avoided.

Sudafed is a decongestant. Decongestants are used cautiously in clients with a history of hypertension because of the vasoconstrictive effects of the drug.

**Antitussives (OPIOID)**

**Codine:** N/A  
**Uses:** Non productive cough supression, mild pain relief  
**Adverse Reactions:** Sedation, CNS depression  
**Teaching:** Antitussives can cause a decrease in intraocular pressure when a nonproductive cough leads to pressure on the eyes post surgery.

**Antitussives Non Opioid**

**Benzonatate:** Tessalon Pearls (Avoid drinking fluids for 30 minutes) Anesthetizes stretch receptors in the respiratory tract,  
**USES:** Symptomatic relief of cough  
**Adverse Reactions:** Sedation, headache, dizziness, constipation, nausea, GI upset, puritis, nasal congestion.

**Dextromethorphan:** Benylin, DeXalone, Robitussin, Delsym, Formula 44  
**Uses:** Symptomatic relief of cough(works in the medulla to suppress the cough reflex.)  
**Adverse Reactions:** GI upset

**Diphenhydramine:** Zzz quil, AllerMAX, Hydramine Cough  
**Uses:** Symptomatic cough relief from colds, allergy, bronchial irritation  
**Adverse Reactions:** GI upset, drowsiness, dizziness
**Mucolytics**

**Acetylcisteine**: N/A  
**Uses**: reduction of viscosity of mucous acute/chronic bronchopulmonary disease  
**Adverse Reactions**: Stomatitis, fever, bronchospasm, irritation of the trachea and bronchi  
**Teaching**: can be used for pt's with cystic fibrosis

**Expectorants**

**Guaifenesin**: Huts, organdin, Robitussin  
**Uses**: Relief of RTI infection cough, especially if dry and non productive  
**Adverse Reactions**: Rash, Nausea, Vomiting, Headache.

**Potassium Iodide**: SSKI  
**Uses**: Symptomatic relief of chronic pulmonary disease complicated by tenacious mucous  
**Adverse Reactions**: Iodine sensitivity, sore mouth, metallic taste, increased salivation, nausea, vomiting epigastric pain parotid swelling and pain.

**!!Nursing Alerts!!**

Be aware of the mix up between Antihistamine Zyrtec and Antipsychotic ZyPREXA during winter and spring.  
Eucalyptus is often used as a decongestant and used as a vapor bath for Asthma.  
Older adults are more likely to experience dizziness because with aging come risk for falls.  
Codeine should NOT be taken for persistent or chronic cough or excessive secretions.  
Codeine causes orthostatic hypotension  
Older adults are more likely to experience anticholinergic effects (cant see, pee, spit, or shit)