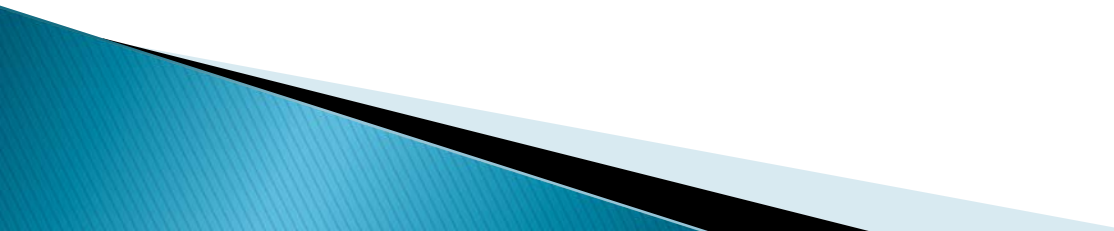


When Patients Prescribe Their Own OTCs

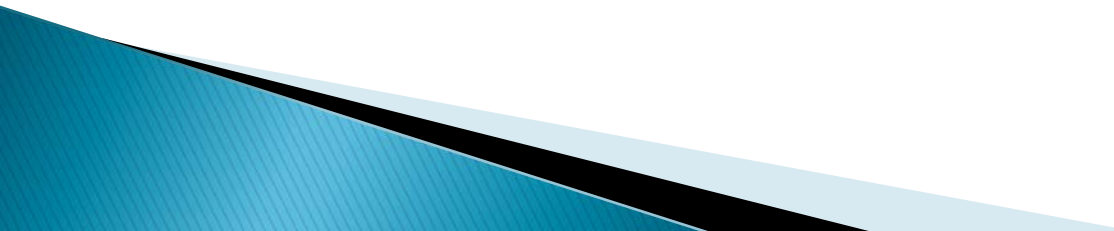
Tom Pozywio, PharmD



Introduction

- ▶ Purdue University
 - ▶ Walgreens
 - ▶ Married with 2 Children
- 

Objectives

- ▶ Describe the difference between OTC medication and supplement
 - ▶ Drug class and common indications of popular OTC medications
 - ▶ Identify common prescription items that are often cheaper OTC
 - ▶ Identify potentially risky medications within situations
- 

OTC vs Supplements

OTC (Over the Counter)

- ▶ Must obtain approval from the U.S. Food and Drug Administration
 - FDA makes determination whether a drug will be marketed as Rx-only or OTC
- ▶ Prior to 1951, the manufacturer could decide if a drug was going to be marketed as Rx or OTC
- ▶ **“Provide proof of efficacy for their intended use”**

Supplements

- ▶ Many forms
 - Vitamin
 - Mineral
 - Herb or other botanical
 - Amino Acid
 - Dietary substance for use by man to supplement the diet by increasing the total dietary intake; or
 - A concentrate, metabolite, constituent, extract
- ▶ **“This product is not intended to diagnose, treat, cure, or prevent disease”**

Pain Relievers

- » Acetaminophen
- » Ibuprofen
- » Naproxen
- » Aspirin

Acetaminophen

- ▶ Treats moderate pain and reduces fever
- ▶ Minimal side effects at normal dosage (<4000 mg/day)
- ▶ Infant concentration discontinued (80mg/0.8ml)



Ibuprofen

- ▶ NSAID: Pain reliever/Fever Reducer
- ▶ Only available 200mg OTC
- ▶ Side effects: upset stomach, nausea, constipation, dizziness, drowsiness
- ▶ May raise blood pressure
- ▶ *Caution* if taking aspirin or other NSAIDs, anti platelet/clotting agents
- ▶ Some patients are used to taking 3–4 OTC ibuprofen at a time. When prescribed ibuprofen, they may think they need to take more than one at a time for pain relief
- ▶ *Beers List* due to risk of GI bleed or peptic ulcer



Naproxen

- ▶ NSAID: Pain reliever, arthritis, bursitis, gout attacks
- ▶ Side effects: Upset stomach, nausea, heartburn, drowsiness, dizziness
- ▶ May raise blood pressure
- ▶ *Caution* of taking aspirin or other NSAIDs, anti-platelet/clotting agents
- ▶ *Beers List* due to risk of GI bleed or peptic ulcer



Aspirin

- ▶ Acetylsalicylic acid (ASA)
- ▶ Pain reliever, anti-clotting effects
- ▶ Can cause Reye's Syndrome when given to children under 18
- ▶ **AVOID** using the phrase "Baby Aspirin"
- ▶ Pepto Bismol has aspirin derivative
- ▶ *Beers List* due to GI bleed and Peptic Ulcer



Antihistamines

- » Zyrtec (cetirizine)
- Claritin (loratadine)
- Allegra (fexofenadine)
- Xyzal (levocetirizine)
- Benadryl (diphenhydramine)
- Chlorpheniramine
- Doxylamine

Zyrtec (cetirizine)

- ▶ Relieves allergy symptoms
 - Watery eyes
 - Runny nose
 - Itching
 - Sneezing
 - Hives
- ▶ Side effects
 - Drowsiness
 - Dry mouth



Use only as directed.

Claritin (loratadine)

- ▶ Treats:
 - Itching
 - Runny nose
 - Watery eyes
 - Sneezing
 - Itching from hives
- ▶ Non-drowsy
- ▶ Variety of dosage forms



Allegra (fexofenadine)

- ▶ Relieves following symptoms:
 - Watery eyes
 - Runny nose
 - Itching nose/eyes
 - Sneezing
 - Hives
 - Itching
- ▶ Antacids and fruit juices may decrease absorption
- ▶ Side effects:
 - Cough
 - Fever
 - Stomach upset



Xyzal (levocetirizine)

- ▶ Relieves allergy symptoms
- ▶ L-enantiomer of zyrtec
- ▶ Side effects:
 - Drowsiness
 - Tiredness
 - Dry mouth



Benadryl (diphenhydramine)

- ▶ Relieves allergy/cold symptoms
- ▶ Can treat allergic reactions and motion sickness
- ▶ Side effects: drowsiness
- ▶ Beers List: confusion, dry mouth, constipation, and other anticholinergic effects
- ▶ Also branded as “ZZZ Quil”



Chlorpheniramine





- ▶ Relieves allergy and cold symptoms
- ▶ Side effects:
 - Drowsiness
 - Dizziness
 - Constipation
 - Blurred vision
 - Dryness
- ▶ Beers List due to:
 - Confusion, dry mouth, constipation, and other anticholinergic effects







Doxylamine

- ▶ Relieves allergy/cold symptoms
- ▶ Side effects:
 - Drowsiness, dizziness, constipation, blurred vision, dryness
- ▶ Beers List due to confusion, dry mouth, constipation, etc.
- ▶ Avoid with glaucoma, hypertension, liver disease
- ▶ Branded as sleep-aid Unisom
- ▶ Diclegis/Bonjesta-combination of doxylamine and vitamin B6 (pyridoxine)
- ▶ **Potential for major savings**



	Cetirizine	Loratadine	Fexofenadine	Levocetirizine
Relieves	Allergy symptoms	Allergy symptoms	Allergy symptoms	Allergy symptoms
Side effects	Drowsiness Dry mouth		Cough Fever Upset Stomach	Drowsiness Tiredness Dry Mouth
What to Avoid			Antacids and fruit juices	
Background		Non-drowsy Variety of dosage forms		L-enantiomer of Zyrtec
Branded as	Zyrtec	Claritin	Allegra	Xyzal
Image				

	Diphenhydramine	Chlorpheniramine	Doxylamine
Relieves	Allergy/cold symptoms Allergic reactions Motion sickness	Allergy/cold symptoms	Allergy/cold symptoms
Side effects	Drowsiness	Drowsiness Dizziness Constipation Blurred Vision Dryness	Drowsiness Dizziness Constipation Blurred Vision Dryness
Cautions			Glaucoma Hypertension Liver Disease
Beers List	Confusion Dry mouth Constipation Other anticholinergic effects	Confusion Dry mouth Constipation Other anticholinergic effects	Confusion Dry mouth Constipation Other anticholinergic effects
Background			Diclegis/Bonjesta – combination of doxylamine and vitamin B6 (pyridoxine) Potential for major savings
Branded as	Benadryl ZZZ Quil		Unisom (sleep aid)
Image	 		

Nasal Sprays

- »» Nasacort (triamcinolone)
- Flonase (fluticasone)
- Afrin (oxymetazoline)

Nasal Sprays

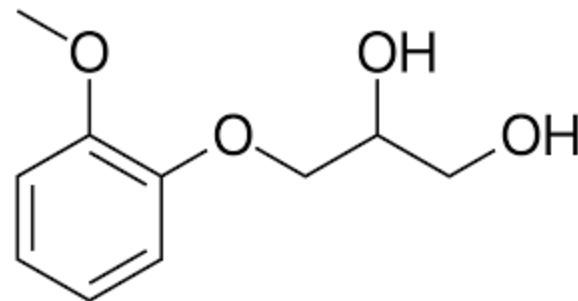
	Nasacort	Flonase	Afrin
Drug Name	Triamcinolone	Fluticasone	Oxymetazoline
Relieves	Stuffy/runny nose Itchy eyes, nose, or throat Sneezing	Stuffy/runny nose Itching Sneezing	Nasal congestion
Side Effects	Nasal/throat dryness Cough Sneezing Nose bleed Unpleasant taste	Nasal dryness/irritation Sneezing Nosebleed Nausea/vomiting	Nasal burning, stinging, dryness Sneezing Runny nose
Additional Info		Flonase-Sensimist RX/OTC	Rebound congestion

Cold Treatments

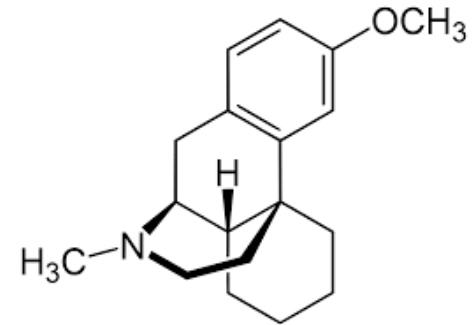
- » Mucinex (Guaifenesin)
- Dextromethorphan
- Pseudoephedrine
- Phenylephrine

Mucinex (Guaifenesin)

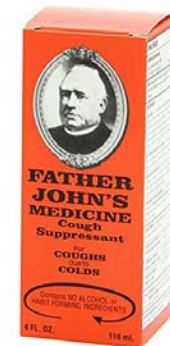
- ▶ Clears congestion by thinning and loosening mucus
- ▶ Well-tolerated
- ▶ Multiple OTC combination products



Dextromethorphan

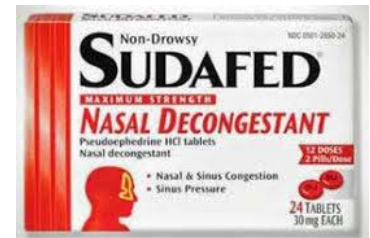
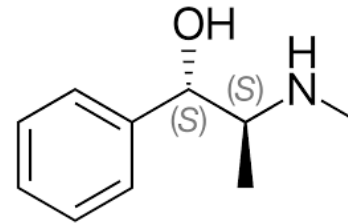


- ▶ Cough Suppressant
- ▶ Side Effects:
 - Mild drowsiness/dizziness
 - Nausea/Vomiting
 - Rare severe drowsiness/dizziness with normal doses
- ▶ Sometimes abused
- ▶ Father John's



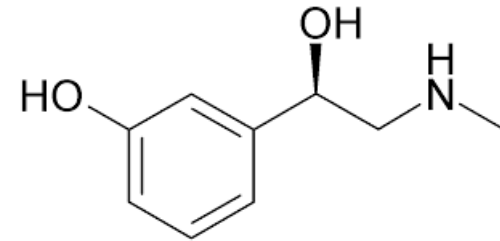
Pseudoephedrine

- ▶ Relieves stuffy nose and sinus pressure/pain
- ▶ Side Effects:
 - Nausea/vomiting
 - Trouble sleeping
 - Dizziness
 - Headache
 - Major caution – fast/irregular/pounding heartbeat, increased blood pressure, glaucoma
- ▶ *Beers List* due to insomnia
- ▶ “Behind the Counter” (methamphetamine)
- ▶ Can write prescription to get around limit



Phenylephrine

- ▶ Industry answer to combat meth problems
- ▶ Relieves stuffy nose and sinus congestion
- ▶ Side Effects:
 - Upset Stomach
 - Trouble sleeping
 - Dizziness /lightheadedness
 - Headache
 - Nervousness/Shaking
 - Increased heartbeat
 - May reduce blood flow to hands/feet, worsened by smoking
- ▶ *Beers List* due to insomnia



Acid Reflux

- » Proton Pump Inhibitors
- H2 Antagonists
- Antacids

Proton Pump Inhibitors

	<i>Prilosec</i>	<i>Nexium</i>	<i>Prevacid</i>
<i>Drug Name</i>	Omeprazole	Esomeprazole	Lansoprazole
<i>Treats</i>	Acid reflux/ulcers	Acid reflux/ulcers	Acid reflux/ulcers
<i>When to Take</i>	Before a meal	One hour before meal	Before a meal
<i>Side Effects</i>	Headaches Generally well-tolerated	Diarrhea Headaches Generally well-tolerated	Diarrhea Headaches Generally well-tolerated
<i>Drug Interactions</i>	cilostazol clopidogrel methotrexate rifampin St John's wort	Cilostazol clopidogrel, methotrexate rifampin St John's wort	Cilostazol clopidogrel, methotrexate rifampin St John's wort
<i>May Affect Absorption Of</i>	Atazanavir, erlotinib, nelfinavir, pazopanib, rilpivirine, azole antifungals	Atazanavir, erlotinib, nelfinavir, pazopanib, rilpivirine, and azole antifungals	Atazanavir, erlotinib, nelfinavir, pazopanib, rilpivirine, and azole antifungals

Proton Pump Inhibitors

- ▶ Zegerid
 - Omeprazole and sodium bicarbonate
 - Recently OTC
 - Major cost savings vs prescription
- ▶ *Beers List* – risk of C.Diff infection and bone loss/fractures

H2 Antagonists

- ▶ Famotidine
- ▶ Ranitidine
- ▶ Cimetidine
 - Strong CYP3A4 inhibitor, inhibitor of many others as well
- ▶ All for heartburn/indigestion

Duexis

- ▶ Ibuprofen 800 mg and famotidine 26.6 mg
- ▶ HUGELY expensive
- ▶ Specialty drug

Antacids

- ▶ Tums
 - Calcium carbonate
 - Directly neutralizes acid, fastest relief
 - Side Effects: constipation, nausea
 - Can decrease absorption of other drugs including: tetracyclines, bisphosphates, estramustine, iron, levothyroxine, quinolone antibiotics



Upset Stomach



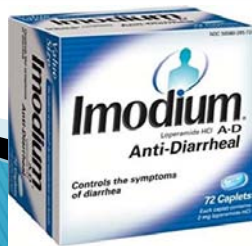
Imodium

Pepto Bismol

Simethicone

Mylanta

	Imodium	Pepto Bismol	Simethicone	Mylanta
<i>Contains</i>	Loperamide	Bismuth Subsalicylate		Aluminum hydroxide/magnesium hydroxide/simethicone
<i>Treats</i>	Diarrhea	Upset stomach Heartburn Nausea	Relieves gas	Heartburn Indigestion
<i>Side Effects/Risks</i>	Constipation	May increase risk of bleeding	Well-tolerated	
<i>Other Info</i>	Abused by opioid addicts	Similar to aspirin	Anti-foaming agent - allows tiny bubbles to collect into bigger, passable ones	



Constipation



Colace (docusate)

Magnesium hydroxide

Miralax

Metamucil

Magnesium citrate

Bisacodyl

Constipation

- ▶ **Colace** (docusate sodium)
 - Increases amount of water the stool absorbs
 - Becomes softer and easier to pass



- ▶ **Milk of Magnesia** (Magnesium hydroxide)
 - Osmotic-type laxative
 - Also an antacid



- ▶ **Miralax** (polyethylene glycol 3350)
 - Osmotic-type laxative
 - Powder



Constipation

▶ Metamucil (psyllium)

- Dietary fiber
- Bulk forming
- Can treat constipation or mild diarrhea



▶ Magnesium Citrate

- Saline laxative
- Increases fluid in small intestine
- Bowel movement in 30 minutes to 3 hours



▶ Bisacodyl

- Stimulant laxative
- Dulcolax
- Tablets or suppository



Urinary Tract Infection

»» Phenazopyridine

Phenazopyridine

- ▶ Treats:
 - Pain
 - Burning
 - Urgency associated with UTI
- ▶ Can change color of urine



Dizziness

»» Meclizine

Meclizine

- ▶ Antihistamine: nausea, vomiting, dizziness with motion sickness
- ▶ Reduces dizziness and loss of balance caused by inner ear problems
- ▶ *Beers List* due to risk of confusion, dry mouth, constipation



Conclusion/Discussion



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