

Practical Clinical Pharmacy

Fourth year



Clinical Pharmacist Israa Nathir



COLD & FLU

Common cold: is a self-limiting viral infection of the upper respiratory tract .

More than 200 different virus types can produce symptoms of the common cold, including rhinoviruses (accounting for 30-50% of all cases), corona viruses, parainfluenza virus

Cold usually begin with a sore throat, which usually goes away after a day or two.

Nasal symptoms, runny nose, and congestion follow, along with a cough by the fourth and fifth days.

Fever is uncommon in adults, but a slight fever is possible. Children are more likely to have a fever with a cold.

When to refer?

- Earache not settling with analgesic
- In the very young
- In the very old
- In those with heart or lung disease, e.g. COPD, kidney disease, diabetes, compromised immune system
- With persisting fever and productive cough
- With delirium
- With pleuritic-type chest pain
- Asthma

Treatment

1. Antihistamine

- Chlorpheniramine
- Promethazine
- Diphenhydramine
- Non sedating antihistamine(Loratadine, Cetirizine, Acrivastine)

2. Decongestant(sympathomimetics):

- Pseudoephedrine
- Ephedrine
- Oxymetazoline
- Xylometazoline

Treatment

3. Vitamin C

4. Inhalation

5. Analgesics

Antihistamines



- Their efficacy are due to the **anticholinergic action**
 - 1st generation (sedating), e.g.
 - Chlorpheniramine
 - Promethazine
 - Diphenhydramine
- have more pronounced anticholinergic actions than do the 2nd generation (non-sedating) antihistamines , e.g.**
- Loratadine, cetirizine, acrivastine

Antihistamines

- One of the antimuscarinic side-effects of sedating antihistamines is the drying up of nasal secretions, used as cold remedies in order to counteract rhinorrhoea.
- Antihistamines are usually co-formulated with sympathomimetics
- Two systematic reviews have concluded that antihistamines **alone** are of little clinical benefit in colds, but that antihistamine–decongestant **combinations** have a beneficial effect on general recovery and on nasal symptoms in adults and older children.



Antihistamines-Interactions



- Antihistamine side effect like sedation can be increased with
 - alcohol
 - hypnotics
 - Sedatives

Antihistamines- Cautions

- **closed-angle glaucoma**: increased intraocular pressure
- **prostatic obstruction or benign prostatic hyperplasia (BPH)**: occasionally precipitate acute urinary retention
- **Epilepsy**: At high doses, antihistamines can produce stimulation rather than depression of the CNS
- **liver disease**

Decongestants

- Sympathomimetics (e.g. **pseudoephedrine**) can be effective in reducing nasal congestion.
- Nasal decongestants work by constricting the dilated blood vessels in the nasal mucosa. so drainage of mucus and circulation of air are improved.

Decongestants

- These medicines can be given
 - orally (tablet, syrup)
 - applied topically (nasal spray, drop)
- If **nasal sprays/drops** are to be recommended, the pharmacist should advise the patient **not to use the product for longer than 7 days**.
- Rebound congestion (rhinitis medicamentosa) can occur with topically applied but not oral sympathomimetics. with the congestion returning, often worse than before

Local decongestants

- Compounds employed for local use exert a **rapid** and **potent** vasoconstricting effect when applied directly to the affected tissue.
- Compounds available
 - Ephedrine
 - oxymetazoline
 - Phenylephrine
 - xylometazoline.



- Topical decongestants are available as sprays and drops

Sprays	Drops
are preferable for adults and older children , as a fine mist provides better distribution around the area of application.	are more likely to be swallowed and absorbed systemically, but greater ease of application makes them more suitable for children under 6 years of age.

Local decongestants

long-acting	short-acting
xylometazoline and oxymetazoline	ephedrine and phenylephrine
take longer to produce rebound congestion (7 days)	Take shorter to produce rebound congestion (5days)
Dosing is also more convenient as they are effective for up to 12 hours and thus need to be used only two or three times daily	Given every 3–4 hours.

Decongestants-problems

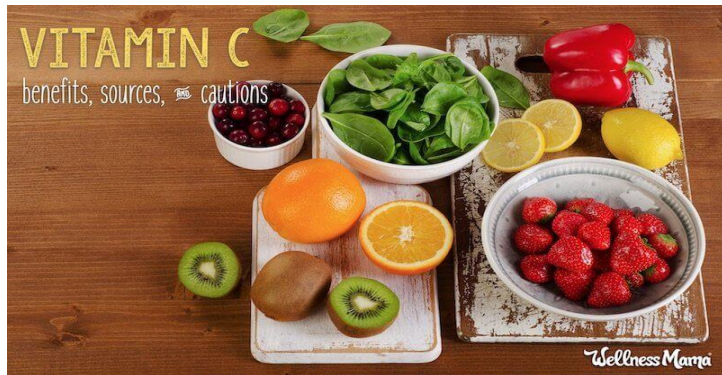
- Ephedrine and pseudoephedrine, when taken **orally**, keep patients awake because of their stimulating effects on the central nervous system (CNS).
- Pseudoephedrine use is banned in sporting events due to its stimulant properties.
- In general, **ephedrine** is more likely to produce this effect than does **pseudoephedrine**.

Decongestants-problems

- Sympathomimetics can cause
 - stimulation of the heart
 - increase in blood pressure
 - increase blood glucose levels
- Accordingly, they should be used with caution in people with
 - Diabetes
 - heart disease
 - hypertension
 - Hyperthyroidism

Decongestants-problems

- Sympathomimetics are most likely to cause these **unwanted** effects when taken **by mouth** and are unlikely to do so when used topically
 - **Saline nasal** drops would be other possible choices.



Others



- Vitamin C
- Analgesics
- Steam inhalation:
 - ✓ may help congested mucus drain better and heat may destroy cold virus as it does in vitro.
 - ✓ These usually contain aromatic ingredients, such as eucalyptus, menthol, and peppermint oil.

