Cold or Flu

The common cold is one of the most frequent conditions presenting in the pharmacy. Although there is no cure for colds or ‘flu much can be done to alleviate the patient’s symptoms and improve their well-being.

What are colds and ‘flu?

Both colds and ‘flu are caused by viruses, of which the rhinoviruses, coronaviruses, and the respiratory syncytial virus are the most common culprits. Colds can be spread from person to person by direct contact. For example, virus particles in the mucoid material on the hand of a sick person can be transferred to the hand of a healthy person who may then introduce the virus into his eye or nose. Sneezes and coughs that contain secretions from the mouth and throat can also transmit cold viruses from person to person. Children are more susceptible to upper respiratory tract infections than adults.

Influenza is an acute viral illness caused by Influenza A or B viruses. Like the cold viruses, ‘flu is spread by inhaling infected droplets or direct contact with infected secretions.

Signs and Symptoms

Symptoms of the common cold include:

- Sore throat – Often the first sign that a cold is imminent
- Rhinorrhea (runny nose) – The mucus starts off clear and watery, which then may become thicker and sticky
- Nasal congestion (blocked nose) – Swelling of the mucosal lining of the nose narrows the airway. The nose can also be blocked by the increased mucus production
- Sneezing – Due to the nasal congestion and irritation
- Cough – Due to throat irritation or a post-nasal drip
- Headache – Caused by inflammation and congestion of the nasal passages and sinuses
- Fever – Usually absent in adults but is common in children

Symptoms of ‘flu include:

- Chills – Hot and cold shivers are often the first symptoms of ‘flu
- High fever
- Muscle and joint pain – Most pronounced in the back and legs
- Malaise – General feeling of body discomfort or tiredness
- Headache – Can be severe with aching around and behind the eye
- Respiratory symptoms – Initially these symptoms may be relatively mild with a scratchy sore throat, burning sensation in the chest, dry cough and runny nose. Cough can become more severe and bring up phlegm

When a patient arrives at the pharmacy in need of treatment for cold or ‘flu symptoms, the pharmacist’s assistant needs to obtain the following information:

Age – It is important to know if the patient is a child, adult or elderly adult. This will influence treatment options and help to determine whether or not the patient needs to be referred to the doctor.

Duration of symptoms – Colds have a gradual onset of symptoms that start 1-3 days after infection. The symptoms usually last approximately 7 days, although a cough often persists after the other cold symptoms have disappeared.

‘Flu symptoms start abruptly 1-2 days after infection. These symptoms usually resolve rapidly after 2-3 days although fever may last up to 5 days. Coughing, weakness and tiredness may persist for several days.

Associated signs and symptoms – Certain symptoms are indicative of possible complications of cold or ‘flu and require referral to the doctor.

Medical history – Certain medications should be avoided in patients with heart disease, hypertension or diabetes. Patients with chronic bronchitis should be referred to their doctor if they have a bad cold or flu as it is often complicated by a secondary chest infection. Asthmatic patients may need referral to the doctor because viral infections may cause worsening of their asthma symptoms.

Medication – It is important to determine what medication your patient is using so that you can be aware of possible drug interactions with OTC medicines. Also if appropriate treatment has already been tried with no improvement of symptoms, the patient should be referred to the doctor.

When to refer:

Patients should be referred for further medical evaluation in the following situations:

- Cold or flu symptoms that do not improve after a week.
- Earache – Is a common complication of colds in children. Mucus production in the nose may block the Eustachian tube. This condition can clear up spontaneously. However, if the middle ear fills with fluid, secondary infection can set in. The ear becomes very painful and antibiotics are often required. If the ear is painful the patient should be
refers.

- Facial pain – This may indicate sinusitis. The sinuses are spaces filled with air in the bones next to the nose (maxillary sinus) and above the eyes (frontal sinus). In the presence of a cold the lining of the sinuses become swollen and produce mucus, which then drains into the nose. If the drainage passage becomes blocked, fluid builds up in the sinuses and secondary infection can set in. This results in persistent pain from the sinus area. When the frontal sinus is affected the patient may complain of a headache in their forehead. Bending forward or lying down worsens the headache.
- If they have asthma or chronic bronchitis.
- Coloured phlegm – Yellow, green or brown mucus that develops a few days after the initial symptoms may be due to a bacterial infection.
- Patients with flu who are very young, very old or have a pre-existing heart or lung disease – Complications are more likely in these patients.
- Patients with flu who have a persisting high fever, severe, productive cough, chest pain or delirium – These symptoms may be indicative of complications.

**Treatment**

The management of colds and flu is based on relieving the patient’s symptoms. Most people recover without any intervention but appropriate symptomatic treatment may be beneficial. It is important to select products based on the patient’s symptoms and to be aware of over treating the patient. Check the ingredients in multi-ingredient preparations and avoid duplication of treatment, especially with antihistamines.

**Antihistamines**

Antihistamines are effective in treating rhinorrhea, sneezing and watering eyes. These effects are due to the anticholinergic effects of antihistamine. The older antihistamines (e.g. chlorpheniramine, brompheniramine, tripolidine, diphenhydramine, promethazine) have more pronounced anticholinergic actions than the non-sedating antihistamines (e.g. loratadine, cetirizine, terfenadine).

**Common side effects**
- Drowsiness
- Constipation
- Blurred vision
- Dry mouth

**Cautions**

- Antihistamines may cause drowsiness and may impair the ability to drive or operate machinery.
- Antihistamines can cause excitation when used in children or the elderly.
- Antihistamines should not be used by patients with closed-angle glaucoma or urinary retention problems.
- Epilepsy - There are some antihistamines that should be used with caution or avoided in epilepsy. Refer to the pharmacist.
- Antihistamines should not be used with alcohol because of additive CNS depressant effects.
- Refer patients on chronic medication to the pharmacist to check for possible drug interactions.

**Decongestants**

Decongestants are used to treat nasal congestion. They act by constricting the dilated blood vessels in the nasal mucosa. Drainage of mucus and circulation of air is improved and the feeling of stuffiness is relieved. Decongestants can be given topically as a nasal spray or drops (e.g. oxymetazoline, xylometazoline, phenylephrine and naphasolone) or orally (e.g. pseudoephedrine, phynylpropanolamine and phenylephrine). Adverse effects are more likely when taken orally. Topical decongestants can be considered in a patient for whom the oral decongestants should be avoided. See Cautions.

**Side effects:**
- CNS stimulation e.g. insomnia
- Reduced appetite
- Palpitations
- Cardiac effects

**Cautions**

- Refer patients with diabetes, hypertension, overactive thyroid, narrow angle glaucoma and heart disease to the pharmacist.
- Nasal sprays/drops should not be used for longer than 5 days as rebound congestion can occur.
- Patients on antidepressants - Refer to pharmacist because of possible drug interactions.
- Oral decongestants are not permitted for use in patients taking part in sporting competitions.

**Analgesics/antipyretics**

Paracetamol, aspirin and other non-steroidal anti-inflammatory drugs (NSAIDs) e.g. ibuprofen are used to treat fever, headache and muscular aches and pains. Codeine is often included in cold preparations for its pain relieving ability. Paracetamol is the painkiller of choice in children.

**Cautions**

- Aspirin should not be used in children and adolescents because of its suspected link with Reye’s syndrome.
- Aspirin and NSAIDs can cause gastric irritation.
- Aspirin and NSAIDs should be avoided in patients with bleeding disorders and those on warfarin, unless prescribed by a doctor.
- Codeine can cause drowsiness and constipation, particularly in the elderly.
- Overdosing is possible if more than one medicine is being used that contains paracetamol, aspirin or other NSAIDs.

Cold and flu preparations mostly contain several ingredients, for example a decongestant and a painkiller or an antihistamine, decongestant and a painkiller. The following table shows examples of available products and what they contain, to help with product selection according to presenting symptoms.

**Sore throats**

- Gargles (e.g. Andolex-C® oral rinse), mouth sprays (e.g. Orochlor® spray solution) and lozenges (e.g. Medi-Keel®) containing antiseptics and/or local anaesthetics are the mainstay of treatment. Analgesics may also be of benefit.

**Cough mixtures**

- The product chosen depends on the type of cough.

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<th>Product</th>
<th>Ingredients</th>
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Cough mixtures can be:

- **Cough suppressants (antitussives)** – These are used for dry, tickly, unproductive coughs to stop the coughing e.g. codeine (e.g. Benylin with codeine®), dextromethorphan (e.g. Benylin dry cough®) or noscapine (e.g. Nitepax®)
- **Expectorants** – Are used for chesty, loose coughs and encourage coughing to remove bronchial mucus e.g. guaiphenesin (e.g. Benylin wet cough®), ammonium salts (e.g. Benylin original®)
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- **Bronchodilators** – Are included in cough mixtures to dilate constricted airways e.g. orciprenaline (e.g. Adcolinctopent®), theophyllin (e.g. Solphyllin®)
- **Mycolytics** – Reduce the thickness of the mucus and make it easier to cough up e.g. bromhexine (e.g. Bisolvon®), carbocisteine (e.g. Flemex®)

### Practical pointers

- You cannot catch a cold or flu by going outdoors with wet hair, sitting in a draft etc.
- The symptoms of a cold may feel worse if the patient is run down or stressed.
- Advise patients to drink plenty of fluids, eat healthily and to get plenty of rest.
- People with flu should not exercise.
- Protect yourself from contracting cold viruses by washing hands regularly with soap and water.
- Steam inhalation and using a humidifier can be useful in relieving blocked noses and soothing irritated air passages.
- Saline nose drops can be used for relief of dry, crusty and inflamed nasal membranes.
- A flu vaccine is available and can protect patients against certain flu strains. This vaccine should be given annually just before winter.

### References

1. UpToDate: Colds in children - Diane E Pappas, MD, JD, J Owen Hendley, MD
2. UpToDate: The common cold in adults - N Deborah Friedman, MBBS, Daniel J Sexton, MD
7. OTC Mims 2005
8. OTC Mims 2002
10. USPDI Vol128

<table>
<thead>
<tr>
<th>Product</th>
<th>Antihistamine (e.g. chlorpheniramine, brompheniramine, triprolidine, diphenhydramine, promethazine)</th>
<th>Decongestant (e.g. pseudoephedrine, phenylpropanolamine, phenylephrine)</th>
<th>Analgesic (e.g. paracetamol, aspirin, ibuprofen)</th>
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