

# Health Tips



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BCC Student Health Services



*This issue of Health Tips discusses the over-the-counter medications used to treat colds and the flu – fact and fiction.*

The best course of action to follow if one has a cold is to get plenty of rest, drink warm fluids, and avoid cigarette smoke. Rest conserves the body's energy. Warm fluids and aromatic herbs such as are found in chicken soup, help to promote the drainage of mucous from the nose and sinuses. The result is that they make breathing easier. Cigarette smoke paralyzes the tiny microscopic hairs (cilia) lining the surfaces of the respiratory tract. Normally, through rhythmic beating patterns these cilia help to clear the respiratory passages of mucous and debris. Factors that interfere with this action lead to the pooling mucous and eventual infection of these “stagnated fluids” by bacteria.



There is no medication that can cure a cold. Only time and the body's immune system can do this. Since colds are viral infections, and since viruses do not respond to antibiotics, antibiotics serve no purpose in the treatment of an uncomplicated cold. Most of the medications that physicians prescribe or suggest can best be explained according to the symptoms they treat. As always, a person should consult with either their doctor or the pharmacist before using over-the-counter medications to make sure that they are not a risk for a drug-drug interaction or significant adverse reaction. Many of the over-the-counter medications contain common ingredients that can be found in many preparations, so the risk of an unintentional overdose is possible.

**DECONGESTANTS:** With a cold, the membranes of the nose and upper respiratory tract swell up as fluids leak out from the damaged cells. The end result is that one feels stuffed-up. Decongestants shrink the swollen membranes causing the sinuses to drain and air to flow more freely through the nose and upper chest. They work by causing blood vessels to constrict or shrink in size. This in turn causes less blood to flow to the area and less fluids to leak through the damaged lining of the nose. These agents should be used with extreme caution in people with high blood pressure, heart disease or those taking certain medications for depression. Decongestants come in the form of drops, sprays and pills. The overuse of nasal sprays can result in what is referred to as “rebound congestion”. This condition leads to more congestion than existed before the spray was used. They can often lead to a dependence of the nasal lining upon them. Therefore, nasal decongestant sprays should be used only as directed and for *no longer* than 3 days. It is to be noted that the effectiveness of decongestants, alone, when used for cold symptoms have not been studied in children younger than 12 years old. Also, the risk of an adverse reaction or significant side-effect of a decongestant is much more likely in an elderly person; particularly when they are on other medications that could interact adversely.

**ANTI-HISTAMINES:** When you are exposed to a substance that you are allergic to or there is damage to any of the cells along the respiratory tract, histamine is released. This produces watery eyes, a runny nose, sneezing, and congestion with increased blood flow to that area. Antihistamines counteract these effects. The amount of histamine produced by the body when one has a cold is negligible, however. So the way the antihistamines work is to dry up the nasal membranes and shrink some of the swollen

passages. Unfortunately antihistamines also cause drowsiness, and when mixed with anti-depressants, tranquilizers, sedatives, and alcohol, this effect is magnified. One must be careful about engaging in hazardous activities when on these medications, since they can impair reaction time and driving. Studies have shown no benefit in children under six years old. In fact, a recent Cochrane review found that when used as single therapy, antihistamines do not significantly reduce nasal congestion, sneezing, runny nose or a subjective improvement in symptoms in both children and adults suffering from a cold. Again, because of the unique changes in their metabolism, elderly patients should be very cautious in using antihistamines since they are more susceptible to sedation and other significant side effects.

**ANALGESICS:** Aspirin and acetaminophen are effective for the aches and fever often associated with a cold. They do nothing to rid us of the infections they only make it little more tolerable. Unless you have a fever or significant aches and pains, it is best not to use these medications, since they do nothing to destroy the virus. There is no great difference between aspirin and acetaminophen in far as fever and pain reductions are concerned. Aspirin should be avoided in children under age 18 with a virus or the flu, since there appears to be a close link between the use of this drug during this infection and something called "Reyes Syndrome" - a devastating, often fatal illness seen mostly in children. In addition, people with ulcers, certain liver problems, and those taking anti-inflammatory drugs or anticoagulants ("blood thinners") should not use aspirin. Contrary to popular belief, both aspirin and acetaminophen are drugs that can produce very dangerous and fatal complications if used excessively. Once again, the use of aspirin in the elderly population is associated with a higher incidence of side-effects, and in this group acetaminophen is the preferred medication for fever and pain.

**COUGH PREPARATIONS:** A productive cough or one that brings up mucous, helps to clear the airways. Consequently, this type of cough should not be excessively suppressed. Expectorants facilitate the drainage of mucous by thinning it out and increasing its flow. Traditional substances such as hot tea, chicken soup, warm fluids, and hot spices do the same thing as the medicinal substances. The most commonly used expectorant is guaifenesin. The main problem is that, as found in many over-the-counter preparations, this substance in too low a concentration to be useful and at effective dosages may have a side-effect of nausea. The final verdict is that the data demonstrating effectiveness is conflicting.

A dry or nonproductive cough can irritate the throat and prevent one from sleeping at night. This can be remedied by using a cough suppressant or antitussive. There are two major types of antitussives: narcotic and non-narcotic. The narcotic substance most commonly used is codeine or its synthetic derivatives such as dihydrocodeine or dihydrocodone. The non-narcotic drug most commonly used is dextromethorphan -often abbreviated as DM. The narcotic antitussives are safe if taken at the recommended dosage. They commonly cause restlessness or drowsiness in some people as well as constipation. Activities requiring concentration may be affected, particularly driving and operating dangerous equipment. Diabetics must be aware that most over-the-counter cough medications contain a great deal of sugar to mask the bitter taste imparted by the antitussives as well as up to 25% alcohol. Recent evidence has shown these medicines not to be as effective as thought. Despite their widespread use, recent reviews found no good evidence for or against the effectiveness of over-the-counter medicines in treating acute cough, and in fact harmful to children under 2 years of age. The FDA has recommended relabeling cough and cold medicines for children to advise against using in children younger than age 4, but some health experts recommend *against* using them in children under 6. Again, one needs to consult with their doctor or pharmacist about potential interactions with other medications they are using- particularly in the elderly.

**OTHERS:** There are other types of cold remedies whose usefulness is questionable. Vitamin C is one of these. Earlier studies demonstrated that ascorbic acid in a dosage of one gram per day can reduce the frequency of colds by up to 50%. More recently that evidence has been questioned. After reviewing 60 years of clinical research, they found that when taken after a cold begins, Vitamin C supplements do not make a cold shorter or less severe. When taken daily, vitamin C very slightly shorted cold duration -- by 8% in adults and by 14% in children. To treat a cold, some suggest that vitamin C be started at the very first symptoms along with rest, warm fluids and avoidance of cigarette smoke. At very high dosages, vitamin C has a drying effect on the lining of the nose -just like that seen with the antihistamines. There is also a high incidence of abdominal cramps bloating, diarrhea, and excessive "gas" seen at high

dosages. Consequently, no well-documented studies have shown vitamin C to be more effective than the other more commonly-used remedies.

## Complications

In the typical patient, upper respiratory infections present no more of a problem than 5 to 7 days of mild inconvenience. However, in those people with severe allergies, asthma, heart and lung disease, complications may arise after a cold. These are:

1. **Bronchitis**— characterized by a deep cough with phlegm-often yellow or green in color and a low-grade fever.
2. **Flare-up or worsening of asthma.**
3. **Sinusitis**-characterized by headaches, stuffy nose, blocked ears and yellow to green nasal discharge.
4. **Ear infections**— infection behind the eardrum and characterized by pain, decreased hearing, and ringing in the ears.
5. **Worsening of a heart condition**, often due to the excess strain on the heart caused by the fever, the congestion in the lungs, and any of the above complications.

The first four of these conditions often require use of an antibiotic. It is because of these predictable complications arising in certain individuals that a physician will use an antibiotic when that person has a cold. It is used not to treat the cold, but to hopefully prevent a complication from arising.

The influenza virus has a much higher incidence of complications. Over 20 million people died during the Influenza Epidemic of 1918. The most common sequellae to an influenza infection is pneumonia; usually appearing just as the flu is improving. In the very old or very young, this can be a very serious infection requiring hospitalization.

So, at present there are no miracle drugs for the “common cold”. The over-the-counter medications are just what their names says, “medications.” As such, they are not without risk of side effects, interactions and unintentional over-dosing.

Rest, extra fluids, and the treatment of symptoms only when absolutely necessary remain our mainstays of treatment. Colds are caused by viruses and there are no anti-viral drugs presently available that combat the cold-producing viruses. Wash your hands frequently, especially after doing things where there is a high likelihood of coming into contact with viruses such as pushing a shopping cart in a store, touching numerous items that others have touched, using publicly-shared items such as computer keyboards and mice (not the rodents!). Carry an alcohol hand wash with you – and share it. Keep your mouth covered when you cough –and wash your hands after. If you feel sick, stay home – both for your sake and that of others. Finally, as your mother always said, “Eat well and get your sleep” and may we add, “Take your vitamins, too.”

