



## ***Upper Respiratory Infections***

Upper respiratory infections (URIs) are infections of the nose, throat, ears, sinuses, and bronchial tubes.

### **THE CAUSE OF THESE ILLNESSES**

Germ called viruses cause most of these infections. These viruses cause the typical symptoms of the common cold such as runny nose, stuffy nose, and post-nasal drip, but they can also cause sore throat, cough, watery eyes, sinus pressure, and ear pressure. In addition, viruses can cause vomiting, diarrhea, fever, headache, body aches, tiredness, swollen neck glands (their job is to fight infection, which is why they get big and sore), and rash (especially in children). Viral infections can make us feel very sick, but they are usually just uncomfortable and not serious.

When you have a viral respiratory infection, a different kind of germ called bacteria can sometimes take advantage of the congested condition of the passages and cause a secondary infection. More often than not, these are the bacteria that live normally in these areas. Bacterial infection is usually limited to one area. Examples of this are sinusitis (sinus infection), pneumonia, otitis media (ear infection).

These secondary bacterial infections occur several days into the cold because of poor drainage of secretions. The most accurate indicators of bacterial infection are prolonged symptoms (more than 10-14 days) or onset of severe localized symptoms several days into a cold (earache, sinus pain). *If you have sinus pain early in the course of a cold, it is likely you have sinus congestion from your cold, not a bacterial sinus infection. Recent studies have shown that the color or thickness of the nasal secretions (nasal discharge, post-nasal drip, or phlegm coughed up) is not by itself an accurate predictor of bacterial infection. In other words, it is normal to have green nasal discharge in the course of a cold.*

### **SINUS INFECTIONS (SINUSITIS)**

Many people have pain or pressure in the sinus areas in the course of a cold. Symptoms of sinus infection include facial or dental pain, fever, nasal stuffiness and drainage, cough, sore throat, and fatigue. Most sinus infections are caused by viruses and resolve on their own in time. As discussed above, bacterial sinus infections usually occur several days into a cold because the mucus gets trapped in the sinus area; bacteria that live normally in our respiratory tract grow in the congested area and cause a secondary infection. Therefore, everything you can do to improve drainage will help to treat the infection (see *Treatment* section). This includes treating allergies if they are active. In general, these are the features that might indicate a bacterial infection with need for antibiotics: prolonged symptoms of more than 10-14 days, facial pain on one side, thick secretions, and lack of improvement with decongestants. Symptoms in children are as follows: nasal congestion with thick secretions and cough for more than 10-14 days with fever greater than 102°. Note that children won't necessarily have facial pain.

### **BRONCHITIS**

"Bronchitis" means inflammation in the bronchial tubes, which is essentially a chest cold. Some people with bronchitis have spasm of the muscles of the bronchial tubes similar to asthma, and the symptoms improve with short-term use of asthma medication. Under most circumstances, bronchitis is not treated with antibiotics since it is viral.

### **EAR INFECTIONS (OTITIS MEDIA)**



Ear infections also occur because the middle ear space, normally filled with air, becomes swollen and produces mucus causing pressure on the ear drum. Antibiotics are now sometimes considered optional since 75% of ear infections resolve on their own. There are situations in which antibiotics are more strongly recommended. Otitis media occurs more often in children because the drainage passages from the ear (the eustachian tubes) are smaller.

## INFLUENZA (“THE FLU”)

“The flu” can be used to describe different kinds of illness, usually some kind of viral infection. Some use it to refer to a “stomach flu” with vomiting and diarrhea; some use it to describe a viral infection with bodyaches and fever. When doctors talk of “the flu,” we are referring to an infection caused by a specific virus, influenza. Classic influenza symptoms are high fever (103-105), cough and chest tightness, headache and severe body aches with fatigue. Milder cases of influenza are hard to distinguish from other viruses. Influenza usually occurs in epidemics from December to March. We tend to feel worse with influenza than with other viruses. It can be serious or life threatening for some people; 20,000 people die each year of influenza. We especially recommend flu vaccine for those over 65 years old and those with serious health problems. It is recommended for those aged 50-65 as well. Anyone at any age who would like to prevent influenza can get flu vaccine. The vaccine comes as a shot and more recently, a nasal formulation for young healthy people which may be more effective than the shot. *The vaccine does not prevent colds or stomach flu.*

## ANTIBIOTICS

Antibiotics are medicines that treat bacterial infection only. Unnecessary antibiotics are harmful. Antibiotics are useless against viruses and may cause side effects like yeast infections, diarrhea, and allergic reactions. Bacteria that used to be easily killed are now resistant to antibiotics because of years of overuse. After each course of antibiotics, we are more likely to carry resistant germs in our noses. When we do develop infection, it is likely to be with these resistant germs. Resistant germs are not killed by the usual antibiotics. There are already reported cases of people dying from infections that were easily treated a decade ago. This situation could get much worse.

Therefore, we must prescribe antibiotics only when there is a good chance it will make a difference. If we tell you that you have a virus and antibiotics are not needed, please do not think we don't believe you are sick. We understand that you may feel horrible; it is just that we have no medicine to cure you, and treating you with an antibiotic may hurt you more than help you.

## “C. DIFF”

There is a complication of antibiotic use known commonly as C. Diff, an abbreviation for a bacteria called Clostridium difficile. C Diff can live harmlessly in our lower intestinal tract, but when an antibiotic is taken and the other healthy bacteria that live in the intestine are killed, C. Diff can multiply as it is resistant to many antibiotics. It produces a poisonous chemical that is very irritating to the intestine. When mild, C. Diff can cause diarrhea and cramping. Severe forms can cause fever, vomiting, dehydration, sepsis, and even death. If you develop symptoms such as this during or shortly after taking an antibiotic, contact your health care provider promptly.

## OF INTEREST

- The average viral infection lasts 7 to 10 days, but can last 3 or even 4 weeks. A mild to moderate cough can last for several weeks.
- Some people get viruses frequently, others do not. This is determined partly by our genes, partly by how often we are in close contact with other people. Stress, fatigue, and poor nutrition probably contribute. The average child gets 6 to 12 respiratory infections per year.
- Contrary to popular belief, we do not catch a cold by going without a coat or getting chilled. We catch a cold from someone with a respiratory virus. We tend to get more colds in the winter because we are indoors and exposed more closely to others.



- A similar old wives' tale is that ear infections come from not wearing a hat. Usually they come from the congestion caused by a cold.
- Viruses are usually spread via hand to hand contact or through the air. Wash your hands after blowing your nose and before eating. Sneeze or cough into a tissue or on your sleeve rather than into your hands.
- Antibacterial hand soaps or gels are very strongly discouraged. The chemical it contains, triclosan, is very powerful and kills good bacteria as well as bad. It has been found in worrisome places such as the water supply and nursing mothers' breast milk. Regular soap and water is preferred.

## WHEN TO CALL US

**SEVERE EARACHE**, especially steady pain with decreased hearing, may be a middle ear infection. Mild earache, pressure or popping with decreased hearing is instead likely to be mucous in the middle ear.

**SEVERE SORE THROAT**, or a sore throat with enlarged red tonsils with pus, may be strep throat. However, if you have nasal congestion and coughing, it is usually a virus and not strep.

**SEVERE OR PROLONGED SINUS HEADACHE**, especially if localized to one sinus area, persisting for several days or not responding to decongestants and pain relievers. This may be a bacterial sinus infection that would be helped by antibiotics.

**SEVERE COUGH, SHORTNESS OF BREATH OR WHEEZING** may be asthma or an asthma-like reaction to the virus called bronchospasm; also may be pneumonia.

**COUGH** productive of moderate to large amounts of green, brown or blood-tinged phlegm may indicate bacterial bronchitis or pneumonia.

**FEVER (102 or higher)** is most commonly due to viral infection, but when combined with the symptoms listed above may represent a bacterial infection (pneumonia, sinus infection, strep throat, etc.).

We hope that this information is helpful. Please keep this sheet and refer to it when you get sick. If you have any further questions, do not hesitate to give us a call.

## *Treatment of Upper Respiratory Infections*

Since there are no cures for the viral infections that cause most upper respiratory infections, our treatment focuses on relieving symptoms to make you feel more comfortable while your body's immune system fights off the virus. There are a variety of measures that can be taken to relieve symptoms of these infections. We emphasize treatment with measures other than medications to avoid possible side effects and because medications have not been shown to be of any value in shortening the time that you are sick.

- **Lozenges and salt water gargles** can help a sore throat.
- **Nasal saline (salt water) spray** is very safe and works by loosening the nasal mucus. For babies and children too young to blow their nose, we recommend nasal saline followed in three to five minutes by aspiration with a bulb syringe. The tip of the bulb syringe must be wide enough to completely block the nostril. Aspirators with wide tips are sold in the drug store. Saline/aspiration may be done as often as you wish. It is especially helpful for babies prior to feeding. You can buy it commercially or make your own saltwater by mixing ½ teaspoon of salt in ½ cup of water.
- **Nasal saline irrigation** uses a stream of saline squirted up into the nasal passages instead of just the mist. It is effective for removing the mucus in the nose and sinuses and can be performed several times per day. It is also helpful for removing pollens and pollutants for those with allergies or chronic nasal problems. Look for the nasal saline in the drug store that can be used as a stream of fluid.



- **Humidity** from a cool mist vaporizer also helps loosen mucous. Remember to drain the humidifier each day and let it dry so molds won't grow.
- **Warm compresses** to the sinus areas can help relieve sinus pain and pressure.
- **Elevation of the head** of the bed, car seat or infant seat helps to relieve congestion.
- **Sleep** when you are tired and **drink plenty of fluids**.
- **Other suggested remedies** such as zinc lozenges, echinacea, or Vitamin C have no proven benefit.

**Cold medicines** available in the drug store may help improve cold symptoms. Most of them are just different combinations of the same drugs. You may get side effects from some of the components, and those components may not even help you. It is probably more helpful to buy products containing single ingredients for the specific symptoms you are having. Our suggestions are:

Sudafed® (pseudoephedrine) for stuffy nose or sinus pain

Robitussin® DM (dextromethorphan) for cough

Tylenol® or ibuprofen for aches and fever

Mucinex® when secretions are thick

Claritin® or Alavert® (loratidine), Chlor-trimeton® (chlorpheniramine), Tavist® (clemastine), or Benadryl® (diphenhydramine) for allergies

**ANALGESICS** relieve muscle aches and pains and reduce fever. Examples: acetaminophen (Tylenol®), aspirin, ibuprofen (Motrin®, Advil®), naproxen (Aleve®). Warning: children and teenagers should not be given aspirin because it can cause Reye syndrome if they have the flu or chicken pox. Reye syndrome is a rare illness that can lead to death.

**ORAL DECONGESTANTS** open congested nasal passages. One of the most useful remedies for a cold. Examples: phenylephrine, pseudoephedrine (Sudafed®). Warning: Can cause trouble sleeping, shakiness, fast heartbeat and raised blood pressure. Note: Pseudoephedrine must be signed for at the pharmacy because of concerns about producing methamphetamine, but it appears to be more effective than the substituted product, phenylephrine.

**NASAL DECONGESTANT SPRAYS** open congested nasal passages. Useful for a short period. Examples: phenylephrine, oxymetazoline, l-desoxyephedrine. Warning: Do not use more than directed or for more than three days in a row. Using them longer can cause you to have even worse symptoms when you quit using them (rebound effect).

**COUGH SUPPRESSANTS** tell your brain to stop coughing. Useful for a dry cough. Example: dextromethorphan. Warning: Can make you sleepy.

**ANTIHISTAMINES** block histamine, a substance that is released in response to allergies and causes a runny nose and sneezing. Probably are not useful during a cold unless you also have allergies. They should be used with caution when you have a sinus infection or asthma as they may thicken mucus too much. Examples: loratidine (Claritin®, Alavert®), chlorpheniramine, diphenhydramine (Benadryl®), triprolidine, dexbrompheniramine, clemastine (Tavist®). Warning: some cause drowsiness.

**EXPECTORANTS MAY** help to thin mucus so it can drain or be coughed up more easily. Example: guaifenesin (Mucinex®, Robitussin®). Drinking lots of fluid is one of the best ways to thin mucus.

\*\*Take these medicines as directed on the package. Do not take a higher dose of these drugs without checking with us.

