

# Anthrax-Flu Comparison

## **What causes colds and the flu?**

Hundreds of different viruses cause colds. Some of the major groups are rhinoviruses, coronaviruses, parainfluenza viruses, respiratory syncytial virus, and enteroviruses. There are two major strains of virus that cause the flu—strain A and strain B. There are many subtypes of these strains and they change from year to year.

## **How common are the colds and flu?**

Colds are very common, particularly in children less than 5. About half of the 16 million children in the US who are less than 5 years old get two or more colds a year.

Flu is also common. About 42 million persons a year are infected with the flu and about 25 million actually get sick. Of the 25 million sick persons, 10 million go to their doctor. On average, 20 to 40 thousand persons a year die of the flu. The vast majority of people who die of the flu are over age 65.

## **How about anthrax? What causes it?**

Anthrax is caused by a bacteria not a virus. The bacteria itself is a common type of bacteria which occurs naturally in the environment in some parts of the US like southwest Texas. The anthrax bacteria can be treated with antibiotics. An unusual quality that makes anthrax different from many bacteria is its ability to form a "spore." When anthrax does not have enough food or water to reproduce, it makes a wall or shell to protect itself and goes into a "resting" state. This is called a spore. The spore remains in this resting state until it has nutrients and water and can start to grow again. Spores may survive in the dry environment for decades.

## **How common is anthrax?**

Although there is naturally occurring animal disease in some parts of the US, human anthrax illness is very rare here. Excluding the recent cases of anthrax, there have been no reported cases of respiratory anthrax since 1980 in the United States. There are no reports of respiratory anthrax in Texas since 1930.

## **Are the symptoms of colds and the flu different?**

Yes and no. Most persons with either a cold or flu have some to all of the following symptoms: runny nose, nasal congestion, sneezing, cough, sore or scratchy throat, hoarseness, and headache. Because of the nasal congestion, the ability to taste and smell may be affected. Because smokers can't clear extra mucous as easily as nonsmokers, cold and flu symptoms—especially the cough—tend to be worse in smokers. So all in all, many symptoms of colds and the flu are similar.

However, there are differences too. Although persons with a cold can have a fever, it is usually not very high (less than 102 in children under 5 and less than 101 in older children and adults). Persons with the flu tend to have higher temperatures (over 102 in children under 5 and over 101 in older children and adults). They may also have extreme fatigue ("can't get out of bed"), ache all over, and have chills.

These symptoms are unusual with colds. Another difference between colds and the flu is that colds may come on gradually (over a day or more), but the flu usually has a very abrupt onset (less than half a day). Persons with chronic medical conditions such as lung disease, heart disease, and diabetes as well as people over 65 are prone to severe and possibly fatal complications from the flu.

The symptoms of the average cold last about one week. However, in roughly one out of every four cases, the illness lasts up to two weeks. Most of the severe symptoms that come with the flu finish within a week, however persons with the flu may not feel "back to normal" for another week or so.

### **What are the symptoms of respiratory anthrax?**

Initial symptoms of respiratory (inhalational) anthrax are mild and not specific and may include muscle pain, fatigue, mild fever, and a nonproductive cough. A sore throat is occasionally present. After a few days, the symptoms progress to severe shortness of breath and chest pain. Sneezing, runny nose, and nasal congestion are not symptoms of respiratory anthrax.

### **How do I know that my cold or flu symptoms are not caused by respiratory anthrax?**

Persons with colds and the flu usually have sneezing, runny nose, and nasal congestion—persons with respiratory anthrax do not. The onset of influenza is rapid (less than half a day from well to bedridden)—the onset of the respiratory anthrax is slower.

Anthrax is an extremely rare infection in the absence of a known exposure. For instance, there were no reported cases of respiratory anthrax from 1980 through 2000; there were only 18 reported cases in the United States from 1900 to 1980. In contrast, about 90 persons a year are killed in the US by lightning.

### **If I have cold or flu symptoms, when should I call my doctor?**

Healthy persons with colds generally recover within a few weeks. However, the cold viruses can lead to a sinus or ear infection or bronchitis.

The most serious complication of influenza is pneumonia, which is an infection of the lungs. Pneumonia can be caused by the influenza virus itself, or by bacteria that are able to enter the lungs because natural defenses have been weakened by the flu.

Patients with cold or flu symptoms should seek immediate medical attention if they develop any of the following symptoms:

- Shortness of breath
- Chest pain
- Coughing up bloody or "rusty" sputum or phlegm
- Mental confusion
- Convulsions

Patients with the following symptoms should consult with their physician

- High fever (greater than 102 in children less than 5 or greater than 101 in persons 5 and older)
- Severe headache
- Sinus pain

- Ear pain
- A cough that becomes productive or lasts longer than 7 days.

### **Will it help my doctor to diagnose anthrax (in case I get a flu-like-illness) if I go ahead and get a flu shot?**

Not really. While you can't get the flu from the vaccine, influenza vaccine is not 100% protective, so some people who have been vaccinated will still develop influenza. If you have a flu-like illness, there are a number of tests that your doctor can perform to tell whether you have true influenza. These include some rapid influenza tests that can be done in the office as well as viral cultures which must be sent to a laboratory. Furthermore, specific treatment for influenza is available and if started within 48 hours of onset of illness, the treatment should reduce symptoms and complications.

Second, other viruses can cause flu-like illnesses that are neither the flu nor anthrax.

Third, influenza vaccine supplies available during October should be targeted preferentially to persons with chronic medical conditions such as lung disease, heart disease, and diabetes and people over 65 who are prone to severe and possibly fatal complications from the flu. Healthcare providers and household members of those people at high risk should also be vaccinated.

### **What if I am a postal worker?**

To date, most of the respiratory anthrax cases have occurred in postal workers. DSHS recommends that healthy postal workers under age 65 talk to their personal physicians about getting a flu shot. Postal workers over age 65 and those with chronic medical conditions should definitely get vaccinated.

### **Will a nasal swab help my doctor tell if I have anthrax?**

No it will not. There is no screening test available for the detection of anthrax disease in asymptomatic or minimally symptomatic persons. Nasal swabs have been used in instances of known exposure as an extension of the environmental investigation. Nasal swabs are not really useful for diagnosing anthrax infection in a person.

### **What can I do to prevent respiratory illness in my family?**

Colds and flu can spread quickly within families, schools, and other groups of people. When you have the flu, or are just coming down with it, the fluids in your nose and throat contain virus. Virus is spread to other people through:

- sneezing and coughing
- shaking hands with other people who have sneezed or coughed into their hand
- sharing drinking glasses, forks, spoons, towels, or other things that have the virus on them
- kissing

You can reduce your chance of catching colds and flu by:

- getting plenty of sleep and eating regular well-balanced meals
- staying away from people who do not cover their coughs and sneezes with a tissue
- washing your hands often

## **Treatment**

If you get a cold or a flu, talk to your doctor as soon as possible. The doctor may prescribe medicine to help you feel better more quickly.

You should rest, stay warm, and drink plenty of liquids. Over-the-counter medicines may relieve some symptoms, but will not work as well as the medicine prescribed by your doctor. Do not give aspirin to children sick with the flu or any other diseases caused by a virus. They could get a serious disease called Reye syndrome. Instead give them acetaminophen (eg, Tylenol™) to reduce fever and aches.

### **If you get the flu:**

- stay home to avoid spreading the virus
- always cover coughs and sneezes with a tissue
- wash your hands with soap often and encourage family members to do the same
- wash dishes, towels, and other things before someone else uses them