Influenza

What is influenza?

A contagious disease caused by a group of respiratory viruses called the influenza viruses.

What are the signs or symptoms?

- Sudden onset of fever
- Headache
- Chills
- Muscle aches and pains
- Sore throat
- Cough
- Mild pinkeye
- Decreased energy
- Abdominal pain
- Nausea and vomiting (These symptoms alone or with fever often are caused by other factors, not influenza virus.)
- In young infants, croup, bronchiolitis, or pneumonia

What are the incubation and contagious periods?

- Incubation period: 1 to 3 days
- Contagious period: From the day before signs or symptoms appear until 7 days after the onset of flu

How is it spread?

- Direct contact from sneezing and coughing
- Indirect contact from contaminated hands and articles soiled with nose and throat secretions

How do you control it?

- Annual immunization guided by the most recent immunization recommendations.
  - ~ Beginning in 2004, the influenza vaccine is recommended for all children with a high risk of severe illness from influenza disease as well as healthy children 6 to 23 months of age. Children who are 6 to 23 months of age have the highest hospitalization rate of all age groups. Also note that children in group care settings have an increased risk of acquiring influenza compared with children who are not in any type of group care. The American Academy of Pediatrics (AAP) recommends consideration of influenza immunization for groups of people whose close contact facilitates rapid transmission and spread of infection that may result in disruption of routine activities. These groups include children in child care and school settings.
- Careful and frequent hand washing.
- Teach children and caregivers/teachers to cover their noses and mouths when sneezing or coughing with a disposable facial tissue, if possible, or with a shoulder if no facial tissue is available in time ("give your cough or sneeze a cold shoulder"). Teach everyone to wash their hands right after using facial tissues or having contact with mucus to prevent the spread of disease by contaminated hands and to remove, change, or cover contaminated clothing. Dispose of facial tissues that contain nasal secretions after each use.
- Wash hands after contact with any soiled items.
- Medications that help control viral infections may be helpful if given early in the course of illness.

What are the roles of the caregiver/teacher and the family?

- Follow the AAP recommendation to immunize children at high risk of severe illness from influenza infection, healthy children between 6 and 23 months of age, as well as household contacts and out-of-home caregivers of all children younger than 24 months annually. Also consider annual influenza immunization of all staff and children in group care settings.
- Avoid aspirin use for anyone with influenza; there is an increased risk of Reye syndrome when aspirin is used in this situation.

Exclude from group setting?

No, unless

- The child is unable to participate and staff determine that they cannot care for the child without compromising their ability to care for the health and safety of the other children in the group.
- The child meets other exclusion criteria, such as fever with behavior change (see "Conditions Requiring Temporary Exclusion" on page 28).

➤ *continued*

Influenza, continued

Readmit to group setting?

When exclusion criteria are resolved, the child is able to participate, and staff determine that they can care for the child without compromising their ability to care for the health and safety of the other children in the group

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Seasonal Flu Information for Schools & Childcare Providers

Educators and staff can help slow the spread of colds and flu. On this page, you will find information on preventing the flu as well as materials and tools for schools.

Each year, an average of 20,000 children under the age of 5 are hospitalized because of flu-related complications. Influenza causes more hospitalizations among young children than any other vaccine-preventable disease. The single best way to protect against seasonal flu and its potential severe complications is for children to get a seasonal influenza vaccine each year. Flu vaccination is recommended for all children aged 6 months and older. Making healthy choices at school and at home can help prevent the flu and spreading flu to others.

Encourage children, parents, and staff to take the following everyday preventive actions [2 MB, 2 pages] (/flu/pdf/freeresources/updated/everyday_preventive.pdf):

- **Stay home when you are sick.** If possible, stay home from work, school, and errands when you are sick. You will help prevent others from catching your illness. Avoid close contact with people who are sick.
- **Cover your nose and mouth** with a tissue when you cough or sneeze. Throw the tissue away after use and wash your hands. If a tissue is not available, cover your mouth and nose with your sleeve, not your hand.
- **Wash your hands often with soap and water**, especially after you cough or sneeze. If soap and water are not available, use an alcohol-based hand rub.
- **Avoid touching your eyes, nose, or mouth**. Germs spread this way.
- **Clean and disinfect surfaces or objects.** Clean and disinfect frequently touched surfaces at home, work or school, especially when someone is ill.

School-Located Vaccination

- School-Located Vaccination Planning Materials and Templates (/flu/school/school_located_vac.htm)
- Influenza School-located Vaccination (SLV): Information for Planners (/flu/school/slv/index.htm)

Guidance and Resources

- Guidance for School Administrators to Help Reduce the Spread of Seasonal Influenza in K-12 Schools (/flu/school/guidance.htm)
  This document provides seasonal flu recommendations for K-12 schools.
- Supplemental Interim Guidance for School Administrators Associated with Possible Outbreaks of H3N2 Variant Influenza Virus ("H3N2v") (/flu/swineflu/h3n2v-schools.htm)
- How To Clean and Disinfect Schools to Help Slow the Spread of Flu (/flu/school/cleaning.htm)
  This guide gives K-12 schools tips on how to clean to help slow the spread of seasonal flu. A Spanish version (http://espanol.cdc.gov/enes/flu/school/cleaning.htm) is also available.
- Questions and Answers: Information for Schools (/flu/school/qa.htm)
  This page provides answers to flu-related questions commonly asked by school administrators, teachers, staff, and parents.
- Flu Information for Parents (/flu/parents/index.htm)
  Flu is more dangerous than the common cold for children. Learn more.
- Children, the Flu, and the Flu Vaccine (/flu/protect/children.htm)
  This page provides information about children and the flu vaccine.
- Protecting Against the Flu: Advice for Caregivers of Children Less Than 6 Months Old (/flu/protect/infantcare.htm)

Research has shown that children less than 5 years of age are at high risk of serious flu-related complications. Learn more.

- The Flu: A Guide for Parents [PDF - 2 MB] (/flu/pdf/freeresources/updated/fluguideforparents.pdf)
  This guide discusses questions and answers about the flu, how to protect your child, treatment, and more.
- Snort. Sniffle. Sneeze. No Antibiotics Please! (http://www.cdc.gov/getsmart/campaign-materials/brochures.html)
  This page provides brochures that explain why antibiotics don't work for a cold or the flu.
- Ounce of Prevention (http://www.cdc.gov/ounceofprevention/)
  This page provides tips and streaming video for parents and children about the steps and benefits of effective hand washing.
- Flu Season and Schools (http://www.answers4families.org/professional/school-health) (http://www.cdc.gov/Other/disclaimer.html)
  This site provides guidance from the Center for Health and Health Care in Schools (CHHCS).

School Materials and Posters

Cover Your Cough Materials

See the Cover Your Cough (/flu/protect/covercough.htm) page on this site for posters and flyers formatted for use in schools.

"Are you a flu fighter?" Coloring Book

"Are you a flu fighter?" Coloring Book [4.5 MB, 14 pages, 8.25" x 10.25"] (http://www.flufacts.com/pdf/FluFighter_Coloring_Book.pdf) (http://www.cdc.gov/Other/disclaimer.html)

"It's a SNAP" Toolkit

School Network for Absenteeism Prevention

Program Materials to Help Prevent School Absenteeism (http://www.itsasnap.org/snap/about.asp) (http://www.cdc.gov/Other/disclaimer.html)
This toolkit provides activities for school administrators, teachers, students, and others to help stop the spread of germs in schools. For more information, visit the hand cleaning section of the "It's a SNAP" web site (http://www.itsasnap.org/snap/about.asp) (http://www.cdc.gov/Other/disclaimer.html).

Scrub Club

www.scrubclub.org

(http://www.scrubclub.org) Kids can learn about health and hygiene at the Scrub Club™ web site (http://www.scrubclub.org) (http://www.cdc.gov/Other/disclaimer.html). The site features a fun and educational animated Webisode with seven "soaper-heros" who battle nasty villains representing germs and bacteria. Kids learn the six key steps to proper handwashing through a webisode, a handwashing song, interactive games, and activities for kids. Educational materials for teachers are also available to download.

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Guidance for School Administrators to Help Reduce the Spread of Seasonal Influenza in K-12 Schools

This document from the Centers for Disease Control and Prevention (CDC), an agency of the U.S. Department of Health and Human Services, provides guidance to help reduce the spread of seasonal influenza (flu) among students and staff in K-12 schools. Recommendations are based on CDC's current knowledge of flu in the United States. CDC will continue to monitor flu activity and update this guidance as needed.

For the purpose of this guidance, "schools" will refer to both public and private institutions providing grades K-12 education to children and adolescents in group settings.

Supplemental Interim Guidance for School Administrators Associated with Possible Outbreaks of H3N2 Variant Influenza Virus ("H3N2v") (/flu/swineflu/h3n2v-schools.htm)

Background

Flu seasons are unpredictable in a number of ways. Although widespread influenza activity occurs every year, the timing, severity, and duration of it depend on many factors, including which flu viruses are spreading, the number of people who are susceptible to the circulating flu viruses, and how well the flu vaccine is matched to the flu viruses that are causing illness. The timing of flu can vary from season to season. In the United States, seasonal flu activity most commonly peaks in January or February, but flu viruses can cause illness from early October to late May. Flu viruses are thought to spread mainly from person to person through coughs and sneezes of infected individuals. People may also become infected by touching something with flu virus on it and then touching their mouth, nose, or eyes.

Many respiratory infections spread from person to person and cause symptoms similar to those of flu. Therefore, the nonpharmaceutical recommendations in this document might help reduce the spread of not only flu, but also respiratory syncytial virus (RSV), rhinovirus, and other viruses and bacteria that can cause illness.

Each day, about 55 million students and 7 million staff attend the more than 130,000 public and private schools in the United States. By implementing the recommendations in this document, schools can help protect one-fifth of the country's population from flu. Collaboration is essential; CDC, the U.S. Department of Education, state/local public health and education agencies, schools, staff, students, families, businesses, and communities should work together to reduce the spread of flu and other respiratory infections.

See Current Flu Season Information (/flu/about/season/index.htm) and Key Facts about Influenza (Flu) and Flu Vaccine (/flu/keyfacts.htm).

High-Risk Groups

People of all ages get sick with flu. School-aged children are the group with the highest rates of flu illness. Groups at highest risk for severe flu-related illness, including being hospitalized or dying from flu, include:

- Children younger than 5 years of age, but especially children younger than 2 years of age
- Adults 65 years of age and older
- Pregnant women
- American Indians/Alaskan Natives
- People younger than 19 years of age who are receiving long-term aspirin therapy
- People who have certain medical conditions, including:
  - Asthma

- Neurological and neurodevelopmental conditions (including disorders of the brain, spinal cord, peripheral nerve, and muscle, such as cerebral palsy, epilepsy [seizure disorders], stroke, intellectual disability [mental retardation], moderate to severe developmental delay, muscular dystrophy, and spinal cord injury).
- Heart disease (such as congenital heart disease, congestive heart failure, and coronary artery disease)
- Blood disorders (such as sickle cell disease)
- Endocrine disorders (such as diabetes mellitus)
- Kidney disorders
- Liver disorders
- Metabolic disorders (such as inherited metabolic disorders and mitochondrial disorders)
- Weakened immune systems due to disease or medication (such as HIV/AIDS, cancer, and chronic use of steroids)
- Morbid obesity (body mass index [BMI] of 40 or greater)

See People at High Risk of Developing Flu-Related Complications (/flu/about/disease/high_risk.htm).

Symptoms and Emergency Warning Signs

The symptoms of flu can include:

- Fever (although not everyone with flu has a fever)
- Cough
- Sore throat
- Runny or stuffy nose
- Body aches
- Headache
- Chills
- Tiredness
- Sometimes diarrhea and vomiting

Emergency warning signs that indicate a person should get medical care right away include:

- In children:
  - Fast breathing or trouble breathing
  - Bluish skin color
  - Not drinking enough fluids
  - Not waking up or not interacting
  - Being so irritable that the child does not want to be held
  - Flu-like symptoms that improve but then return with fever and worse cough
  - Fever with rash

  In addition to the signs above, get medical help right away for any infant who has any of these signs:
  - Being unable to eat
  - Has trouble breathing
  - Has no tears when crying
  - Has significantly fewer wet diapers than normal
- In adults:
  - Difficulty breathing or shortness of breath
  - Pain or pressure in the chest or abdomen
  - Sudden dizziness
  - Confusion
  - Severe or persistent vomiting
  - Flu-like symptoms that improve but then return with fever and worse cough

See The Flu: What to Do If You Get Sick (/flu/takingcare.htm).

Recommendations

Below are recommendations to help reduce the spread of flu in schools.

- **Encourage students, parents, and staff to get a yearly flu vaccine.**
  - Teach students, parents, and staff that the single best way to protect against the flu is to get vaccinated each year. See Key Facts About Seasonal Flu Vaccine (/flu/protect/keyfacts.htm).
    - Seasonal flu vaccination is recommended for everyone 6 months of age and older unless they have a specific contraindication to flu vaccine. See Persons Who Should Not Be Vaccinated (/flu/professionals/acip/shouldnot.htm).
    - The seasonal flu vaccine protects against three influenza viruses that research indicates will be most common during the upcoming season. The viruses in the vaccine change each year based on international surveillance and scientists' estimations about which types and strains of viruses will circulate in a given year.
    - There are two types of seasonal flu vaccines.
      - One type is the "flu shot" (sometimes called TIV for "trivalent inactivated influenza vaccine"), an inactivated vaccine containing killed virus that is given with a needle, usually in the arm. The flu shot is approved for use in people 6 months of age and older, including healthy people, pregnant women, and people with chronic medical conditions.
      - The second type is the nasal spray vaccine (sometimes called LAIV for "live attenuated influenza vaccine"), a vaccine made with live, weakened flu viruses that do not cause flu. This vaccine is approved for use in people 2-49 years of age who are not pregnant and who do not have health problems.
    - Flu vaccines have a very good safety record. Over the years, hundreds of millions of Americans have received seasonal flu vaccines. The most common side effects following flu vaccinations are mild, such as soreness, redness, tenderness, or swelling where the shot was given. See Adverse Events after Receipt of TIV (Flu Shot) (/flu/professionals/acip/adversetiv.htm) and Adverse Events after Receipt of LAIV (Nasal Spray Vaccine) (/flu/professionals/acip/adverselaiv.htm).
    - Vaccination efforts can start as soon as vaccination becomes available (usually in September) and should continue as long as flu viruses are spreading and causing illness in the community (usually until May).
  - Consider offering seasonal flu vaccination to students at school. School vaccination clinics, which are often led by local public health department staff in partnership with schools, are an option for vaccinating school-aged children against flu. Vaccination of other groups (e.g., staff, home-schooled students, students attending nearby schools, family members, and other community members) may also be considered. Contact your local public health department for more information. See Influenza School-Located Vaccination (SLV): Information for Planners (/flu/school/planners.htm).

See Preventing Seasonal Flu with Vaccination (/flu/protect/vaccine/index.htm).

- **Encourage students, parents, and staff to take everyday preventive actions to stop the spread of germs.**
  - Encourage respiratory etiquette among students and staff through education and the provision of supplies. See Cover Your Cough (/flu/protect/covercough.htm).
    - Teach students and staff to cover coughs and sneezes with a tissue or their arm. If they use a tissue, they should put the used tissue in a trash can and wash their hands.
    - Provide adequate supplies within easy reach, including tissues and no-touch trash cans.
  - Encourage hand hygiene among students and staff through education, scheduled time for handwashing, and the provision of supplies. See Handwashing: Clean Hands Save Lives (http://www.cdc.gov/handwashing/).
    - Teach students and staff to wash hands often with soap and water for 20 seconds, dry hands with a paper towel, and use the paper towel to turn off the faucet. If soap and water are not available and hands are not visibly dirty, an alcohol-based hand sanitizer containing at least 60% alcohol may be used.

        - Include handwashing time in student schedules.
        - Provide adequate supplies, including clean and functional handwashing stations, soap, paper towels, and alcohol-based hand sanitizer.
    - Encourage students and staff to keep their hands away from their nose, mouth, and eyes.
    - Encourage routine surface cleaning through education, policy, and the provision of supplies. See How To Clean and Disinfect Schools To Help Slow the Spread of Flu (/flu/school/cleaning.htm).
        - Routinely clean surfaces and objects that are touched often, such as desks, countertops, doorknobs, computer keyboards, hands-on learning items, faucet handles, and phones. Empty trash cans as needed.
        - Use general cleaning products that you normally use. Always follow product label directions. Additional disinfection beyond routine cleaning is not recommended.
        - Provide adequate supplies, such as general EPA-registered cleaning products, gloves, disinfecting wipes, and no-touch trash cans.
        - Match your cleaning activities to the types of germs you want to remove or kill.
            - Flu viruses are relatively fragile, so standard practices, such as cleaning with soap and water, can help remove and kill them.
            - Most studies have shown that the flu virus can live and potentially infect a person for only 2 to 8 hours after being deposited on a surface. Therefore, special sanitizing processes beyond routine cleaning, including closing schools to clean every surface in the building, are not necessary or recommended to slow the spread of flu, even during a flu outbreak.
            - Some schools may include other cleaning and disinfecting practices in their standard procedures to address germs that are not removed or killed by soap and water alone.
    - Encourage students and staff to stay home when sick through education and policy.
        - Teach students, parents, and staff the importance of staying home when sick until at least 24 hours after they no longer have a fever (100 degrees Fahrenheit or 37.8 degrees Celsius, measured by mouth) or signs of a fever (chills, feeling very warm, flushed appearance, or sweating) without the use of fever-reducing medicine.
        - Review school policies, and consider revising those that make it difficult for students and staff to stay home when sick or when caring for others who are sick.
            - Implement flexible sick leave policies for students and staff.
            - Avoid the use of perfect attendance awards.
            - Cross-train staff so that others can cover for co-workers who need to stay home.

    See Good Health Habits for Preventing Seasonal Flu (/flu/protect/habits/index.htm) and Everyday Preventive Actions That Can Help Fight Germs, Like Flu [1.5 MB, 2 pages, 8 ½" x 11"] (/flu/pdf/freeresources/updated/everyday_preventive.pdf).

- **Educate students, parents, and staff on what to do if someone gets sick.**
    - Teach students, parents, and staff the signs and symptoms of flu, emergency warning signs, and high-risk groups. See lists at the beginning of this document.
        - Those who get flu-like symptoms at school should go home and stay home until at least 24 hours after they no longer have a fever or signs of a fever without the use of fever-reducing medicine. Those who have emergency warning signs should get immediate medical care. See The Flu: What To Do If You Get Sick (/flu/takingcare.htm).
        - Those who get flu-like symptoms and are at high risk of severe flu illness should ask a healthcare provider if they should be examined. See People at High Risk of Developing Flu –Related Complications (/flu/about/disease/high_risk.htm).
    - Separate sick students and staff from others until they can be picked up to go home. When feasible, identify a "sick room" through which others do not regularly pass. The sick room should be separated from areas used by well students for routine health activities, such as picking up medications. Sick room staff should be limited in number and should not be at high risk for severe illness if they get sick.
    - Encourage students, parents, and staff to take antiviral drugs if their healthcare provider prescribes them. See Treatment - Antiviral Drugs (/flu/antivirals/index.htm).

- Antiviral drugs, called Relenza® and Tamiflu®, are drugs that can be prescribed by healthcare providers to treat the flu. These drugs can reduce the number of days that a person is sick, but not everyone needs to be treated.
- Antiviral drugs work best when started within the first 2 days of illness, but they may also help reduce the risk of severe illness even if started 2 or more days after onset of illness for persons who are hospitalized.
- Although most people will recover from flu without treatment, antiviral drugs are recommended for people with influenza who have an illness requiring being in the hospital; have a progressive, severe, or complicated illness; or are at high risk of severe flu because of an underlying medical condition or their age.

- **Establish relationships with state and local health officials for ongoing communication.**
  - Follow your local flu situation through close communication with state and local health officials.
  - Update emergency plans so that they are in place before an outbreak occurs.

Related Links

- CDC Says "Take 3" Actions To Fight The Flu (/flu/protect/preventing.htm)
- Free Resources (/flu/freeresources/index.htm)
- Seasonal Flu Information for Schools & Childcare Providers (/flu/school/index.htm)

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Influenza (flu)

By Mayo Clinic staff

Original Article: http://www.mayoclinic.com/health/influenza/DS00081

Definition

Influenza is a viral infection that attacks your respiratory system — your nose, throat and lungs. Influenza, commonly called the flu, is not the same as the stomach "flu" viruses that cause diarrhea and vomiting.

Influenza and its complications can be deadly. People at higher risk of developing flu complications include:

- Young children
- Older adults
- Pregnant women
- People with weakened immune systems
- People who have chronic illnesses

Your best defense against influenza is to receive an annual vaccination.

Symptoms

Initially, the flu may seem like a common cold with a runny nose, sneezing and sore throat. But colds usually develop slowly, whereas the flu tends to come on suddenly. And although a cold can be a nuisance, you usually feel much worse with the flu.

Common signs and symptoms of the flu include:

- Fever over 100 F (38 C)

- Aching muscles, especially in your back, arms and legs
- Chills and sweats
- Headache
- Dry cough
- Fatigue and weakness
- Nasal congestion

When to see a doctor
If you have flu symptoms and are at risk of complications, see your doctor right away. Taking antiviral drugs within the first 48 hours after you first notice symptoms may reduce the length of your illness and help prevent more-serious problems.

Causes

Flu viruses travel through the air in droplets when someone with the infection coughs, sneezes or talks. You can inhale the droplets directly, or you can pick up the germs from an object — such as a telephone or computer keyboard — and then transfer them to your eyes, nose or mouth.

Influenza viruses are constantly changing, with new strains appearing regularly. If you've had influenza in the past, your body has already made antibodies to fight that particular strain of the virus. If future influenza viruses are similar to those you've encountered before, either by having the disease or by vaccination, those antibodies may prevent infection or lessen its severity.

But antibodies against flu viruses you've encountered in the past can't protect you from new influenza subtypes that are very different immunologically from what you had before. A number of virus subtypes have appeared in humans since the global epidemic (pandemic) of 1918, which killed tens of millions of people.

Risk factors

Factors that may increase your risk of developing influenza or its complications include:

- **Age.** Seasonal influenza tends to target young children and people over 65. The pandemic H1N1 virus that surfaced in 2009, however, appeared to be most common in teenagers and young adults.
- **Occupation.** Health care workers and child care personnel are more likely to have close contact with people infected with influenza.
- **Living conditions.** People who live in facilities along with many other residents, such as nursing homes or military barracks, are more likely to develop influenza.
- **Weakened immune system.** Cancer treatments, anti-rejection drugs, corticosteroids and HIV/AIDS can weaken your immune system. This can make it easier for you to catch influenza and may also increase your risk of developing complications.

- **Chronic illnesses.** Chronic conditions, such as asthma, diabetes or heart problems, may increase your risk of influenza complications.
- **Pregnancy.** Pregnant women are more likely to develop influenza complications, particularly in the second and third trimesters.

Complications

If you're young and healthy, seasonal influenza usually isn't serious. Although you may feel miserable while you have it, the flu usually goes away with no lasting effects. But high-risk children and adults may develop complications such as:

- Pneumonia
- Bronchitis
- Sinus infections
- Ear infections

Pneumonia is the most common and most serious. For older adults and people with a chronic illness, pneumonia can be deadly. The best protection is vaccination against both pneumococcal pneumonia and influenza.

Treatments and drugs

Usually, you'll need nothing more than bed rest and plenty of fluids to treat the flu. But in some cases, your doctor may prescribe an antiviral medication, such as oseltamivir (Tamiflu) or zanamivir (Relenza). If taken soon after you notice symptoms, these drugs may shorten your illness by a day or so and help prevent serious complications.

Oseltamivir is an oral medication. Zanamivir is inhaled through a device similar to an asthma inhaler and shouldn't be used by anyone with respiratory problems, such as asthma and lung disease. Antiviral side effects may include nausea and vomiting. Oseltamivir has also been associated with delirium and self-harm behaviors in teenagers. Some researchers recommend further study on both of these drugs, however, due to uncertainty about their effects beyond the initial reduction in symptoms.

Some strains of influenza have become resistant to oseltamivir and to amantadine, which is an older antiviral drug.

Lifestyle and home remedies

If you do come down with the flu, these measures may help ease your symptoms:

- **Drink plenty of liquids.** Choose water, juice and warm soups to prevent dehydration. Drink enough so that your urine is clear or pale yellow.
- **Rest.** Get more sleep to help your immune system fight infection.

- **Consider pain relievers.** Use an over-the-counter pain reliever, such as acetaminophen (Tylenol, others) or ibuprofen (Advil, Motrin IB, others), to combat the achiness associated with influenza. Don't give aspirin to children or teens because of the risk of Reye's syndrome, a rare but potentially fatal disease.

Prevention

The Centers for Disease Control and Prevention now recommends annual flu vaccination for all Americans over the age of 6 months.

Each year's seasonal flu vaccine contains protection from the three influenza viruses that are expected to be the most common during that year's flu season. The vaccine is typically available as an injection or as a nasal spray.

Controlling the spread of infection

The influenza vaccine isn't 100 percent effective, so it's also important to take measures to reduce the spread of infection:

- **Wash your hands.** Thorough and frequent hand-washing is the best way to prevent many common infections. Scrub your hands vigorously for at least 15 seconds. Or use alcohol-based hand sanitizers if soap and water aren't readily available.
- **Contain your coughs and sneezes.** Cover your mouth and nose when you sneeze or cough. To avoid contaminating your hands, cough or sneeze into a tissue or into the inner crook of your elbow.
- **Avoid crowds.** Flu spreads easily wherever people congregate — in child care centers, schools, office buildings, auditoriums and public transportation. By avoiding crowds during peak flu season, you reduce your chances of infection.

References

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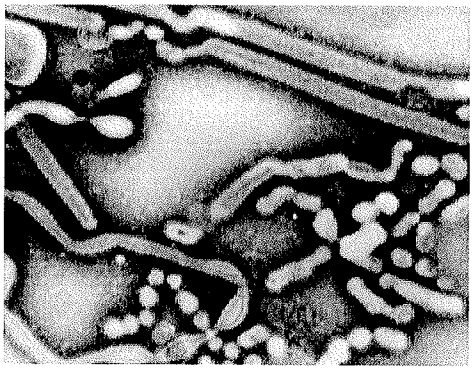
Seasonal Influenza

Clean - Wash your hands • **Cover** - Cover your cough and sneeze • **Contain** - Contain your germs - stay home if you are sick

General Information about Influenza

Influenza, commonly called "the flu," is an infection of the respiratory tract caused by the influenza virus. Compared with most viral respiratory infections, such as the common cold, influenza infection often causes a more severe illness. Typical influenza illness includes fever (usually 100 degrees F to 103 degrees F in adults and often even higher in children) and respiratory symptoms, such as cough, sore throat, runny or stuffy nose, as well as headache, muscle aches and extreme fatigue. Although nausea, vomiting and diarrhea can sometimes accompany influenza infection, especially in children, these symptoms are rarely the primary symptoms. The term "stomach flu" is a misnomer that is sometimes used to describe gastrointestinal illnesses caused by organisms other than influenza viruses.



Micrograph of an Influenza A Virus

Most people who get the flu recover completely in 1 to 2 weeks, but some people develop serious and potentially life-threatening medical complications, such as pneumonia. Over the past decade, influenza and pneumonia have been associated with an average of 3,500 deaths a year in Illinois. Since 1992, the highest number of flu and pneumonia deaths was the 4,021 recorded in 1993. Flu-related complications can occur at any age, but the elderly and people with chronic health problems are much more likely to develop serious complications after influenza infection than are young, healthier people. During most flu seasons, which typically run from November to April, between 10 percent and 20 percent of the population is infected with influenza viruses. More than 200,000 people are hospitalized from flu complications each year in the U. S.

Influenza Viruses

Influenza viruses are divided into three types, designated A, B and C. Influenza types A and B are responsible for epidemics of respiratory illness that occur almost every winter and are often associated with increased rates for hospitalization and death. Influenza type C differs from types A and B in some important ways. Type C infection usually causes either a very mild respiratory illness or no symptoms at all. It does not cause epidemics and does not have the severe public health impact that influenza types A and B do. Efforts to control the impact of influenza are aimed at types A and B.

Flu vaccines are designed to protect against the three influenza viruses that experts predict will be the most likely to cause illness during the upcoming season. Each influenza season, this includes an influenza B virus, and two influenza A viruses that represent the three virus subtypes circulating most commonly among people at that time.

The **2013-2014** trivalent influenza vaccine is made from the following three viruses:

- an A/California/7/2009 (H1N1)pdm09-like virus;
- an A(H3N2) virus antigenically like the cell-propagated prototype virus A/Victoria/361/2011; and
- a B/Massachusetts/2/2012-like virus.

It is recommended that quadrivalent vaccines containing two influenza B viruses contain the above three viruses and a B/Brisbane/60/2008-like virus.

Latest Influenza News

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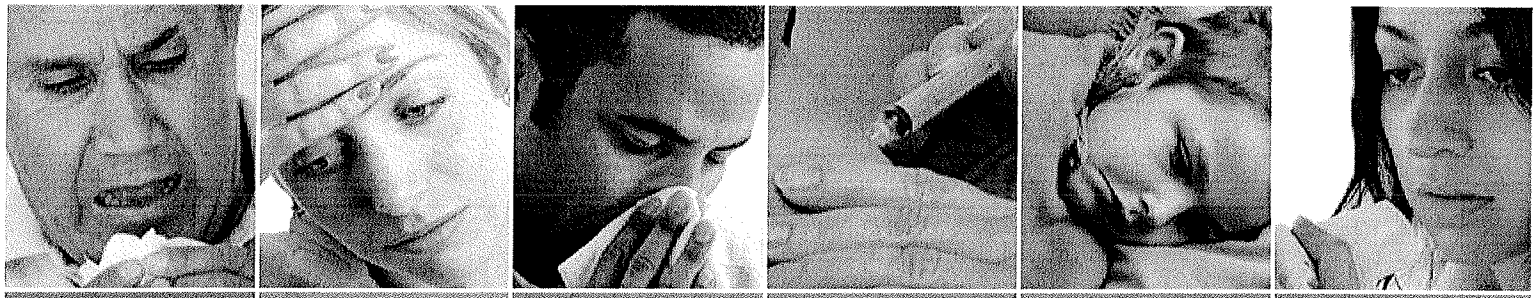
Questions or Comments

Seasonal Influenza



Clean - Wash your hands • **Cover** - Cover your cough and sneeze • **Contain** - Contain your germs - stay home if you are sick

If You Get Sick...

The flu is a contagious respiratory illness caused by influenza viruses. It can cause mild to severe illness, and at times can lead to death.

Symptoms of flu include:

- fever (usually high)
- headache
- extreme tiredness
- dry cough
- sore throa
- runny or stuffy nose
- muscle aches
- Stomach symptoms, such as nausea, vomiting, and diarrhea, also can occur but are more common in children than adults.

While getting a flu vaccine each year is the best way to protect against flu, **influenza antiviral drugs** can fight against influenza, offering a second line of defense against the flu.

Antiviral Drugs

Antiviral drugs are an important second line of defense against the flu.

- If you do get the flu, antiviral drugs are an important treatment option. (They are not a substitute for vaccination.)
- Antiviral drugs are prescription medicines (pills, liquid or an inhaler) that fight against the flu by keeping flu viruses from reproducing in your body.
- Antiviral drugs can make your illness milder and make you feel better faster. They may also prevent serious flu complications. This could be especially important for people at high risk.
- For treatment, antiviral drugs work best if started soon after getting sick (within two days of symptoms).

There are four flu antiviral drugs approved for use in the United States. The U.S. Centers for Disease Control and Prevention has issued interim guidance on which antiviral drugs to use during the 2008-09 flu season: The four antiviral drugs are:

- **Oseltamivir** (brand name Tamiflu ®) is approved to both treat and prevent influenza A and B virus infection in people 1 year of age and older.
- **Zanamivir** (brand name Relenza ®) is approved to treat influenza A and B virus infection in people 7 years of age and older and to prevent influenza A and B virus infection in people 5 years of age and older.
- **Amantadine** (Symmetrel®, generic) is approved to treat and prevent only influenza A viruses in people older than 1 year of age.
- **Rimantadine** (Flumadine®, generic) is approved to prevent only influenza A virus infection among people older than 1 year. It is approved to treat only influenza A virus infections in people 13 and older.

Antiviral drugs differ in terms of who can take them, how they are given, their dose (which can vary depending on a person's age or medical conditions), and side effects.

For more information, see "Information for Health Care Professionals: Using Antiviral Agents for Seasonal Influenza" or consult the package insert for each drug. Your doctor can help decide whether you should take an antiviral drug this flu season and which one you should use.

If You Get Sick

Most healthy people recover from the flu without complications. If you get the flu:

- Stay home from work or school.
- Get lots of rest, drink plenty of liquids, and avoid using alcohol and tobacco.
- There are over-the-counter (OTC) medications to relieve the symptoms of the flu (but never give aspirin to children or teenagers who have flu-like symptoms, particularly fever).
- Remember that serious illness from the flu is more likely in certain groups of people including people 65 years of age and older, pregnant women, people with certain chronic medical conditions and young children.
- Consult your doctor early on for the best treatment, but also be aware of emergency warning signs that require urgent medical attention.

Emergency Warning Signs

Seek emergency medical care if you or someone you know is having any of following warning signs discussed below.

In children, emergency warning signs that need urgent medical attention include:

- Fast breathing or trouble breathing
- Bluish skin color
- Not drinking enough fluids
- Not waking up or not interacting
- Being so irritable that the child does not want to be held
- Fever with a rash

In adults, emergency warning signs that need urgent medical attention include:

- Difficulty breathing or shortness of breath
- Pain or pressure in the chest or abdomen
- Sudden dizziness
- Confusion
- Severe or persistent vomiting

Seek emergency medical care if you or someone you know is experiencing any of the signs above.