

DEFINITION

- * Swine Flu is a viral respiratory infection that affects the nose, throat, trachea, and bronchi.
- * Adult thinks he/she has Swine Flu because other family members have it.
- * Adult thinks he/she has Swine Flu and it's prevalent in the community.
- * Use this guideline only if the patient has symptoms that match Swine Flu (Novel H1N1 Virus).

SYMPTOMS of Swine Flu include:

- * There is usually a sudden onset of fever, chills, feeling sick, muscle aches, and headache.
- * Respiratory symptoms are similar to a common cold: runny nose, sore throat, and a bad cough.
- * Fever is usually present. The fever is usually higher (102 - 104° F; 38.9 - 40° C) with Swine Flu than with a cold. Headaches and muscle aches are also worse with Swine Flu.

The following groups of Individuals are at higher risk for complications from Swine Flu and therefore are considered as HIGH RISK in this protocol:

- * Persons 65 years and older
- * Persons younger than 19 years old who are receiving long-term aspirin therapy (Reason: at risk for Reye syndrome)
- * Pregnant women
- * Asthma
- * Neurological and neuro-developmental 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, or spinal cord injury].
- * Chronic lung disease (such as chronic obstructive pulmonary disease [COPD] and cystic fibrosis)
- * 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 system due to disease or medication (such as people with HIV or AIDS, or cancer, or those on chronic steroids)

BACKGROUND

GENERAL INFORMATION ABOUT H1N1 INFLUENZA (SWINE FLU)

- * Swine flu viruses normally do not infect humans. Cases of swine flu spread from pigs to humans in Mexico during March 2009. An outbreak of swine flu in humans occurred in the U.S. and Canada April 2009 and started spreading person-to-person through respiratory droplets.
- * Incubation Period: After exposure, a person will come down with swine flu symptoms in 1 to 4 days. The longest incubation period is thought to be 7 days.
- * Symptoms: The symptoms of swine flu are similar to those of regular human influenza. The main symptoms are runny nose, sore throat, cough, and fever. Other common symptoms are muscle pain, headache and fatigue. Some people also have vomiting and diarrhea.
- * Prognosis and Symptom Severity: Symptoms of swine flu can be mild to severe, just as with regular human influenza. Thus far in the US and Canada, the symptoms have generally been mild; it is hoped that complications will be uncommon and death will be rare.
- * Complications: The worst complications are pneumonia and respiratory failure. Complications are more likely to occur in certain HIGH RISK patients (see list in Definition Section)

* Diagnosis: Physician offices and Emergency Departments have a Rapid Influenza Diagnostic Test (RIDT). RIDT has a sensitivity of between 10-70% for the detection of novel influenza A (H1N1) virus and between 20-100% for seasonal influenza viruses. RIDT cannot distinguish between influenza infections caused by novel influenza A viruses and seasonal influenza A viruses. (See: http://www.cdc.gov/h1n1flu/guidance/rapid_testing.htm; updated 8/12/09)

* Expected Course: The expected course will probably be similar to regular human influenza: fever for 2-3 days, runny/congested nose for 7-14 days, and the cough for 2-3 weeks.

* Transmission: The swine flu virus is spread via airborne droplet, from sneezing and coughing, just like other influenza viruses. It also can be transmitted by hands contaminated with secretions. Swine flu is NOT transmitted by eating pork.

* Contagious Period: A person is potentially contagious (virus may be in respiratory secretions) from 1 day prior to and for 7 days after the onset of symptoms (e.g., fever, cough). The CDC recommends that people with influenza-like illness remain at home until at least 24 hours after they are free of fever (100° F or 37.8°C).

* Treatment - Antiviral Medications: See below.

* Prevention - Vaccine: Last winter's human influenza vaccine offers no protection against the swine flu virus. A vaccine against swine flu is being developed; it will probably be available in Fall 2009.

ANTI-VIRAL MEDICATIONS FOR SWINE FLU

* Two medications licensed in the U.S. and Canada are believed to be effective against the swine influenza virus: zanamivir (Relenza), and oseltamavir (Tamiflu).

* TREATMENT: Treatment IS recommended for symptomatic patients who require hospitalization and symptomatic patients at HIGH risk for complications. Treatment IS NOT generally recommended for influenza-like illness in most healthy patients. Healthy patients who are not high risk and have mild, uncomplicated illness are not likely to have any benefit from treatment if initiated more than 48 hours after illness onset. [December 7 2009 CDC Antiviral Recommendations]

* POST-EXPOSURE (PREVENTION): These medications can also be taken prophylactically to prevent illness. Three groups that may especially benefit from prophylaxis are [a] pregnant women, [b] health care workers, and [c] patients at higher risk of complications who have had a close contact with someone with suspected or confirmed Swine Flu.

* Reference: <http://www.cdc.gov/swineflu/recommendations.htm>

STAYING HOME FROM WORK AND SCHOOL

* The CDC recommends that people with influenza-like illness remain at home until at least 24 hours after they are free of fever (100° F [37.8°C]).

* More information on this is available at: <http://www.cdc.gov/h1n1flu/guidance/exclusion.htm>

FIRST AID

N/A

TRIAGE ASSESSMENT QUESTIONS FOR SWINE FLU (H1N1) EXPOSURE

Call EMS 911 Now

- Severe difficulty breathing (e.g., struggling for each breath, speaks in single words, bluish lips)
R/O: severe respiratory distress.
- Difficult to awaken or acting confused (e.g., disoriented, slurred speech)
R/O: hypoxia, encephalitis
- Shock suspected (e.g., cold/pale/clammy skin, too weak to stand)
R/O: shock
- Sounds like a life-threatening emergency to the triager

See More Appropriate Protocol

- Swine Flu EXPOSURE (Close Contact) and has no fever or respiratory symptoms
Go to Protocol: Swine Flu Exposure (Adult)
- Difficulty breathing AND NO EXPOSURE (Close Contact) OR begins > 7 days after Swine Flu EXPOSURE
Go to Protocol: Breathing Difficulty (Adult)
- Cough AND NO EXPOSURE (Close Contact) OR begins over 7 days after Swine Flu EXPOSURE
Go to Protocol: Cough (Adult)
- Cold symptoms AND NO EXPOSURE (Close Contact) OR begins over 7 days after Swine Flu EXPOSURE
Go to Protocol: Colds (Adult)
- Sore throat AND NO EXPOSURE (Close Contact) OR begins over 7 days after Swine Flu EXPOSURE
Go to Protocol: Sore Throat (Adult)

Go to ED Now

- Headache and stiff neck (can't touch chin to chest)
R/O: meningitis
- Chest pain (EXCEPTION: MILD central chest pain, present only when coughing)
R/O: pneumonia, pleurisy

Go to ED Now (or to Office with PCP Approval)

- Difficulty breathing that is not severe, and not relieved by cleaning out the nose
R/O: pneumonia
- Fever > 100.5° F (38.1° C) and over 60 years of age
R/O: pneumonia
- Fever > 100.5° F (38.1° C) and diabetes mellitus or immunocompromised (e.g., HIV positive, cancer chemo, splenectomy, organ transplant, chronic steroids)
R/O: pneumonia
- Fever > 100.5° F (38.1° C) and bedridden (e.g., nursing home patient, stroke, chronic illness, recovering from surgery)
R/O: pneumonia. Note: may need ambulance transport to E.D.
- Patient sounds very sick or weak to the triager

Go to Office Now

- Fever > 104° F (40° C) and not able to get the fever down using Fever Care Advice

See Today in Office

- Sinus pain (around cheekbone or eye) persists and using nasal washes and pain medicine > 24 hours
R/O: sinusitis

- Fever present > 3 days
R/O: bacterial superinfection: sinusitis, bronchitis, pneumonia
- Fever returns after gone for over 24 hours and symptoms worse (or not improved)
R/O: sinusitis, bronchitis, pneumonia
- Patient wants to be seen

Discuss with PCP and Callback by Nurse Today

- HIGH RISK (e.g., age > 64 years, pregnant, HIV+, or chronic medical condition) with Swine Flu symptoms
Reason: Treatment with antiviral medication can be considered (CDC); PCP may wish to phone in a prescription to the pharmacy. High Risk is defined in Definition area of protocol. PCP may consider calling in prescription to pharmacy.
- Patient requests antiviral medicine for flu symptoms present < 48 hours
Note: Not a HIGH RISK patient. Patients who are not high risk typically do not require treatment with antiviral medication.

See Within 3 Days in Office

- Nasal discharge present > 14 days
R/O: sinusitis, allergic rhinitis
- Cough present > 3 weeks

Home Care

- Probable Swine Flu with no complications and not HIGH RISK
Reason: Not HIGH RISK. Patients who are not high risk typically do not require treatment with anti-viral medication.
- Probable URI (common cold) with no complications
Reason: Not HIGH RISK. Note: Fever is usually higher with Swine Flu than with a cold. Headaches and muscle aches are also worse with Swine Flu.
- Swine Flu, questions about
- Swine Flu prevention, questions about

HOME CARE ADVICE FOR SWINE FLU

General Care Advice for Respiratory (Cold/Flu) Symptoms

1. FOR A RUNNY NOSE WITH PROFUSE DISCHARGE - Blow the Nose:
 - * Nasal mucus and discharge helps to wash viruses and bacteria out of the nose and sinuses.
 - * Blowing the nose is all that is needed.
 - * Apply petroleum jelly to the nasal openings to protect them from irritation (cleanse the skin first).
2. FOR A BLOCKED NOSE - USE NASAL WASHES:
 - * STEP 1: Put 2-3 drops of warm water or saline in each nostril (Reason: To loosen up the dried mucus)
 - * STEP 2: Blow each nostril separately (Pinch one nostril shut while blowing your nose then repeat while pinching the other nostril).
 - * STEP 3. Repeat nose drops and blowing until discharge is clear.
 - * NOTES: Use a medicine dropper so you have control over how many drops you put in the nose. If you don't have one, you can use a dropper that came with ear drops, eye drops, or another medicine. You can purchase a dropper at a pharmacy. Do nasal washes four times a day or whenever you can't breathe through your nose. Another option instead of nasal washes is to take a hot shower. Breathe in the moist air through the nose and then blow each nostril.
 - * HOW TO MAKE SALINE NOSE DROPS: Add 1/2 tsp of table salt to 8 oz (240 ml) of warm water.
3. FOR COUGH:
 - * Use cough drops (Available OTC).
 - * Or, you can try sucking on a piece of hard candy.
4. FOR COUGHING SPASMS:
 - * Drink warm fluids. Inhale warm mist (Reason: both relax the airway and loosen up the phlegm).
 - * Suck on cough drops or hard candy to coat the irritated throat.
5. FOR ALL FEVERS:
 - * Drink cold fluids to prevent dehydration.
 - * Dress in 1 layer of lightweight clothing and sleep with 1 light blanket.
 - * For fevers less than 101° F (38.3° C), fever medicines are usually not necessary.
6. PAIN AND FEVER MEDICATION:
 - * For pain and fever relief, take acetaminophen or ibuprofen.
 - * ACETAMINOPHEN (e.g., Tylenol): The dose is 650 mg by mouth every 4 hours or 1000 mg by mouth every 6 hours. Maximum dose per day = 4000 mg.
 - * IBUPROFEN (e.g., Motrin, Advil): The dose is 400 mg by mouth every 6 hours or 600 mg by mouth every 8 hours.
 - * People who are over 65 Years of age: Acetaminophen is generally considered safer than ibuprofen. Acetaminophen dosing interval should be increased to every 8 hours because of reduced liver metabolism. Maximum dose per day = 3000 mg.
 - * CAUTION: Do not take ibuprofen if you have stomach problems, kidney disease, are pregnant, or have been told by your doctor to avoid this type of anti-inflammatory drug. Do not take ibuprofen for more than 7 days without consulting your doctor.
 - * CAUTION: Do not take acetaminophen if you have liver disease.
 - * Read the package instructions thoroughly on all medications that you take.

7. FOR SORE THROAT:
 - * Sip warm chicken broth or apple juice.
 - * Suck on hard candy or a throat lozenge (OTC).
 - * Gargle with warm salt water four times a day. To make salt water, put 1/2 teaspoon of salt in 8 oz (240 ml) of warm water.
 - * Avoid cigarette smoke.
8. CALL BACK IF:
 - * Difficulty breathing
 - * Fever lasts more than 3 days
 - * Nasal discharge lasts more than 14 days
 - * Cough lasts more than 3 weeks
 - * You become worse

Swine Flu Questions

1. SWINE FLU - GENERAL INFORMATION AND REASSURANCE:
 - * An outbreak of swine flu in humans started in the U.S. and Canada in April 2009. By June 2009, it had spread to most countries in the world.
 - * For healthy people, the symptoms of Swine Flu are similar to those of the common cold. However, with Swine Flu, the onset is more abrupt and the symptoms are more severe. Feeling very sick for the first 3 days is common.
 - * The treatment of Swine Flu depends on your main symptoms and is usually no different from that used for other viral respiratory infections. Most people who have been sick with this virus have recovered at home without treatment.
 - * If you have flu-like symptoms, please stay at home until at least 24 hours after you are free of fever.
2. SWINE FLU - SYMPTOMS:
 - * The symptoms of swine flu are the same as those seen with regular human influenza.
 - * The main symptoms are fever, cough, sore throat and runny nose.
 - * Fever must be present to make this diagnosis (CDC).
 - * Other common symptoms are muscle pain, headache and fatigue.
 - * Some people also have vomiting and diarrhea, but never as the only symptom.
3. SWINE FLU - TREATMENT WITH ANTIVIRAL MEDICATIONS:
 - * There are two anti-viral medications that are possibly helpful in treating this infection: oseltamivir (brand name Tamiflu) and zanamivir (brand name Relenza).
 - * Treatment is recommended for HIGH RISK patients (e.g., age > 64 years, pregnant, HIV+, or chronic medical condition) with Swine Flu or any patient with severe symptoms. (per CDC).
 - * Treatment is typically not recommended for mild to moderate Swine Flu illness that occurs in most healthy patients (per CDC).
 - * Most patients recover without taking antiviral medications.
4. SWINE FLU - CONTAGIOUSNESS:
 - * Symptoms usually start within 4-6 days of exposure to a person with swine flu (7 days is an outer limit). If more than 7 days pass from exposure without you developing symptoms, you should be safe and not get swine flu.
 - * The swine flu virus is spread by airborne droplets, from sneezing and coughing, just like other influenza viruses. It also can be transmitted by hands contaminated with secretions. Swine flu is NOT transmitted by eating pork.
 - * A person is potentially contagious (virus may be in respiratory secretions) from 1 day prior to and for 7 days after the onset of symptoms (e.g., fever, cough). The CDC recommends that people with influenza-like illness remain at home until at least 24 hours after they are free of fever (100° F or 37.8°C).

5. CALL BACK IF:
 - * You have other questions or concerns
 - * You become worse.

Preventing Swine Flu

1. HOW TO PROTECT YOURSELF FROM GETTING SICK:
 - * Wash hands often with soap and water.
 - * Alcohol-based hand cleaners are also effective.
 - * Avoid touching the eyes, nose or mouth. Germs on the hands can spread this way.
 - * Do not share eating utensils (e.g., spoon, fork).
 - * Try to avoid close contact with sick people.
 - * Try to avoid unnecessary visits to the emergency department and urgent care centers because those are the places where you are more likely to be exposed to Swine Flu, if you don't have it.
2. HOW TO PROTECT OTHERS - STAY HOME WHEN SICK:
 - * Cover the nose and mouth with a tissue when coughing or sneezing.
 - * Wash hands often with soap and water, especially after coughing or sneezing. Alcohol-based hand cleaners are also effective.
 - * Limit contact with others to keep from infecting them.
 - * Stay home from school or work for at least 24 hours after the fever is gone (CDC, August 2009).
3. FACE MASKS:
 - * Face masks refer to disposable masks labeled as surgical or dental masks.
 - * For healthy people, face masks may help reduce the risk of getting swine flu in crowded settings, if swine flu becomes prevalent (CDC).
 - * Avoiding sick people and frequent hand washing are more effective preventive measures.
 - * At the present time, face masks are not needed in the U.S. for healthy people. (Possible exception: households where a family member has Swine Flu).
 - * Sick people should wear a face mask if they must leave their home to seek medical care.
4. SWINE FLU VACCINE:
 - * A vaccine against H1N1 Influenza became available in October 2009.
 - * The CDC has guidelines regarding who should get the vaccine.
5. PREVENTING SWINE FLU - ANTIVIRAL MEDICATIONS:
 - * Two medications licensed in the U.S. and Canada are believed to be effective in PREVENTING the swine influenza virus: zanamivir (Relenza), and oseltamavir (Tamiflu).
 - * Possible indications: Recent close contact with person with confirmed Swine Flu AND the exposed person is in a HIGH RISK group (e.g., age > 64 years, pregnant, HIV+, or chronic medical condition).
 - * It is effective only while you are taking it and ceases once you stop taking it.
 - * You should only take one of these antiviral medications if your physician recommends it.
6. CALL BACK IF:
 - * You have other questions or concerns
 - * You become worse.

Internet Resources

1. INFORMATION FROM THE WORLD HEALTH ORGANIZATION (WHO) ABOUT SWINE FLU
 - * On June 11, 2009, the WHO signaled that a global pandemic of novel influenza A (H1N1) was underway by raising the worldwide pandemic alert level to Phase 6.
 - * WHO Swine Influenza (H1N1) Website <http://www.who.int/csr/disease/swineflu/en/index.html>
 - * WHO complete list of guidance documents:
<http://www.who.int/csr/disease/swineflu/guidance/en/index.html>

2. INTERNET RESOURCE FOR U.S.
 * Centers for Disease Control and Prevention, United States (CDC)
 * For most up to date information, visit CDC's Swine Flu Web site at
<http://www.cdc.gov/swineflu/>
 * Swine Flu Video PodCast by Joseph Bresee MD, Chief, Epidemiology & Prevention Branch,
 CDC Influenza Division: <http://www.youtube.com/watch?v=-nTQDs7ZQG0>
3. INTERNET RESOURCE FOR CANADA
 * Health Canada
 * http://www.phac-aspc.gc.ca/alert-alerte/swine_200904-eng.php

Exposure of a High Risk Patient

1. IF YOU BECOME SICK WITH H1N1: If you live with a HIGH-RISK person (i.e., a spouse or child who is pregnant, over 64 years, or with a chronic disease), then you should call the HIGH-RISK patient's doctor within 24 hours. (Reason: may need anti-viral medication).

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