

MOTHERS, BABIES, AND H1N1 (SWINE FLU)

YOUR QUESTIONS, OUR ANSWERS

H1N1

www.cdc.gov/h1n1flu

Background

Human infections with novel influenza A (H1N1) (initially referred to as “swine flu” or novel H1N1 flu) were first identified in April of 2009. The epidemiology and clinical presentations of these infections are currently under investigation. Initial findings indicate that this virus causes a spectrum of illness that is similar to that caused by seasonal influenza viruses. While many infections with novel influenza A (H1N1) virus are relatively mild, some persons infected with this virus have had severe or even fatal infections. There are insufficient data available at this time to determine which groups of people are at higher risk for complications of novel H1N1 flu virus. However, over half of persons who have required hospitalization because of novel influenza A (H1N1) virus infection have had an underlying medical condition or have been pregnant. In addition, evidence from the previous pandemics of 1918-1919 and 1957-1958 and from seasonal influenza suggests that pregnant women are likely to be at increased risk of morbidity and mortality related to infection with this novel flu virus. The impact of novel H1N1 flu on the newborn is unknown, but based on previous experience, newborns are expected to be at increased risk of severe illness.

What are the signs and symptoms of this virus in people?

The symptoms of 2009 H1N1 flu virus in people include fever, cough, sore throat, runny or stuffy nose, body aches, headache, chills and fatigue. Some people may have vomiting and diarrhea. People may be infected with the flu, including 2009 H1N1 and have respiratory symptoms without a fever. Severe illnesses and death has occurred as a result of illness associated with this virus.

What should I do if I get sick?

If you live in areas where people have been identified with 2009 H1N1 flu and become ill with influenza-like symptoms, including fever, body aches, runny or stuffy nose, sore throat, nausea, or vomiting or diarrhea, you should stay home and avoid contact with other people. [CDC recommends that you stay home for at least 24 hours after your fever is gone](#) except to get medical care or for other necessities. (Your fever should be gone without the use of a fever-reducing medicine.) Stay away from others as much as possible to keep from making others sick. Staying at home means that you should not leave your

home except to seek medical care. This means avoiding normal activities, including work, school, travel, shopping, social events, and public gatherings.

If you have severe illness or you are at high risk for flu complications, contact your health care provider or seek medical care. Your health care provider will determine whether flu testing or treatment is needed.

Q: Why does CDC recommend that pregnant women receive the 2009 H1N1 influenza vaccine?

A. It is important for a pregnant woman to receive the 2009 H1N1 influenza vaccine as well as a seasonal influenza vaccine. A pregnant woman who gets any type of flu is at risk for serious complications and hospitalization. Pregnant women who are otherwise healthy have been severely impacted by the 2009 H1N1 influenza virus (formerly called “novel H1N1 flu” or “swine flu”). In comparison to the general population, a greater proportion of pregnant women infected with the 2009 H1N1 influenza virus have been hospitalized. In addition, severe illness and death has occurred in pregnant women. Six percent of confirmed fatal 2009 H1N1 flu cases thus far have been in pregnant women while only about 1% of the general population is pregnant. While hand washing, staying away from ill people, and other steps can help to protect pregnant women from influenza, vaccination is the single best way to protect against the flu.

Q: Is there a particular kind of flu vaccine that pregnant women should get? Are there flu vaccines that pregnant women should not get?

A. There are two type of flu vaccine. Pregnant women should get the "flu shot"—an inactivated vaccine (containing fragments of killed influenza virus) that is given with a needle, usually in the arm. The flu shot is approved for use in pregnant women.

Q. Will the seasonal flu vaccine also protect against the 2009 H1N1 flu?

A. The seasonal flu vaccine is not expected to protect against the 2009 H1N1 flu. Similarly, the 2009 H1N1 influenza vaccine will not protect against seasonal influenza.

Q. Can the seasonal influenza vaccine and the 2009 H1N1 influenza vaccine be given at the same time?

A. It is anticipated that seasonal flu and 2009 H1N1 vaccines may be administered on the same day but given at different sites (e.g. one shot in the left arm and the other shot in the right arm). However, we expect the seasonal vaccine to be available earlier than the 2009 H1N1 influenza vaccine. The usual seasonal influenza viruses are still expected to cause illness this fall and winter. Pregnant women and others at increased risk of complications of influenza are encouraged to get their seasonal flu vaccine as soon as it is available.

Q: Is the 2009 H1N1 influenza vaccine safe for pregnant women?

A: Influenza vaccines have not been shown to cause harm to a pregnant woman or her baby. The seasonal flu shot (injection) is proven as safe and already recommended for pregnant women. The 2009 H1N1 influenza vaccine will be made using the same processes and facilities that are used to make seasonal influenza vaccines.

Q: What safety studies have been done on the 2009 H1N1 influenza vaccine and have any been done in pregnant women?

A: A number of clinical trials which test 2009 H1N1 influenza vaccine in healthy children and adults are underway. These studies are being conducted by the National Institutes of Allergies and Infectious Diseases (NIAID). Studies of 2009 H1N1 influenza vaccine in pregnant women are expected to begin in September.

Q: Does the 2009 H1N1 influenza vaccine have preservative in it?

A: There is no evidence that thimerosal (used as a preservative in vaccine packaged in multi-dose vials) is harmful to a pregnant woman or a fetus. However, because some women are concerned about exposure to preservatives during pregnancy, manufacturers will produce preservative-free seasonal and 2009 H1N1 influenza vaccines in single dose syringes for pregnant women and small children. CDC recommends that pregnant women may receive influenza vaccine with or without thimerosal.

Q: What are the possible side effects of the 2009 H1N1 influenza vaccine?

A. The side effects from 2009 H1N1 influenza vaccine are expected to be similar to those from seasonal flu vaccines. The most common side effects following vaccination are expected to be mild, such as soreness, redness, tenderness or swelling where the shot was given. Some people might experience headache, muscle aches, fever, nausea and fainting. If these problems occur, they usually begin soon after the shot and may last as long as 1-2 days. Like any medicines, vaccines can cause serious problems like severe allergic reactions. However life-threatening allergic reactions to vaccines are very rare. In 1976, an earlier type of swine flu vaccine was associated with cases of a severe paralytic illness called Guillain-Barre Syndrome (GBS) at a rate of approximately 1 case of GBS per 100,000 persons vaccinated. Some studies done since 1976 have shown a small risk of GBS in persons who received the seasonal influenza vaccine. This risk is estimated to be no more than 1 case of GBS per 1 million persons vaccinated. Since then, flu vaccines have not been clearly linked to GBS. GBS has a number of different causes, and GBS can occur in a person who has never received an influenza vaccine. The potential benefits of influenza vaccination in preventing serious illness, hospitalization, and death substantially outweigh these estimates of risk for vaccine-associated GBS.

Anyone who has a severe (life-threatening) allergy to eggs or to any other substance in the vaccine should not get the vaccine. People should always inform their immunization provider if they have any severe allergies, if they've ever had a severe allergic reaction following flu vaccination, or if they have ever had GBS.

Pregnant Women Exposed to H1N1

Post exposure antiviral chemoprophylaxis (tamiflu) can be considered for pregnant women who are close contacts of persons with suspected or laboratory confirmed novel influenza A (H1N1) virus infection. If chemoprophylaxis medications are being taken, exposed [pregnant women](#) can be managed in the usual way in compliance with established infection control guidance. Women who have symptoms of influenza-like-illness (defined as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat in the absence of a KNOWN cause other than influenza) should be treated as if they had influenza.

Pregnant Women With Confirmed, Probable, or Suspected H1N1 Illness

In general, guidance for control of novel H1N1 flu infection in obstetric settings is consistent with that in other healthcare settings but also includes special considerations for prevention of infection in the newborn. Infants are known to be at higher risk of severe illness from seasonal influenza virus infections. Based on this experience, infants are also considered to be at higher risk for severe illness from novel influenza A (H1N1) virus infection. Because very little is known about prevention of novel H1N1 flu infection in infants, these recommendations are intended to minimize the potential for exposure to novel influenza A (H1N1) viruses when an ill pregnant woman delivers her baby.

Special considerations in obstetric settings when a pregnant woman has confirmed, probable or suspected novel H1N1 flu (adapted from recommendations for seasonal influenza: <http://www.cdc.gov/flu/professionals/infectioncontrol/peri-post-settings.htm>) include:

- Initiate appropriate antiviral treatment as soon as possible.
- Isolate the ill mother from healthy pregnant women as mentioned above.
- Place a surgical mask on the ill mother during labor and delivery, if tolerable, in order to decrease exposure of the newborn, healthcare personnel, and other labor and delivery patients to potentially infectious respiratory secretions.
- Place the ill mother in isolation after delivery (http://www.cdc.gov/h1n1flu/guidelines_infection_control.htm). The mother who has influenza-like-illness (<http://www.cdc.gov/h1n1flu/casedef.htm>) at delivery should consider avoiding close contact with her infant until the following conditions have been met: she has received antiviral medications for 48 hours, her fever has fully resolved, and she

can control coughs and secretions. Meeting these conditions may reduce, but not eliminate, the risk of transmitting influenza to the baby. Before these conditions are met, the newborn should be cared for in a separate room by another person who is well, and the mother should be encouraged and assisted to express her milk. Breast milk is not thought to be a potential source of influenza virus infections. As soon as all conditions are met, the mother should be encouraged to wear a facemask, change to a clean gown or clothing, adhere to strict hand hygiene and cough etiquette when in contact with her infant, and begin breastfeeding (or if not able to breastfeed, bottle feeding). She should continue these protective measures, both in the hospital setting and at home, for at least 7 days after the onset of influenza symptoms (http://www.cdc.gov/h1n1flu/guidance_homecare.htm#c). If symptoms last more than 7 days, she should discuss the symptoms with her doctor. Protective measures might need to be continued until she is symptom-free for 24 hours. People who are once again well 7 days after getting sick are thought to be at low risk for transmitting the virus to others.

Newborns of Ill Mothers

Because the risk for transmission of novel H1N1 flu from mother to fetus is unknown, the newborn should be considered to be potentially infected if delivery occurs during the 2 days before through 7 days after illness onset in the mother. Infection control procedures developed for novel H1N1 flu should be used for the newborn throughout the hospital stay (http://www.cdc.gov/h1n1flu/guidelines_infection_control.htm). The newborn should be closely monitored for signs and symptoms of influenza. If signs or symptoms develop, testing should be performed, infection control measures should be continued, and treatment with anti-influenza medications should be considered (<http://www.cdc.gov/h1n1flu/childrentreatment.htm>). Oseltamivir is approved for prevention of influenza in patients 1 year of age and older; however, an emergency use authorization (EUA) has been issued for oseltamivir for influenza treatment and prevention in patients less than 1 year of age (<http://www.cdc.gov/h1n1flu/recommendations.htm#C>).

Chemoprophylaxis of infants less than 3 months of age is not typically recommended, as there are very limited data available on the safety and effectiveness of chemoprophylaxis for infants less than 3 months. However, in situations which are judged to be critical, chemoprophylaxis with oseltamivir can be considered.

Infant Feeding

Breastfeeding should be protected and supported at all times because of the protection from respiratory infection that breast milk provides to the infant. The mother with influenza-like-illness should be encouraged and assisted to express her milk. During this time, the infant should be fed the mother's expressed milk by another person who is well.

Treatment or chemoprophylaxis with antiviral medications is not a contraindication to breastfeeding. For other information related to infant feeding, please see <http://www.cdc.gov/h1n1flu/breastfeeding.htm>.

Visitors

Limit visitors to mothers in isolation for novel influenza A (H1N1) virus infection to persons who are necessary for the patients' emotional well-being and care (http://www.cdc.gov/h1n1flu/guidelines_infection_control.htm).

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