

The Carilion '09 - '10 Influenza Newsletter



Improper Respiratory Etiquette

Proper Respiratory Etiquette

Issue Number 9:

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Editor's Note:

We are in the middle of the 2009 H1N1 epidemic. This is not a surprise to you, as by now all of us know someone who has had illness from this virus. Thankfully, for the vast majority of individuals who have become infected, there have been no serious complications, other than feeling horrible and being bed bound for a few days. Nevertheless, it remains a serious issue for those individuals who do develop more severe disease or complications. There is more severe disease associated with this H1N1 than with past seasonal influenza viruses. This makes continued efforts at prevention of transmission of utmost importance. Within our patient care facilities (outpatient and hospitals) we cannot not relax on the infection control practices of washing hands, wearing protective personal equipment (mask, gloves, gowns) when appropriate and practicing respiratory etiquette.

The best prevention for influenza remains vaccination. Now that some vaccination clinics for employees have been held, there are recurring questions being asked. We will attempt to answer these questions in this issue.

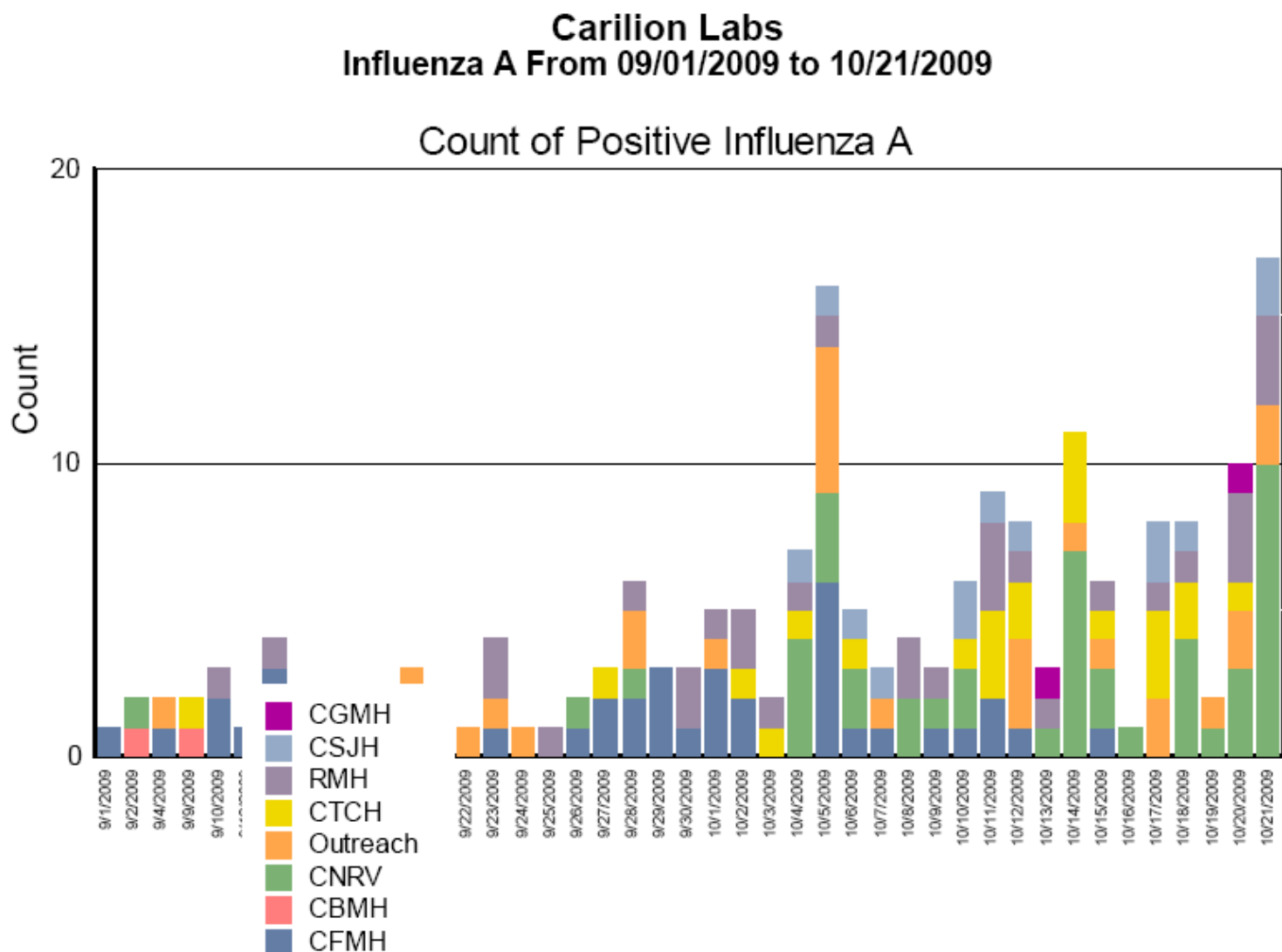
For the providers who care for children (Pediatricians & Family Practice), this issue has an algorithm for evaluating and managing pediatric patients with influenza-like-illness (ILI), instructions for parents and caregivers on the care of the child at home and an example of an answering machine message for Pediatric and Family Practice offices.

I urge you to continue to use the newsletters for looking up answers to other questions and for a listing of informative web sites. On the Carilion Intranet homepage (<http://chsweb.carilion.com/>) the Influenza Information link is at the bottom of the page. The actual URL for the information is:

<http://www2.carilion.com/hr/internal/html/influenzainfo.htm>

Epidemiology Notes:

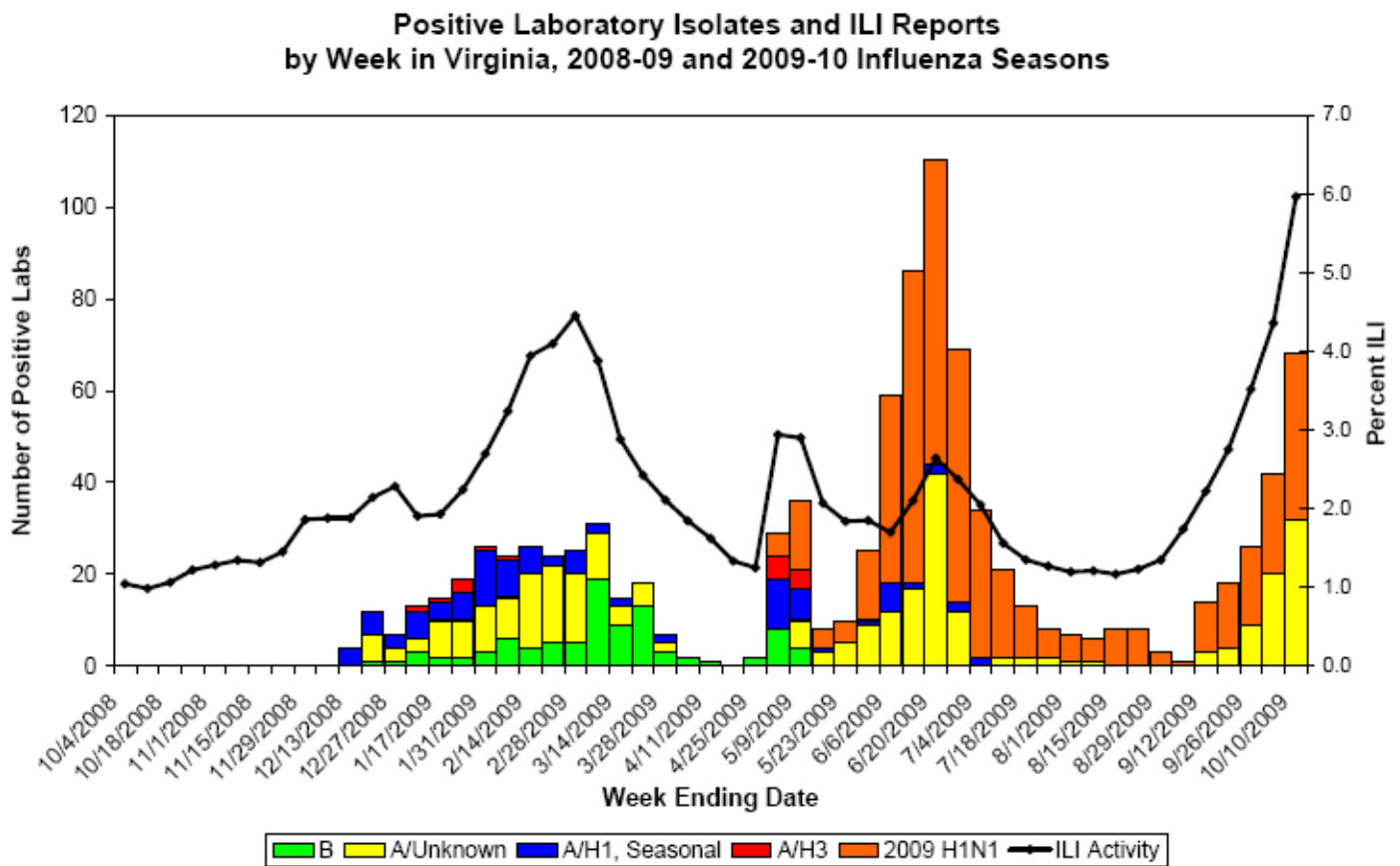
Figure 1: Positive Number of Rapid Flu A tests by Date and Location



Clinicians should be aware that the sensitivities of rapid influenza diagnostic tests (RIDT) are not 100%. A negative test does not rule out influenza, including 2009 H1N1. Further, these tests cannot distinguish between 2009 H1N1 and seasonal H1N1 or H3N2 influenza A viruses. Presently, about 14% of patients presenting with ILI to Carilion facilities, and who are tested, have a positive Rapid Influenza A test. This underscores the low sensitivity of the test.

The only circulating influenza virus at this time is the 2009 H1N1. Medical management decisions are based on clinical parameters and not test results.

Figure 2: Percent of Outpatient & ED Visits in Virginia related to ILI



Again, this is what the practitioners already know. For the week ending October 10, 6% of all outpatient visits in Virginia were because of ILI. The baseline in non-influenza season is 1%. During the seasonal influenza it is considered at epidemic levels when it reaches 4.5%.

Vaccine Questions & Answers

- Q. *Why is there a shortage of seasonal flu vaccine this year and why are the supplies of H1N1 vaccine not meeting predicted production levels?*
- A. The companies that manufacture influenza vaccines are limited in number. Each year they gear up to make the seasonal flu vaccine. This year, they also had to gear up to manufacture the 2009 H1N1 vaccine. However, the amount of equipment, assembly lines and people involved in the process remains the same from year to year. So there had to be a corresponding decrease in seasonal flu vaccine production to also produce 2009 H1N1 vaccine.

For the month of October, it was anticipated that 40 million doses of 2009 H1N1 vaccine would be produced. This number has been decreased to 28 million for the month. The virus that is used to produce the vaccine is grown in eggs. It turns out that the 2009 H1N1 virus grows more slowly than the usual seasonal influenza varieties of virus, making vaccine production slower.

Q. *What are the available forms of influenza vaccines?*

A. Influenza vaccine, be it seasonal or 2009 H1N1, comes in two forms: an injectable form and as a nasal spray.

The injectable form, intramuscular shot (IM) is a killed virus vaccine and the nasal spray is a live attenuated virus vaccine. Attenuated means that although the virus is alive, its capability to cause disease is greatly limited, while still stimulating the immune system to develop protection.

Q. *Do the vaccines contain any additives or preservatives?*

A. Neither the IM shot nor the nasal spray form of the vaccine contains additives. What this refers to is that some other types of vaccines may contain what are called adjuvants (from the Latin *adjuvare*, meaning to assist). Chemical adjuvants can help boost the immune response to a vaccine beyond the response one might see using the virus alone. Some people are concerned that adjuvants may decrease the safety of a vaccine. This is not a concern with the influenza virus vaccines as no adjuvants are added.

A “preservative” is often added to vaccines to preserve the shelf life of the product by keeping the material sterile. The most common preservative is thimersol. By definition and necessity, the nasal spray vaccines cannot contain a preservative, otherwise the attenuated live virus would be killed and the vaccine would not be effective.

Thimersol is an inert form of mercury. This means our body cannot take this form of mercury into its system. Even though it has been definitively proven that thimersol in vaccines does not lead to autism some individuals still mistakenly believe this. About half of the IM vaccine will be preservative free to be used in pregnant women who still have these concerns.

Q. *Who can get the nasal form of the influenza vaccines?*

A. Healthy people from ages 2 years through 49 years including women who are not pregnant.

Contraindications to receiving the live attenuated influenza virus (LAIV) vaccine (nasal spray) include:

- allergy to eggs
- pregnancy
- asthma
- children < 5 yrs with any history of wheezing
- chronic steroid use
- people with chronic heart or lung disease
- people with diabetes or kidney failure
- people with illnesses that weaken the immune system (e.g. HIV), cancer chemotherapy, etc.
- children or adolescents receiving aspirin
- people with a past history of having Guillian-Barre Syndrome after receiving influenza vaccine

Q. *Well, I am younger than 50 and I don't have any of those underlying conditions, but I still don't want to get the nasal spray because I am afraid I will pass the live virus on to someone else. What do you have to say about that?*

A. This is a very frequent concern and question. Remember, the virus has been *attenuated* so that it will not cause disease or be transmissible to others. The nasal spray form of the vaccine was approved for use by the FDA in 2002. About 100 million doses are given every year accounting for at least 700 million doses having been given. To date, there is one documented case of a person who received the nasal spray influenza vaccine passing the vaccine virus to another person. That is 1 in 700 million. For those of you who think you are going to win the Mega-Millions Lottery, where the chances are 1 in 175 million, passing the vaccine virus onto someone else is four times less likely to happen than winning the Mega-Millions.

Q. *Okay, that seems like a pretty slim chance of passing on the virus, but you know, my child has asthma and is sometimes on steroids, and this weekend I am going to visit my frail, elderly grandmother, so which form of the vaccine should I get?*

A. It is still perfectly safe for you to get the nasal spray form of the vaccine. Since the vaccine is a live virus there is the THEORETICAL risk that you could pass it on. But you see the odds of this actually happening. Where this theoretical risk is still given some credence is in those providers and staff that care for patients after stem cell transplants and these patients are still requiring strict isolation measures because of the underlying very severe immunosuppression. At Carilion, we do not have any such patients.

Q. *I have a child who requires steroids for treatment of inflammatory bowel disease and another child who is taking aspirin for juvenile rheumatoid arthritis. Their school is doing mass immunizations with the nasal spray for 2009 H1N1. Can my children go to school the day those immunization campaigns are carried out?*

A. Absolutely....for the reasons stated above.

Q. *I just delivered my new baby, and I am breastfeeding her. The vaccine was not available when I was pregnant so I did not get the IM shot during pregnancy. Since my baby is under 6 months of age and I am breastfeeding, can I take the nasal spray form of the vaccine?*

A. Yes. Parents or caregivers with children < 6 months of age in the household are a high priority for getting vaccinated. Again, for the reasons given above, it is safe to get the nasal spray. Influenza viruses are also not transmitted in breast milk. So there is a second reason for being safe.

Q. *I am confused about when I can take the seasonal flu vaccine in relation to the 2009 H1N1 vaccine. I've heard that both can be given at the same time, while also hearing that I have to wait for 4 weeks between getting the vaccines. What is correct?*

A. This is a very frequent question and there is a difference, which requires careful reading. Only if you are going to receive BOTH the 2009 H1N1 AND the seasonal flu vaccine as a NASAL SPRAY do you have to wait 4 weeks between the administration. If you get BOTH as an IM injection, or ONE as an injection and the other as a nasal spray, they can be given in any sequence and at any time, including at the same time.

The seasonal flu is not yet here and generally doesn't begin to show up until late November or December, with the peak being in February. So, if you qualify for the nasal spray vaccines, go ahead and get the 2009 H1N1 nasal spray vaccine now and then come back in 4 weeks to get the seasonal influenza nasal spray vaccine.

This has been fun taking your questions. If you have others, please send them along.

Fall 2009 Influenza Vaccination Schedule

Influenza vaccination clinics have been held and are continuing in all Carilion facilities.

However, due to the inconsistent shipments of the 2009 H1N1 vaccine and variability in the number of doses received AND because further seasonal flu vaccine will not be available until November, there will have to be make-up sessions. The times and dates of sessions, or other venues for vaccination will be communicated as soon as we know them.

Algorithm for evaluating and treating Pediatric Patients with Influenza like Illness

START: Patient telephones or presents with Fever $\geq 37.8^{\circ}\text{C}$ (100°F) AND cough and/or sore throat, in the absence of another known etiology. Influenza-Like-Illness (ILI) (Some children with H1N1 have also had vomiting & diarrhea)

No further evaluation for Influenza is indicated

No

Yes

Assess for Evidence of Severe Disease

1. **Severe respiratory distress** Lower chest wall indrawing, sternal recession, grunting, or noisy breathing when calm.
2. **Increased respiratory rate.** Measured over at least 30 seconds. ≥ 50 breaths per minute if under 1 year, or ≥ 40 breaths per minute if ≥ 1 year.
3. **Oxygen saturation $\leq 92\%$ on pulse oximetry, breathing air or on oxygen.** Absence of cyanosis is a poor discriminator for severe illness.
4. **Respiratory exhaustion or apneic episode** Apnea defined as a ≥ 20 second pause in breathing.
5. **Evidence of severe clinical dehydration or clinical shock** Sternal capillary refill time > 2 seconds, reduced skin turgor, sunken eyes or fontanelle.
6. **Altered conscious level** Strikingly agitated or irritable, seizures, or floppy infant.

One or more are present

No

Yes

Does the child have any of the following co-morbidities?

1. Cardiac disease
2. Chronic respiratory disease (e.g. asthma, bronchopulmonary dysplasia)
3. Other chronic diseases (e.g., diabetes mellitus, chronic metabolic diseases, chronic renal failure, hemoglobinopathies)
4. Chronic neurological disorders e.g. muscular dystrophies
5. Impaired immunity, including HIV infection, child with malignancy or immunosuppressive therapy
6. Children aged 6 months – 10 years on long-term aspirin therapy
7. Malnourished or morbid obesity

Refer for direct hospital admission or ED admission.

Notify transporting EMS and receiving hospital of suspected influenza and need for appropriate PPE.

TESTING: Respiratory influenza PCR by referral lab should be prioritized for seriously ill hospitalized patients with suspected influenza regardless of initial RIDT results. Testing remains at the discretion of the provider.

TREATMENT:

- Initiate empiric treatment with oseltamivir or zanamivir *as soon as possible*. Do not delay treatment pending laboratory confirmation of influenza. Consider antivirals even if onset of symptoms has been > 48 hours
- If bacterial coinfection suspected, also consider antibacterial therapy.

No

Yes

Patient NOT at high risk for Complications
TESTING: Not necessary; Rapid Influenza Diagnostic Test (RIDT) if helps clinical judgment (e.g. exclusion of alternate diagnosis).
TREATMENT: Antivirals typically not required; symptomatic treatment only, but use clinical judgment.

GIVE PARENTS HOME ASSESSMENT TOOL

Patient at **HIGH RISK** for Complications
TESTING: RIDT is usually not necessary. If test not done or negative, should not influence decision to treat.
TREATMENT: Consider initiating empiric treatment with oseltamivir or zanamivir, as soon as possible, ideally within 48 hours of onset.

GIVE PARENTS HOME ASSESSMENT TOOL

Using the Home Assessment Tool, if patient develops moderate to severe symptoms at home, admit patient to hospital for evaluation and treatment.

HOME ASSESSMENT TOOL

Children should be brought to the nearest hospital for further assessment if they develop the following symptoms and signs:

1. Lethargy or poor oral intake
2. Change in mental status or behavior e.g. Drowsiness , irritability
3. Signs of dehydration: sunken eyes, dry tongue, absence of tears during crying or poor urine output.
4. Increasing respiratory rate: fast breathing, noisy breathing, presence of chest recession (chest in-drawing)
5. Seizures
6. Cyanosis
7. Persistent fever

Antiviral medication dosing recommendations for treatment of novel influenza A (H1N1) infection.

Agent, group		Treatment
Oseltamivir		
Children ≥ 12 months	15 kg or less	30 mg twice daily
	16-23 kg	45 mg twice daily
	24-40 kg	60 mg twice daily
	>40 kg	75 mg twice daily
Zanamivir		
Children	Two 5-mg inhalations (10 mg total) twice per day (age 7 years or older)	

Dosing recommendations for antiviral treatment of children younger than 1 year using oseltamivir.

Age	Recommended treatment dose for 5 days
<3 months	12 mg twice daily
3-5 months	20 mg twice daily
6-11 months	25 mg twice daily

Prophylaxis:

Consideration for antiviral chemoprophylaxis should generally be reserved for persons at higher risk for influenza-related complications who have had contact with someone likely to have been infected with influenza. However, early treatment is an emphasized alternative to chemoprophylaxis after a suspected exposure. Household or close contacts (with risk factors for influenza complications) of confirmed or suspected cases can be counseled about the early signs and symptoms of influenza, and advised to immediately contact their health care provider for evaluation and possible early treatment if clinical signs or symptoms develop.

SUGGESTED HOME CARE INSTRUCTIONS

You or your child will probably be sick for several days with fever and respiratory symptoms.

Take Medications as Prescribed:

- Take all of the antiviral medication as directed.
- Continue to cover your cough and wash your hands often, even when taking antiviral medications, to prevent spreading influenza to others.
- Call the office if you (or your child) experience any side effects; i.e. nausea, vomiting, rash, or unusual behavior.
- Take medications for symptom relief as needed for fever and pain such as acetaminophen (Tylenol®) and ibuprofen (Advil®, Motrin®, Nuprin®), and cough medicine. These medicines do not need to be taken regularly if your symptoms improve.
- Do **not** give aspirin (acetylsalicylic acid) or products that contain aspirin (e.g. bismuth subsalicylate – Pepto Bismol) to children or teenagers 18 years old or younger.
- Children younger than 4 years of age should not be given over-the-counter cold medications without first speaking with a health care provider.

Follow These Home Care Recommendations:

- 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 fever-reducing medicine.)
- Keep away from others as much as possible. This is to keep from making others sick.
- Drink clear fluids (such as water, broth, sports drinks, electrolyte beverages for infants) to keep from being dehydrated.
- Dishes can be done in dishwasher or with hot soapy water.
- Throw away tissues and other disposable items used by the sick person in the trash. Wash your hands after touching used tissues and similar waste.
- Have everyone in the household wash hands often with soap and water, especially after coughing or sneezing. If soap and water are not available, use an alcohol-based hand rub.
- Avoid touching your eyes, nose and mouth. Germs spread this way.

SUGGESTED PEDIATRIC OFFICE VOICE TELEPHONE ANSWERING MESSAGE

Thank you for calling our office. We are experiencing very high call volume at this time and apologize for the delay in answering your call.

Many people are concerned about the novel H1N1 flu virus. CDC has determined that this new H1N1 virus is contagious and is spreading from person-to-person, probably like seasonal flu. The symptoms of this new H1N1 flu virus in people are similar to the symptoms of seasonal flu and include fever, cough, sore throat, runny or stuffy nose, body aches, headache, chills, and fatigue. A significant number of people also have reported diarrhea and vomiting.

Most people who have been sick with this virus in the U.S. have recovered at home without treatment. If your child has flu-like symptoms, please keep him or her at home for seven days or 24 hours after symptoms resolve, unless given other instructions by your pediatrician or their staff.

Like seasonal flu, complications can occur with novel H1N1 flu. Seek emergency medical care if your child becomes ill and experiences any of the following warning signs:

- Fast breathing

- Trouble breathing

- Bluish or gray skin color

- Not drinking enough fluids

- Not urinating as much as usual

- Severe or persistent vomiting

- Not waking up or interacting as usual

- Being so irritable that your child does not even want to be held

- Fever returns after being absent for a day, or a significant change in fever pattern occurs. For example, it was 101 degrees Fahrenheit for several days and now it's 103 degrees.

Again, seek emergency medical care if your child becomes ill and experiences any of those warning signs.

It's important that your child not be exposed to other children who are sick, and that if your child has a flu-like illness that he or she does not expose other people, in order to keep from spreading illness.

There are some things you can do to keep you and your child healthy:

Cover your nose and mouth with a tissue when you cough or sneeze. If you don't have a tissue, cough or sneeze into your upper sleeve, not your hands. Put your used tissue in the waste basket.

Wash hands often with soap and water, especially after coughing or sneezing. If soap and water aren't available, use an alcohol-based hand cleaner.

Avoid close contact with sick people.

If you or your child gets sick with a flu-like illness, stay home from work or school and limit contact with others to keep from infecting them.

Avoid touching your eyes, nose, or mouth. Germs spread this way.

If your questions for our office have been answered, please hang up. If you still need to speak with someone, please be patient; someone will be with you shortly.

Key Websites:

1. Main site with all of the necessary links: <http://www.cdc.gov/h1n1flu/>
2. Revised Guidelines as of October 14, 2009: <http://www.cdc.gov/h1n1flu/guidance/ill-hcp.htm>
2. General Information: http://www.cdc.gov/h1n1flu/general_info.htm
H1N1 Flu (Swine Flu): General Information
 - [H1N1 Flu & You](#)
What is novel H1N1 flu? Updated September 24, 2009
 - [What To Do if You Get Flu-Like Symptoms](#) Updated September 22, 2009
 - [Antiviral Drugs](#) Updated September 23, 2009
 - [Taking Care of a Sick Person in Your Home](#) Updated September 24, 2009
 - [Novel H1N1 Vaccine: Q & A](#) Updated **October 13, 2009**
 - [Facemask & Respirator Use](#) Updated September 24, 2009
 - [Emergency Use Authorization \(EUA\) of Medical Products and Devices](#)
 - [Audio & Video Resources](#)
Podcasts, public service announcements, press briefings, and webcasts
 - [Social Media](#)
Widgets, mobile info, buttons, videos, podcasts, e-cards, RSS feeds, twitter/microblogs updates, image sharing, social networking
 - [Flyers & Other Print Materials](#)
3. Information for Specific Groups: <http://www.cdc.gov/h1n1flu/groups.htm>
 - [Parents and Caregivers](#)
 - [Pregnant Women](#)
 - [Day and Residential Camps](#)
 - [Child Care Programs, Schools, Colleges and Universities](#)
 - [Travelers and Travel Industry](#)
 - [Clinicians](#)
 - [Laboratorians](#)
 - [Adults with HIV Infection](#) Updated August 5
 - [People with Diabetes](#)
 - [People With Cardiovascular Disease](#)
 - Tribal Nations: [Preparing Tribal Nations to Receive Strategic National Stockpile Assets](#) [PDF 163KB]

That is all for Issue # 9 of the *Carilion '09-'10 Influenza Newsletter*. Feel free to direct any questions, suggestions or concerns to:

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