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# DHEC Health Advisory

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## **Guidance and links for clinicians regarding Influenza A H1N1 (swine) testing and anti-viral treatment**

***Notes:** Due to the rapidly evolving situation, all documents providing guidance relating to the current response to Influenza H1N1 (swine) should be considered as interim, and the most recent updates should always be referenced.*

***Note 2:** The naming convention of this novel virus is still evolving as well. For the purposes of this communication, the phase "Influenza A H1N1 (swine)" is being used when referring to "Swine-origin influenza virus (S-OIV)" or "swine flu virus" references.*

***Note 3:** All references to "Confirmed", "Probable", or "Suspect" cases of Influenza A H1N1 (swine) are based upon the current CDC case definitions. These case definitions can be referenced at: [http://www.cdc.gov/h1n1flu/casedef\\_swineflu.htm](http://www.cdc.gov/h1n1flu/casedef_swineflu.htm)*

### **Guidance regarding Influenza A H1N1 (swine) testing at the SC DHEC Bureau of Laboratories**

#### **1. Who can be tested for Influenza A H1N1 (swine) through the DHEC Bureau of Laboratories (BOL)?**

Currently, the CDC laboratory is the only one in the country which can unambiguously identify S-OIV, and in South Carolina, only preliminary testing by the DHEC BOL can provide access to CDC confirmatory testing. However, due to an imbalance between "interest in testing" and "availability of testing resources", the (BOL) can currently only test patients who meet CDC's "suspect case" definition:

A [suspected case](#) of swine influenza A (H1N1) virus infection is defined as a person with acute febrile respiratory illness with onset:

- within 7 days of close contact with a person who is a [confirmed case](#) of swine influenza A (H1N1) virus infection, or
  - within 7 days of travel to community either within the United States or internationally where there are one or more confirmed swine influenza A(H1N1) cases, or
  - resides in a community where there are one or more confirmed swine influenza cases.
- **Outpatients:** It is not known whether currently available rapid tests can detect the circulating strain of swine flu. Therefore, BOL can test outpatient suspect cases (see above) regardless of their rapid test result.
  - **Inpatients:** Specimens from patients with Influenza-like illness (ILI) severe enough to have warranted hospital admission will also be accepted for testing.

#### **2. Who should Physicians contact for assistance in determining the appropriateness of testing?**

Physicians who believe they have identified a suspect case (defined above) for whom testing would be beneficial for personal health and/or for public health reasons, may call their local **DHEC Epi contact**

(local contact information listed in the chart at the end of this Health Advisory) to review the possibility of BOL testing, and if this is warranted, how specimens should be shipped to the BOL for testing.

### 3. What specimen types are appropriate for submission?

At this time, only nasopharyngeal (NP) swabs submitted in viral transport media (VTM) will be tested for swine flu both (i) by PCR and (ii) by culture. In such cases PCR results are generally available within 24 hours. Other types of specimens such as throat swabs, NP aspirates or nasal washes cannot be tested by PCR but can be cultured, though in this case test results are usually not available for 2 to 4 days. Swabs not submitted in proper VTM (e.g. culturettes containing agar or a sponge), will not be tested.

#### **NP swab collection, storage and shipping:**

##### **Instructions for the Clinician:**

- **Do use** a polyester-tipped nasopharyngeal swab with a wire handle.
- **Do not use** calcium alginate tipped swabs, such as Calgiswabs.
- Insert the thin swab with a flexible wire into the nares. The swab is introduced flat and then pushed forward with gentle downward pressure on the lower nasal floor to the posterior wall of the nasopharynx.
- The swab should be rotated for a few seconds before it is gently withdrawn.
- Place the swab into the tube containing transport medium, bending the swab handle to fit inside the tube.

##### **Instructions for laboratory or support staff:**

- Complete the separate Request Form (DHEC form 1335) which needs to accompany each tube, recording patient information, date collected, sender name and number and any pertinent travel or contact history. By convention, the outbreak number should be listed as "09-999". For "specimen site" mark "**NP**".
- Store tubes at 4° C prior to shipping and ship **COLD** using your Infecon 5000 shippers (or something comparable) within 24 hours. This is critical for rapid results. Accurate PCR results cannot be assured on a specimen that is not shipped cold.
- When shipping specimen(s) to the BOL, please mark "**Virology**" on the outside of the box.

### 4. How will results be reported?

Results will be reported as follows:

Laboratory Report	Interpretation
<ul style="list-style-type: none"> <li>• "Influenza A RNA detected by real-time PCR, unable to subtype"</li> </ul>	<p>Patients with such test results are by definition <b>probable cases</b> of Influenza A H1N1 (swine) and the specimen will be submitted to the CDC which is then likely to be able to classify the cases as confirmed. Patients with these <b>probable</b> and/or subsequently <b>confirmed</b> results will be added to state and national tallies as part of the current vital national surveillance effort being made to ascertain the extent and distribution of influenza A H1N1 (swine) cases</p>
<ul style="list-style-type: none"> <li>• "Influenza A H1 or Influenza A H3"</li> </ul>	<p>These are routine seasonal strains of influenza which have been circulating for months. These are not influenza A H1N1 (swine) cases.</p>
<ul style="list-style-type: none"> <li>• "Influenza A RNA not detected by real-time PCR"</li> </ul>	<p>This result may indicate either (i) that the patient does not have an influenza A infection at all (and thus cannot be a "case of influenza A H1N1 (swine) flu), or (ii) that the patient has had a false-negative test which can occur for all tests whose sensitivity is not 100%.</p>

## 5. Where can I find additional information regarding testing done by the DHEC BOL?

The following link is to a memo distributed by the DHEC BOL to hospital microbiology directors, which contains information similar to that present here, but provides a different emphasis as it was used to address hospital laboratories, rather than clinicians. The information contained in this memo is suitable for use by all clinicians who are collecting specimens for testing by the DHEC BOL:

- [www.dhec.sc.gov/flu/A-H1N1-swine-specimen-collection-testing.pdf](http://www.dhec.sc.gov/flu/A-H1N1-swine-specimen-collection-testing.pdf)

## Summary and Links regarding anti-viral treatment

### 1. Treatment of Cases if Influenza A H1N1 (swine) infection is Suspected.

- Empiric antiviral treatment should be considered for confirmed, probable or suspected cases of influenza A H1N1 (swine) virus infection. Antiviral treatment with zanamivir or oseltamivir should be initiated as soon as possible after the onset of symptoms.
- If anti-virals are in short supply, hospitalized patients and other patients at high risk for influenza complications should be considered as priorities for treatment.
- **This influenza A H1N1 (swine) virus is sensitive (susceptible) to the neuraminidase inhibitor antiviral medications** zanamivir (Relenza, GSK) and oseltamivir (Tamiflu, Roche).
- The currently circulating strain of influenza A H1N1 (swine) **is resistant to the adamantane antivirals:** amantadine (Symmetrel, Endo Pharmaceuticals) and rimantadine (e.g., Flumadine, Forest Pharmaceuticals).

### 2. Chemoprophylaxis Treatment for Contacts to Confirmed, Probable and Suspected Cases:

- Either oseltamivir or zanamivir are recommended.
- Duration of antiviral chemoprophylaxis post-exposure is 10 days after the last known exposure to an ill confirmed case of influenza A H1N1 (swine) virus infection.
- Antiviral chemoprophylaxis (post-exposure) with either oseltamivir or zanamivir is recommended for:
  - i. **Close contacts** of confirmed, probable or suspected cases. This is especially important for those persons who are at high-risk for complications of influenza (e.g., persons with certain chronic medical conditions, persons 65 or older, children younger than 5 years old, and pregnant women).
  - ii. **Health care workers or public health workers** who were not using appropriate personal protective equipment during close contact with an ill confirmed, probable, or suspect case of influenza A H1N1 (swine) virus infection during the case's infectious period.

### 3. Links to more detailed guidance about anti-influenza virus antivirals (including more detailed recommendations and helpful tables about their use in children, in pregnancy and other special circumstances, and for seasonal influenza)

- **DHEC's Health Alert Network Notification of April 29, 2009 regarding "Anti-viral Treatment of Persons Presenting with Influenza-like Illness"**  
<http://www.dhec.sc.gov/health/disease/han/docs/DHA-Swine-3.pdf>
- **CDC's Interim Guidance on Antiviral Recommendations for Patients with Confirmed or Suspected Influenza A H1N1 (swine) virus infection and close contacts (posting of 20 Apr 09)**  
<http://www.cdc.gov/h1n1flu/recommendations.htm>

- **Antiviral resistance among influenza A viruses and interim guidance for use of antivirals.** A January 2009 PowerPoint presentation from CDC which pre-dates the emergence of Influenza A H1N1 (swine), but which provides clear discussion about these agents in the context of resistance identified this flu season by human (not swine) H1N1 isolates to oseltamivir (but not to zanamivir)

[http://www.cdc.gov/vaccines/ed/ciinc/downloads/Jan\\_09/antivirals.ppt](http://www.cdc.gov/vaccines/ed/ciinc/downloads/Jan_09/antivirals.ppt)

## **State, National and International Internet Resources**

### **South Carolina Department of Health & Environmental Control (DHEC)**

- Influenza A H1N1 (swine)
  - <http://www.dhec.sc.gov/flu/swine-flu.htm>
- Health Alert Network (HAN) Notifications (includes several *swine flu* related notifications)
  - <http://www.dhec.sc.gov/health/disease/han/notifications.htm>
- Seasonal Flu
  - <http://www.dhec.sc.gov/flu/>

### **US Centers for Disease Control (CDC)**

- Influenza H1N1 (swine)
  - <http://www.cdc.gov/h1n1flu/>
- Seasonal Flu
  - <http://www.cdc.gov/flu/>

### **World Health Organization (WHO)**

- WHO Home page
  - <http://www.who.int/en/>
- WHO Influenza A H1N1 (swine) page
  - <http://www.who.int/csr/disease/swineflu/en/index.html>

## **DHEC Contact Information for Reportable Diseases and Reporting Requirements**

Reporting of outbreaks/clusters of cases is consistent with South Carolina Law requiring the reporting of diseases and conditions to your state or local public health department. (State Law # 44-29-10 and Regulation # 61-20) as per the DHEC 2009 List of Reportable Conditions available at: [http://www.scdhec.gov/health/disease/docs/reportable\\_conditions.pdf](http://www.scdhec.gov/health/disease/docs/reportable_conditions.pdf)

Federal HIPAA legislation allows disclosure of protected health information, without consent of the individual, to public health authorities to collect and receive such information for the purpose of preventing or controlling disease. (HIPAA 45 CFR §164.512).

Contact numbers for Local Public Health Epi-staff are listed in the table below:

## ***Regional Public Health Offices – 2009***

*Mail or call reports to the Epidemiology Office in each Public Health Region.*

### **Region 1**

**Anderson, Oconee**  
220 McGee Road  
Anderson, SC 29625  
Phone: (864) 260-4358  
Fax: (864) 260-5623  
Nights / Weekends: 1-866-298-4442

### **Abbeville, Edgefield, Greenwood, Laurens, McCormick, Saluda**

1736 S. Main Street  
Greenwood, SC 29646  
Phone: 1-888-218-5475  
Fax: (864) 942-3690  
Nights / Weekends: 1-800-420-1915

### **Region 2**

**Greenville, Pickens**  
PO Box 2507  
200 University Ridge  
Greenville, SC 29602-2507  
Phone: (864) 282-4139  
Fax: (864) 282-4373  
Nights / Weekends: 1-800-993-1186

### **Cherokee, Spartanburg, Union**

PO Box 4217  
151 E. Wood Street  
Spartanburg, SC 29305-4217  
Phone: (864) 596-2227, x- 210  
Fax: (864) 596-3443  
Nights / Weekends: 1-800-993-1186

### **Region 3**

**Chester, Lancaster, York**  
PO Box 817  
1833 Pageland Highway  
Lancaster, SC 29720  
Phone: (803) 286-9948  
Fax: (803) 286-5418  
Nights / Weekends: 1-866-867-3886

### **Region 3 (continued)**

**Fairfield, Lexington, Newberry, Richland**  
2000 Hampton Street  
Columbia, SC 29204  
Phone: (803) 576-2749  
Fax: (803) 576-2993  
Nights / Weekends: 1-888-554-9915

### **Region 4**

**Clarendon, Kershaw, Lee, Sumter**  
PO Box 1628  
105 North Magnolia Street  
Sumter, SC 29150  
Phone: (803) 773-5511  
Fax: (803) 775-9941  
Nights/Weekends: 1-877-831-4647

### **Chesterfield, Darlington, Dillon, Florence, Marlboro, Marion**

145 E. Cheves Street  
Florence, SC 29506  
Phone: (843) 661-4830  
Fax: (843) 661-4859  
Nights / Weekends: (843) 660-8145

### **Region 5**

**Bamberg, Calhoun, Orangeburg**  
PO Box 1126  
1550 Carolina Avenue  
Orangeburg, SC 29116  
Phone: (803) 533-7199  
Fax: (803) 533-7134  
Nights / Weekends: (803) 954-8513

### **Aiken, Allendale, Barnwell**

1680 Richland Avenue, W. Suite 40  
Aiken, SC 29801  
Phone: (803) 642-1618  
Fax: (803) 643-8386  
Nights / Weekends: (803) 827-8668 or  
1-800-614-1519

### **Region 6**

**Georgetown, Horry, Williamsburg**  
1931 Industrial Park Road  
Conway, SC 29526-5482  
Phone: (843) 915-8804  
Fax: (843) 365-0085  
Nights / Weekends: (843) 381-6710

### **Region 7**

### **Berkeley, Charleston, Dorchester**

4050 Bridge View Drive, Suite 600  
N. Charleston, SC 29405  
Phone: (843) 953-0060  
Fax: (843) 953-0051  
Nights / Weekends: (843) 219-8470

### **Region 8**

### **Beaufort, Colleton, Hampton, Jasper**

219 S. Lemacks Street  
Walterboro, SC 29488  
Phone: (843) 525-7603 , x-108  
Fax: (843) 549-6845  
Nights / Weekends: 1-800-614-4698

### **DHEC Bureau of Disease Control**

### **Division of Acute Disease Epidemiology**

1751 Calhoun Street  
Box 101106  
Columbia, SC 29211  
Phone: (803) 898-0861  
Fax: (803) 898-0897  
Nights / Weekends: 1-888-847-0902



[www.scdhec.gov](http://www.scdhec.gov)