

**Guidance to Influenza Laboratories**  
**Diagnosing Swine Influenza A(H1N1) Infections of Current Concern**  
27 April 2009

**All un-subtypable influenza A specimens are strongly recommended to be sent immediately to one of the five WHO Collaborating Centres for influenza for diagnosis and further characterization.**

**Sample collection and handling**

- The current influenza specimen collection protocol should be followed.<sup>1</sup>
- Standard influenza specimen storage, packaging and shipping practice and relevant IATA regulations should be followed.<sup>2</sup>

**Available laboratory tests**

- Rapid antigen tests designed to detect influenza A viruses should be able to detect this swine virus but due to the low sensitivity, compared to other lab diagnostic methods, may give false negative results.
- It is possible that the antibodies used in immunofluorescence and other immunoassays may not bind to targets on the virus and could result in false negative results.
- While primers used in PCR assays to detect highly conserved parts of the influenza genome and confirm the presence of influenza A will probably work; primers currently used in PCR diagnostics for subtyping influenza A virus may not detect non-human viruses. Information on specific assays will be available in the near future.
- The only reliable means of confirming swine influenza A(H1N1) would require virus isolation (virus isolation should be done in a BSL-3<sup>3</sup> facility) and at least partial sequencing of the genome.
- Partial or complete virus genome sequencing from clinical samples, if possible, will provide definitive identification of the new strain.
- Laboratory biosafety measures for handling possible pandemic strains should follow the published guidelines on handling influenza viruses.<sup>4</sup>

<sup>1</sup> [http://www.who.int/csr/disease/avian\\_influenza/guidelines/humanspecimens/en/index.html](http://www.who.int/csr/disease/avian_influenza/guidelines/humanspecimens/en/index.html)

<sup>2</sup> [http://www.who.int/csr/disease/avian\\_influenza/guidelines/transport/en/index.html](http://www.who.int/csr/disease/avian_influenza/guidelines/transport/en/index.html)

<sup>3</sup> Under review by WHO

<sup>4</sup> [http://www.who.int/csr/disease/avian\\_influenza/guidelines/handlingspecimens/en/index.html](http://www.who.int/csr/disease/avian_influenza/guidelines/handlingspecimens/en/index.html)

## Updating laboratory tests

The WHO Collaborating Centre in CDC Atlanta is currently updating PCR protocols for detection of the swine A(H1N1) reassortant viruses:

- The current CDC influenza subtyping PCR assay kit cannot detect the new reassortant swine A(H1N1) virus. A modification to include testing procedures for recent swine viruses is being prepared.
- CDC is preparing a "Swine Influenza PCR Testing Kit" which will include the primers and probes as well as positive control samples. The kits will be available to National Influenza Centres under defined process.

In addition, WHO Collaborating Centres are developing other diagnostic assays.

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<sup>5</sup> <http://www.who.int/csr/disease/influenza/collabcentres/en/index.html>