



Laboratory Testing for Influenza H1N1 09 (Human Swine Influenza) at Sullivan Nicolaides Pathology

Influenza H1N1 09 (Human Swine Influenza) is a strain of Influenza A and as such can be detected using our current Influenza A virus PCR (INFPCR) assay. A positive test however will not differentiate normal seasonal Influenza A (H1 and H3) from the newly circulating H1N1 09 Human Swine Influenza strain. This subtyping is currently being performed at the public health reference laboratories in Brisbane and Melbourne. Very shortly however we will be testing and reporting results for a specific assay for H1N1 09 (Human Swine Influenza). When this specific "H1N1 09 Human Swine Influenza" result is reported it must be considered as presumptive/indicative only, until such time that the Queensland Health or WHO Influenza Reference laboratory confirms the result.

Current case definition

A suspected case of H1N1 09 Human Swine Influenza infection is defined as a person with acute febrile respiratory illness – fever PLUS cough PLUS fatigue and travel within 7 days prior to onset of symptoms to one of the following countries: Mexico, United States, Canada, Japan & Panama or contact with a confirmed case. Note this list of countries is likely to be irrelevant as has occurred in Victoria once community spread has developed. As of 1st June 2009 there are > 800 confirmed cases of H1N1 09 Human Swine Flu in Australia.

Collection Rooms

A list of SNP collection rooms that perform Nasopharyngeal collections (NPS) is available from our website: www.snp.com.au.

Collection Room Instructions

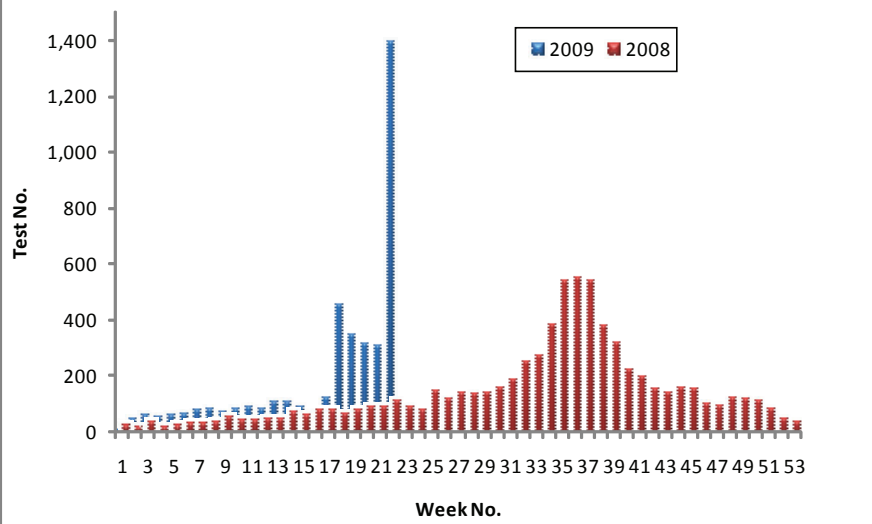
(This could also apply to collections in general practice)

1. Triage patients with respiratory symptoms so that they are moved through the collection/waiting rooms as quickly as possible.
2. Note destinations of recent travel, date of return and date of onset of symptoms on the request slip.
3. As per good respiratory hygiene measures, offer tissues, alcohol hand rub and a surgical mask to the patient whilst in the collection room. Disinfect potentially contaminated surfaces with 70% alcohol.
4. Apply respiratory precautions during the collection. The collector is to wear gloves, gown, goggles and N95 mask (fit tested for size).
5. Collect a nasopharyngeal swab (NPS) using an orange top dry flocked swab passed into nasopharynx of both nostrils PLUS one black top dry dacron throat swab (TS).
6. Nasopharyngeal aspirates (NPAs) must not be performed even if specifically requested.
7. Other tests may be ordered depending upon clinical severity (e.g acute and convalescent serology).
8. Specimens marked urgent e.g. (Emergency Departments, Hospital patients) may **have** Rapid Influenza Antigen Detection performed prior to Respiratory Virus PCR testing if there is a delay in testing of > 12 hours.

Note the performance of these tests for H1N1 Human Swine Influenza is unknown. The sensitivity of the rapid assays is likely to be only of the order of 50-60%.

9. The NPS and TS are combined at the SNP laboratory into Viral Transport Media (VTM) and tested by PCR for Influenza A and B. Positive samples are then forwarded to Queensland Clinical and Statewide Services Forensics and Scientific Branch (QHFSS) for subtyping.
10. Until 1/6/09 all samples were tested by PCR for other respiratory viruses-parainfluenzae 1,2,3, respiratory syncytial virus, human metapneumovirus and rhinovirus. Requests for testing H1N1 09 'Human Swine' Influenza has placed extraordinary demands on our reagent stocks, such that this improved full panel of viruses will not be available for routine testing until further notice. All children less than 5 years of age will continue to also be tested for Respiratory Syncytial Virus, however in the interim requests for additional viruses outside of Influenza A and Influenza B should be specifically requested and only if absolutely required.

SNP Respiratory Virus Testing 2008 - 2009 n=4119 (Jan - 31st May 2009)



Swabs required to perform PCR testing



Orange top nasopharyngeal flocked swab (Item # 34020)



Black top throat Dacron swab (Item # 01934)

Turnaround Times

Influenza virus PCR testing is batch tested daily Monday to Saturday. Rapid Influenza AB antigen testing is also performed out of hours and on weekends. The turnaround time once received in the laboratory is usually less than 24 hours. The frequency of testing is subject to change. Subtyping results referred to QHFSS are usually available in 24 hours.

Influenza Vaccination

The 2009 Influenza vaccine is not thought to be protective against H1N1 09 Influenza. Vaccination however is still recommended to protect against circulating seasonal strains of Influenza A and B.

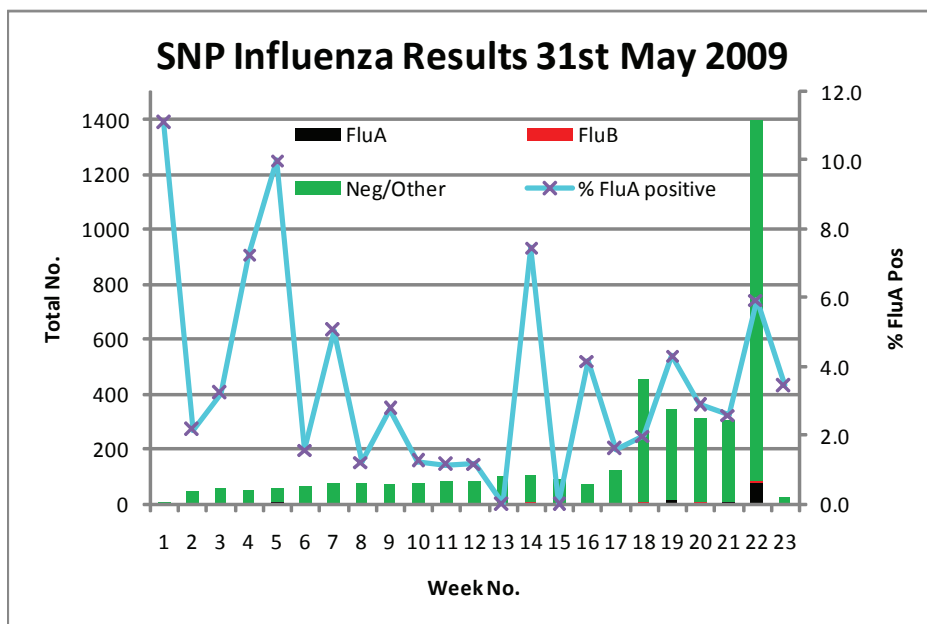
Treatment

Antiviral medications such as oseltamivir (Tamiflu) and zanamivir (Relenza) can be used in the treatment of H1N1 09 Influenza. Antiviral drugs work best if started within 2 days of symptoms developing.

Results to 31st May 2009 Sullivan Nicolaides Pathology

Over 4000 influenza tests have been performed. 163 patients have tested influenza A positive; the majority of these have been seasonal influenza H3 or H1 with a handful of H1N1 09 (Human Swine Influenza). To date there have been few patients with influenza B for the year (n=8). Approximately 4% of all tests are currently influenza A positive.

SNP Influenza Results 31st May 2009



Further information is available at:

Queensland

http://access.health.qld.gov.au/hid/InfectionsandParasites/ViralInfections/swineFlu2009_fs.asp

Australia

http://www.healthemergency.gov.au/internet/healthemergency/publishing.nsf/Content/health-swine_influenza-index.htm

CDC USA

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

WHO

<http://www.who.int/csr/disease/swineflue/en/index.htm>