

## Protocol 2: Collection of clinical specimen from patients

### Preferred Specimens

- Upper respiratory tract specimens as recommended for seasonal influenza investigation are the most appropriate.
- Samples should be taken from the deep nostrils (nasal swab), narynx (Nasopharyngeal swab), Nasopharyngeal aspirate, throat swab or bronchial aspirate. It is not yet known which clinical specimen gives the best diagnostic yield. Appropriate precautions should be taken in collecting specimens since this may expose the collector to respiratory secretions from patients.
- There is, as yet, no information on the diagnostic value of non-respiratory specimens, e.g., stool samples.
- Acute and convalescent serum specimens may be used for the detection of rising antibody titre.

### When to collect specimens

Specimens should be taken (if possible) within three days of onset of symptoms

In the figure the bars indicate approximate periods of time after onset of symptoms when a diagnostic test is likely to be positive. Hence samples should be collected when the likelihood of a positive result is maximum..

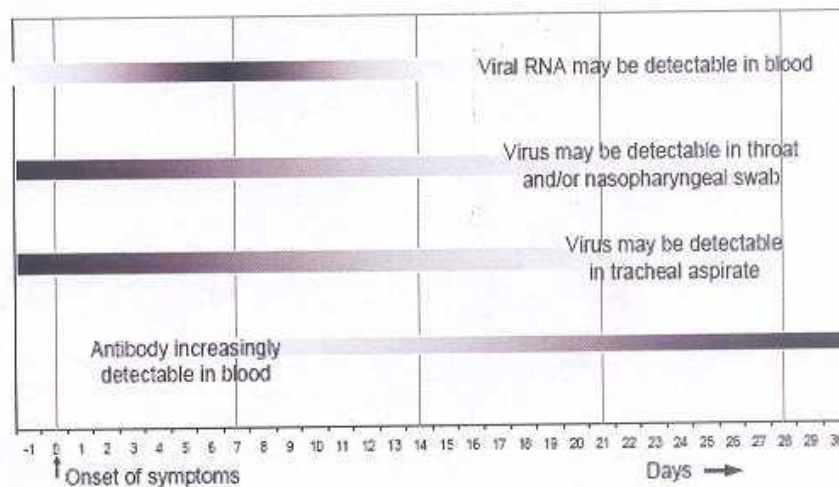


Figure1: Virus excretion, viral RNA in blood and antibody response in Novel Influenza A (H1N1) infection in humans

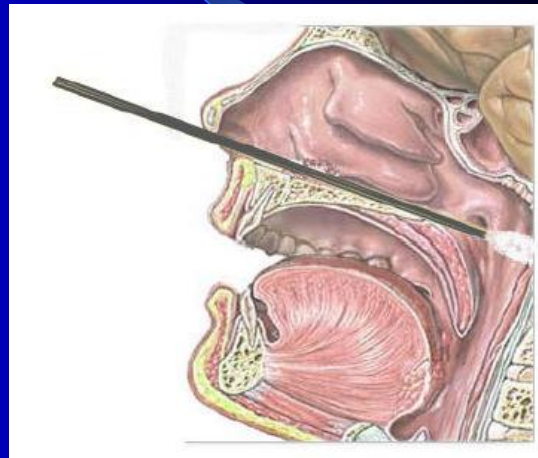
- Virus may be detectable in tracheal aspirates from onset of lower respiratory complaints (dyspnoea, difficulty breathing, marked cough) or pneumonia until the second or third week of illness.
- An acute phase serum sample should be taken seven days or less after symptom onset (this will usually be done when the patient presents and begins treatment) and a convalescent sample after 3 to 4 weeks.
- Single serum samples. To be collected at day 14 or later after symptom onset since the likelihood of detecting neutralizing antibodies increases over time, certainly during the first 3 to 4 weeks after onset of symptoms.
- Blood serum or plasma for the detection of viral RNA should be taken during the first 7 to 9 days after the development of symptoms because the patient is most likely to be RNAemic (have detectable RNA in the bloodstream) at that time (Fig 1).
- Initial specimens (respiratory and blood) should ideally be collected from suspected patients before antiviral therapy is begun but treatment must not be delayed in order to take specimens. (Note that standard treatment may render throat swabs negative for virus after three or more days of treatment but probably has no effect on the development of neutralizing antibody).

## When to Collect Respiratory Specimens

- As soon as possible after symptoms begin
- Before antiviral medications are administered
- Even if symptoms began more than one week ago
- Multiple specimens on multiple days could be collected if you have access to patient

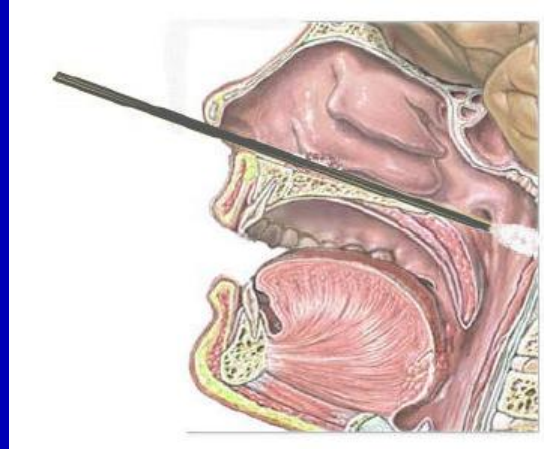
## Nasopharyngeal Swab

1. Insert dry swab into nostril and back to nasopharynx
2. Leave in place for a few seconds
3. Slowly remove swab while slightly rotating it



## Nasopharyngeal Swab *continued*

4. Use a different swab for the other nostril
5. Put tip of swab into vial containing VTM, breaking applicator's stick



## Posterior Pharyngeal Swab

- Ask the subject to open his or her mouth
- Depress the tongue
- Swab the posterior pharynx
- Avoid the tonsils

