

RESPIRATORY SAMPLE COLLECTION FOR INFLUENZA AND OTHER RESPIRATORY VIRUSES' DIAGNOSIS

To ensure accurate diagnosis of respiratory viruses, it is imperative to collect the correct specimen and to ensure the quality of the sample.

Sample collection

Collection of specimens must be done using flocked nylon swabs and placed immediately in 3 ml of viral transport medium (VTM).

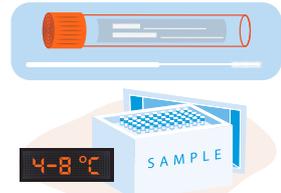
Swabs with cotton tips and wooden shafts are not recommended.



Samples should be collected by trained personnel and considering all biosafety instructions including the use of personal protective equipment appropriate for respiratory viruses.



Label the collected tubes properly. Specimens should be collected as close to illness onset as possible (ideally within 3-4 days after onset of clinical symptoms) and refrigerated (4-8 °C) promptly after collection.



Types of specimens and procedure

Nasopharyngeal is the optimal upper respiratory tract specimen collection method for influenza testing.

Nasopharyngeal swab

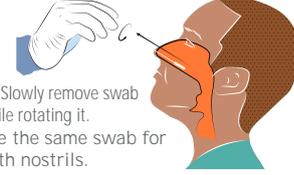
Head back 70 degrees / sitting person



1 - Insert swab into nostril. (Swab should reach depth equal to distance from nostrils to outer opening of the ear.) Leave swab in place for several seconds to absorb secretions.



2 - Slowly remove swab while rotating it. Use the same swab for both nostrils.



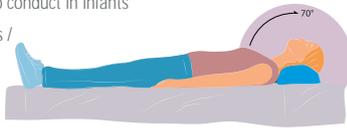
3 - Place tip of swab into sterile viral transport media tube and snap/cut off the applicator stick.



Nasopharyngeal/Nasal Aspirate

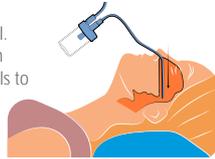
May not be possible to conduct in infants

Head back 70 degrees / person lying down



1 - Attach catheter to suction apparatus.

2 - Insert catheter into nostril. (Catheter should reach depth equal to distance from nostrils to outer opening of ear.)



3 - Begin gentle suction. Remove catheter while rotating it gently.



4 - Place specimen in sterile viral transport media tube.



Nasopharyngeal/Nasal Wash

May not be possible to conduct in infants

Head back 70 degrees / person lying down



1 - Attach catheter to suction apparatus.



2 - Insert several drops of sterile normal saline into each nostril.

3 - Insert catheter into nostril. Catheter should reach depth equal to distance from nostrils to outer opening of ear.



4 - Begin gentle suction. Remove catheter while rotating it gently.

5 - Place specimen in sterile viral transport media tube.

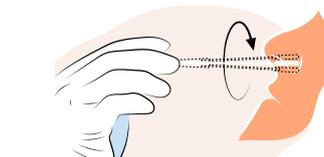


Nasal Swab

Head back 70 degrees / sitting person



1 - While gently rotating the swab, insert swab less than one inch into nostril (until resistance is met at turbinates).



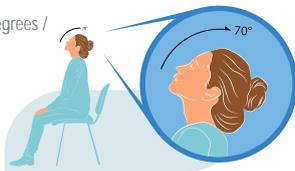
2 - Rotate the swab several times against nasal wall and repeat in other nostril using the same swab.

3 - Place tip of the swab into sterile viral transport media tube and cut off the applicator stick.

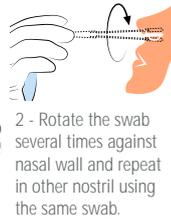
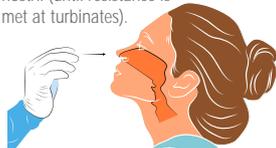


Combined Nasal & Throat Swab

Head back 70 degrees / sitting person



1 - While gently rotating the swab, insert swab less than one inch into nostril (until resistance is met at turbinates).



2 - Rotate the swab several times against nasal wall and repeat in other nostril using the same swab.

3 - Place tip of the swab into sterile viral transport media tube and cut off the applicator stick.



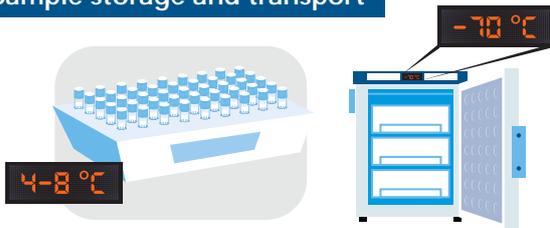
4 - For throat swab, take a second dry polyester swab, insert into mouth, and swab the posterior pharynx and tonsillar areas. Tongue should be avoided.



5 - Place tip of swab into the same tube and cut off the applicator tip.

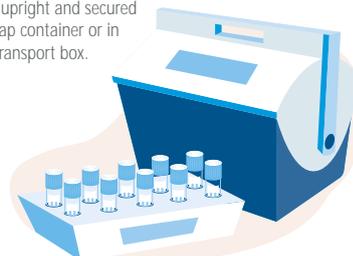


Sample storage and transport



Samples should be kept refrigerated (4-8 °C) and sent to the laboratory (central, national or reference lab) where they should be processed within the first 24-72 hours from the collection. If samples cannot be sent within this period, they should be kept frozen at or below -70 °C.

During transport to the reference laboratory ensure that the cold chain is maintained. Vials should be transported upright and secured in a screw cap container or in a rack in a transport box.



Shipment of suspected samples for further analysis to reference laboratories or collaborating centers outside of the country and by air must ensure compliance with all international standards (IATA). For further information, please contact flu@paho.org