COPAN'S TRANSPORT MEDIUM (UTM-RT) AND FLOCKED SWAB FOR RSV/FLU COLLECTION

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ABSTRACT

COPAN'S TRANSPORT MEDIUM (UTM-RT)
AND FLOCKED SWAB FOR RSV/FLU COLLECTION

Background: The "gold standard" specimen for viral respiratory testing is a nasopharyngeal (NP) aspirate or wash collected by respiratory therapists or physicians. A new collection device, a "flocked" swab (Copan Diagnostics Inc., Corona, California), was recently introduced that allows for collection and release of additional patient material. This new design would allow the collection of the specimen by nursing staff.

Design/Methods: Specimens were collected as follows: Gently pass the swab through the nose and into the posterior nasopharynx. Rotate the swab on the nasopharyngeal membrane 5-6 times and allow it to remain in place for 10-15 seconds. Remove the swab and repeat the procedure in the other nares. Remove the swab and snap it off inside the UTM-RT tube.

Results: The incidence rate of RSV and Flu during peak months did not decrease significantly from previous years, indicating that the quality of specimen has remained consistent. The incidence of indeterminate or unreadable results did not increase over previous years. An internal survey indicated that the new flocked swabs were comfortable, showed a high degree of patient tolerability, and were well accepted by nursing staff collecting NP samples.

Conclusions: The use of the flocked swab/UTM combination appears to have had no negative impact on the Binax test systems. The use of the flocked swab combined with a 1-mL fill UTM offered flexibility in testing by allowing both the rapid antigen tests and viral culture with minimal specimen dilution. The specimens were easily collected by nursing staff with high patient satisfaction.

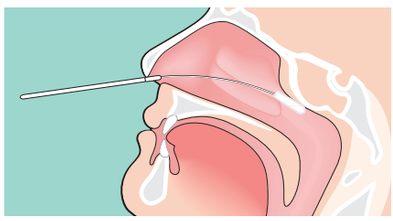


Figure 1

Figure 2

BACKGROUND

The "gold standard" specimen for viral respiratory testing is a nasopharyngeal (NP) aspirate or wash. A respiratory therapist or specially trained nurse is often required to collect these specimens. Frequently the NP wash would be diluted with several ml of saline yielding false negative results due to dilution. This was determined by repeat swabbing of the NP of clinically infected patients and putting the swab into a 1 ml of saline and repeating the test. The alternative specimen is a standard rayon NP swab. Unfortunately specimens collected with these swabs often yield poor results due to an inadequate amount material collected. A new collection device, a "flocked" swab (Copan Diagnostics Inc., Corona, California), was recently introduced. The design of the swab allows for collection and release of additional patient material. This new design would allow the collection of the specimen by all the hospital staff. The use of the flocked swab combined with a 1-mL fill UTM would offer flexibility in testing by allowing both the rapid antigen tests and viral culture but would not have the dilution effect seen in the NP washes.

METHODS

Specimen Collection:

Specimens were collected as follows (**Figure 1**):

1) Gently pass the swab through the nose and into the posterior nasopharynx.
2) Rotate the swab on the nasopharyngeal membrane 5-6 times and allow it to remain in place for 10-15 seconds.
3) Remove the swab and repeat the procedure in the other nares.
4) Remove the swab and snap it off inside the 1.0-mL Mini-UTM tube (**Figure 2**).
5) Transport the specimen to the lab for testing at ambient temperature.

Binax Procedure:

1) Vortex Flocked Swab and UTM.
2) Remove Binax device from pouch just prior to testing and lay flat on work bench.
3) Fill pipette by firmly squeezing the top bulb and placing pipette tip into sample. Release bubble while tip is still in sample. This will pull liquid into pipette. Make sure there are no air spaces in the lower part of the pipette.
4) SLOWLY (drop by drop) add entire contents of pipette (100-µL) to the MIDDLE of this pad by squeezing the top bulb.
5) Immediately peel off brown adhesive liner from the test device. Close and securely seal the device.
6) Read results in window 15-minutes after closing device.

Chart One

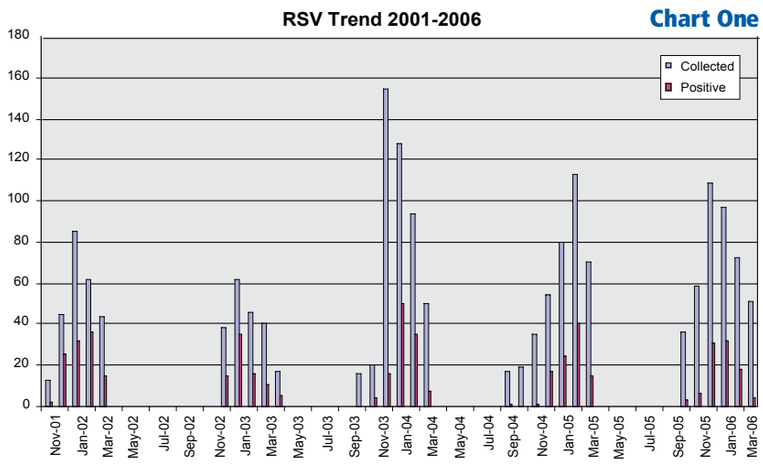
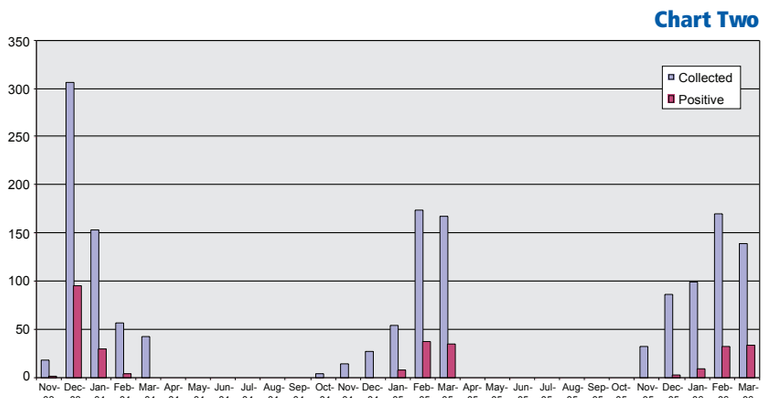


Chart Two



RESULTS

RSV:

The incidence of indeterminate or unreadable results did not increase over previous years. The incidence rate of RSV did not dramatically decrease from previous years, indicating that the quality of specimen has remained consistent. (**Chart One**)

Influenza A or B

The incidence of indeterminate or unreadable results did not increase over previous years. The incidence of either Influenza A or B is consistent with the previous year. (**Chart Two**)

User Survey:

A user survey was distributed to individuals routinely collecting specimens with the Flocked swabs. The response was consistently favorable. The survey also included manyunsolicited comments indicating the patient's found the collection "comfortable".

User Survey

Is the method for collection for RSV and FLU used this year easier than NP aspirates?
_____

Do you like the "flocked swab" provided for specimen collection this year?
_____

Do you think the collection procedure was more comfortable for the patients than the NP aspirate? _____

What was your overall satisfaction with the SWAB provided for the collection of the RSV and FLU specimens?

_____ very satisfied

_____ it was OK but I prefer the ones used for woundcultures

I didn't like it at all because _____

CONCLUSION:

The use of the flocked swab/UTM combination appears to have had no negative impact on the Binax test systems. However, the impact of their use on the medical staff and patients has been substantial. Specimens are now collected without the need for NP aspirations of the patients. This has had a positive effect on the medical staff. The 1-ml fill UTM is advantageous in that it minimizes the media dilution effect of the sample for rapid tests and allows reflex culture.