



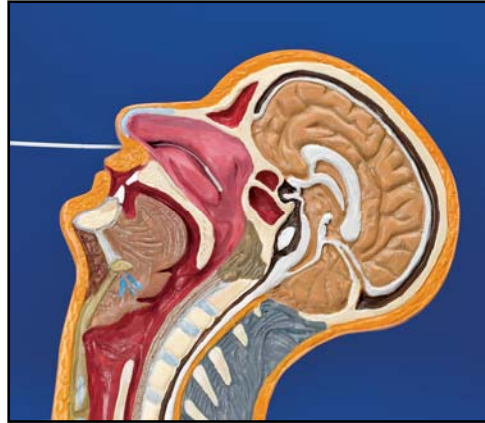
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New Minitip Flocked Swabs *- Improve Respiratory Virus Diagnostics, Collect and Release More Sample Material Reducing QNS Rejection!*

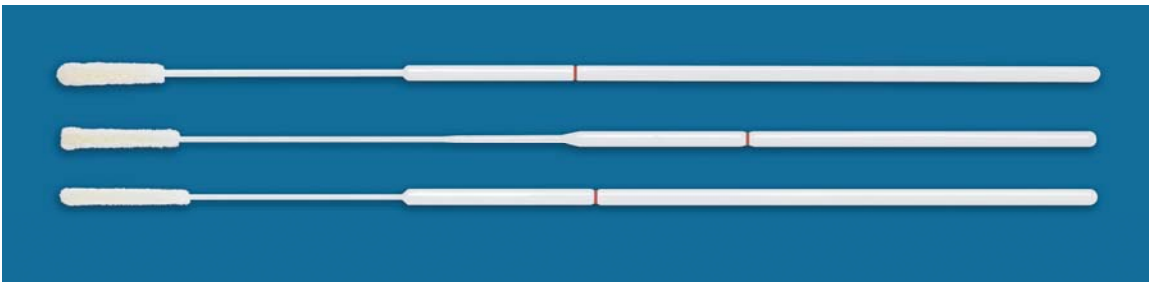
Murrieta, California, November 16th, 2007.

Copan announces the launch of three new styles of plastic minitip swabs with heads that



are manufactured using unique flocking technology. This new innovation in sample collection swabs is patented worldwide by Copan. Copan minitip Flocked Swabs are very hydrophilic and absorb and release more liquid sample volume compared to traditional fiber wined minitip swabs. The process of flocking sprays thousands of short nylon fibers onto an applicator tip in a perpendicular fashion. When the swab is used liquid sample is rapidly absorbed between adjacent nylon strands by capillary action and is then instantaneously and automatically eluted once the swab tip is placed in liquid medium. Unlike traditional fiber wined swabs that trap sample Flocked Swabs release their entire sample rapidly and immediately. The Flocked Swab tips also have a distinctive velvet brush-like texture which is extremely advantageous for respiratory virus diagnostics as this enables the swab to more effectively dislodge and collect virus infected cells lining the nasopharynx. Independent studies have demonstrated that Copan Flocked Swabs collect more respiratory epithelial cells compared to regular fiber wined swabs providing better quality samples, significantly reduced sample rejection due to Quantity Not Sufficient (QNS) and allowing more early diagnosis of respiratory virus infections by rapid Direct Fluorescent Antibody microscopy. Greater sample absorption and release also has the potential for improvements in sensitivity of rapid direct antigen assays. Improved sample collection with Flocked Swabs provides a more

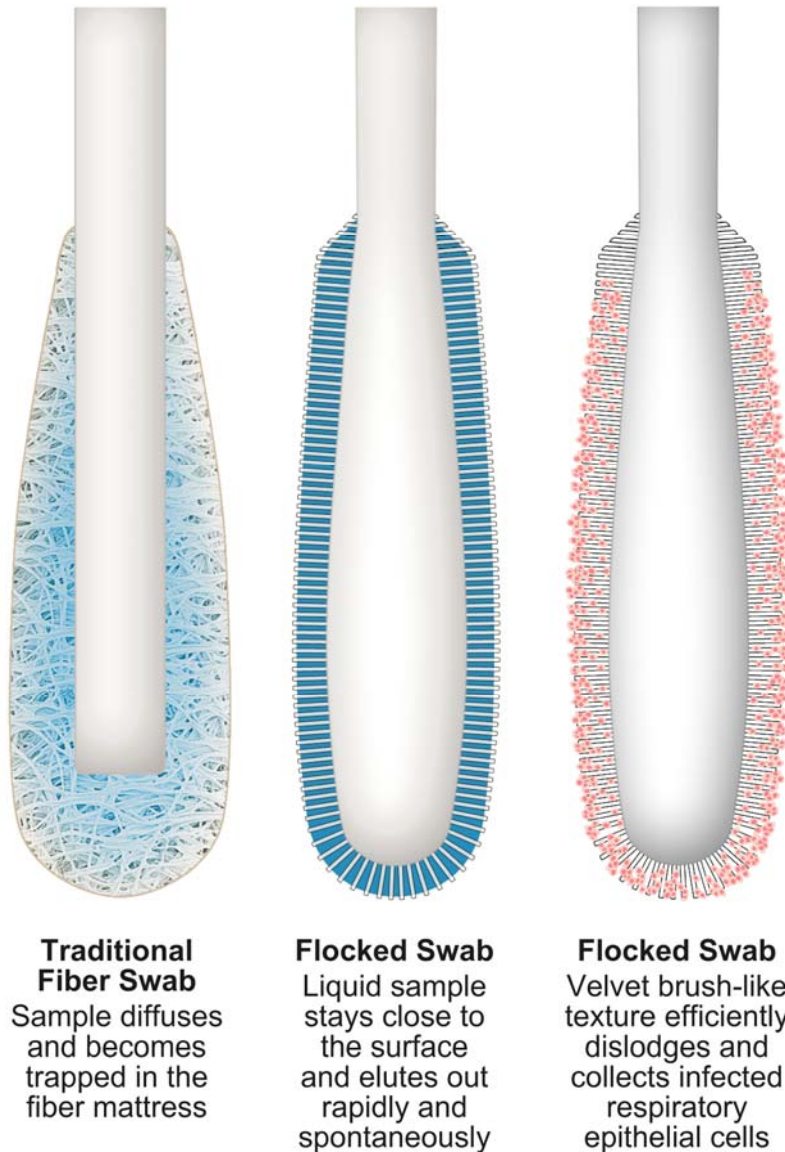
convenient, less invasive and less traumatic system for collecting nasopharyngeal samples compared to nasal washes and nasopharyngeal aspirates. Copan Minitip Flocked swabs are available in three different styles **Regular Minitip**, **Flexible Shaft Minitip** and **Ultra-Thin Minitip** to suit different physician preferences. All three models comprise of plastic shafts that feature molded breakpoints which have a **visible painted red line**. The molded breakpoint with painted line enables immediate recognition of the correct break point location by physicians and nurses and the swab is then easily broken off into a transport medium tube. The product is available sterile in peel pouches or in dry pre-labeled transport tubes.



Background Information:

Copan has created a new line of minitip Flocked Swabs using its unique flocking technology which are ideally suited for nasal and nasopharyngeal sampling for respiratory virus diagnostics. The tips of these patented applicators are covered with up to 30,000 thousand short strands of nylon fiber. Copan minitip Flocked Swabs are produced by first coating the tips of plastic applicators with glue then fibers are sprayed onto the tips in an electro magnetic field which causes the strands to attach in a perpendicular fashion. The process creates a thin, uniform and highly absorbent layer. Traditional fiber wended swabs on the other hand comprise of fiber wrapped around a plane stick creating a deep absorbent mattress which is hydrophilic but at the same time can trap the precious sample inside the central core of the fiber mattress. With traditional fiber swabs the sample is drawn into the mattress core and it then diffuses and is diluted throughout the entire mass of fiber. Flocked Swabs however, have a uniform perpendicular arrangement of fibers which creates hydrophilicity through capillarity but in this case liquid stays very close to the surface of the swab in a

uniquely open structure. **As soon as a Flocked Swab is placed in liquid like antigen extraction reagent, PCR lysis buffer or viral transport medium all the sample is spontaneously and automatically eluted from the swab.** Unlike traditional winded swabs with Flocked Swabs there is no necessity to vortex or wring out the swab tip in order to squeeze or force out trapped sample as there is no central mattress core to entrap the sample. With Flocked Swabs the entire sample is released instantaneously. This eliminates variance in processing technique between different operators. One swirl of the swab in liquid ensures total release.

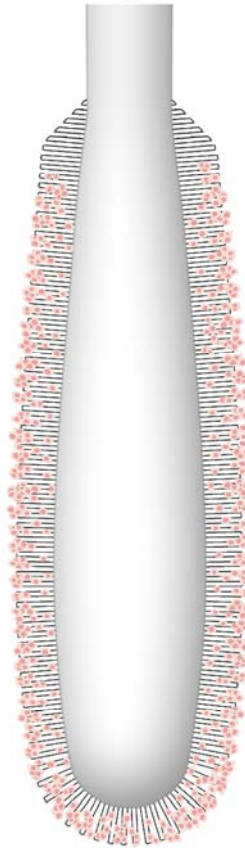
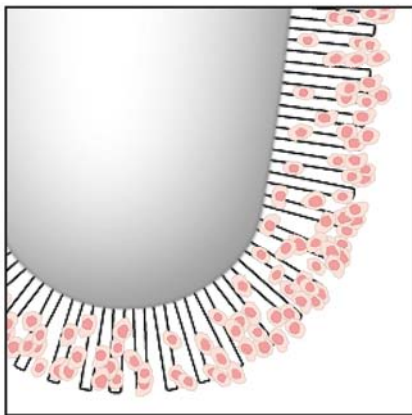


The unique velvet brush-like texture of Copan Flocked Swabs provides another important and advantageous feature. When collecting nasopharyngeal samples for respiratory virus diagnostics one of the main aims is to collect infected respiratory

epithelial cells so the laboratory can perform rapid direct fluorescent antibody (DFA) microscopy. Using monoclonal antibody staining techniques specific for Influenza A, B and RSV viruses, microbiologists can do DFA microscopy and provide an early diagnosis of viral infection. The brush-like texture of the Copan Flocked Swabs gently scraps and dislodges potentially virus infected epithelial cells from the nasal passages (see illustration). These cells and secretions rinse off immediately when the swab is placed into viral transport medium (see photograph). Scientific studies have shown that Flocked Swabs collected significantly more respiratory epithelial cells than traditional fiber wound swabs through this brush-like action. Absence of or insufficient amounts of respiratory epithelial cells seen by DFA microscopy is indicative of an inadequate or insufficient sample and in many institutions the sample is rejected due to QNS and a repeat is requested or the sample is processed with the QNS caveat. Studies have shown that Copan Flocked swabs can dramatically reduce QNS rejection allowing greater diagnostic reporting.

More Respiratory Epithelial Cells
Are Collected by the Velvet
Brush-Like Flocked Swab

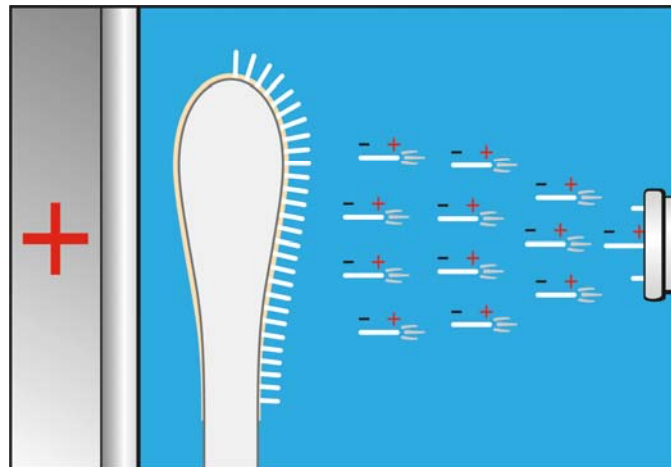
Cellular Material Rapidly Elutes
into Transport Medium



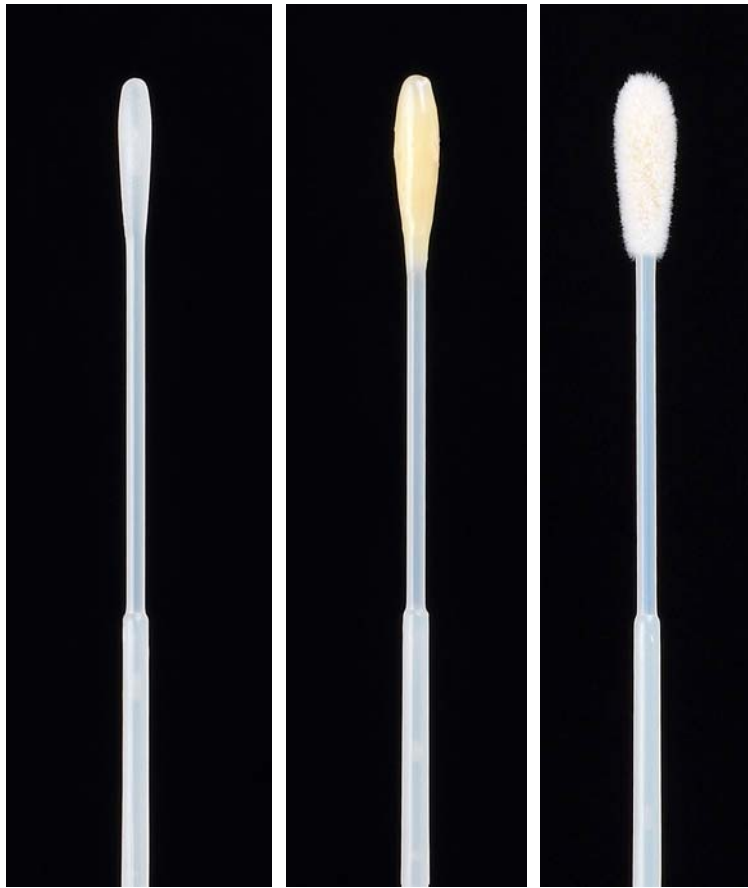
Copan provides three different styles of Minitip Flocked Swabs; **Regular Minitip**, **Flexible Minitip** and **Ultra-Thin Minitip** to suit different preferences of the health care professionals. The Flexible Minitip is extremely flexible allowing the physician or nurse to maneuver and navigate the swab through the anatomical contours of the nasal passages to reach the posterior nasopharynx. The Ultra-Thin Minitip is well suited to infants and small children because the swab head diameter is narrower than other minitip swabs creating more comfort for the patient. Copan Minitip Flocked Swabs are available in sterile medical peel pouches or dry pre-labeled transport tubes.

How Are Flocked Swabs Made?

The first step in Flocked Swab manufacture is to mould solid plastic applicators which are used for the flocking process. The tips of the applicators are coated with glue which delineates the “target” area that eventually the fibers will attach to. The applicators are then moved into a chamber where flocking process takes place. The glue coated applicators are placed in an electromagnetic field and nylon strands are fired at the target. In the electro magnetic field the nylon strands travel in straight lines towards the swab applicator. When the nylon strands strike the glue coated target they become anchored and secured in the glue. The nylon strands attached in a perpendicular fashion to the surface of the applicator tip.



Application of Nylon Strands to Glue-Coated Applicator Stick Surface



Solid Molded
Applicator Stick

Glue Applied
to Tip

Soft Nylon Fiber
Flocked onto Tip

Nylon Fiber Flocking Process

How Do Flocked Swabs Differ From Traditional Fiber Swabs?

Traditional fiber wined swabs comprise a hollow plastic applicator stick similar to a drinking straw, at one end of the applicator there is a bundle of fiber wound to create the familiar oval shaped head. To create the correct and safe shape for specimen collection and the right amount of hydrophilicity to draw in the sample an excessive amount of fiber must be wound around the tip creating an absorbent mattress wad. The mattress has the correct cushion for comfortable patient sample collection and the correct hydrophilic power to absorb and draw in the sample but the sample diffuses and is diluted across the entire matrix of the fiber swab. When sample needs to be transferred onto a culture plate, into an assay or transport medium tube a significant portion of the sample is not eluted but stays trapped inside the matrix of the fiber tip (see illustration). Only vortexing or wringing out the swab helps to reduce the amount of trapped sample. Flocked

Swabs have no inside core, fiber is sprayed as a thin layer on the outside of the swab tip. The characteristic shape of the swab tip is created not by layering of fiber like a traditional swab but the shape is molded as part of the solid applicator stick's profile. Flocked Swabs have greater hydraulic power than fiber swabs but the sample does not get dispersed as there is no internal matrix but it remains concentrated very close to the surface of the swab. When Flocked Swabs are in contact with a culture plate the sample rapidly drains out or when Flocked Swabs are placed in liquid medium the sample rapidly and spontaneously elutes out (see comparative photographs).



Traditional Fiber Swab



Flocked Swab – entire sample elutes

Photographs illustrate the elution of sample from each type of swab and show how much sample stays trapped inside a traditional fiber-winded swab.

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