



Oral Swab Collection for DNA and PCR Analysis

By Sgt. Stewart Mosher, Broward Sheriff's Office

The use of sterile cotton swabs with wooden shafts has been a widely accepted tool for the collection of skin cell (epithelial) material from within an individual's mouth. This is the preferred method of sample collection from both suspects and victims within the Broward Sheriff's Office Crime Laboratory.

The misunderstanding in this procedure is that the term "saliva sample" tends to become confused with the term "oral swab". Saliva is diluted and

usually does not carry a sufficient sample of epithelial cells necessary for DNA/PCR testing.

The cotton swab should be used to collect an oral cell sample. These are known as the Epithelial Cells. These cells carry an abundance of DNA/PCR suitable material.

The cotton swab should be used to rub the interior portion of the individual's mouth, while the cotton swabs are placed against the interior portion of the subject's cheek. The swab should be

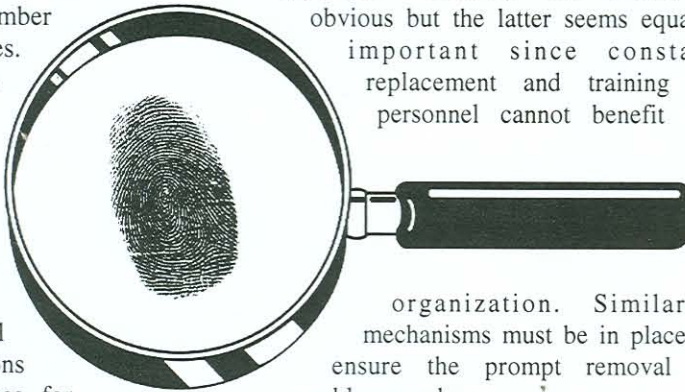
moved up and down while applying pressure against the cheek area. This should be done in a manner which clearly stretches the cheek outward, away from the subject's teeth for approximately 30 seconds or more.

This style collection method will not only collect the epithelial cells necessary for the laboratory analysis, it will also prevent second requests for samples. Remember, it is not the saliva you are going after... It's the oral epithelial cells.

Preventing Fingerprint Fabrication

Although frequently considered impossible by the untutored laity, fabrication of fingerprint evidence is real and has emerged in a number of significant cases.

Although the author does not elaborate, he notes that articles in both the U.S. and U.K. fingerprint journals have described several types of fabrications and the techniques for their production. [See for example: 20 *Fingerprint World* 83 (July 1994) and 44 *J. Forensic Ident.* 652 (1994) - Ed.] Both civilian and sworn officer examiners have been involved in fabricated identifications but their personalities and motivation appear to differ.



To avoid future problems with the fabrication of latent fingerprint evidence, three areas must be addressed. The first is "Hiring and Retention of Qualified Personnel." The former is obvious but the latter seems equally important since constant replacement and training of personnel cannot benefit the

organization. Similarly, mechanisms must be in place to ensure the prompt removal of problem employees.

The second recommendation is for an "Independent Identification Unit." The latent examiner should make his/her examination completely independently and free of external pressure. Confirmation of the identification by another examiner should be made prior to providing any information to the

investigator. Thirdly, a viable system for documentation of the prints must be used. Where feasible, evidence with prints should be photographed at the scene. In the laboratory, prints on the evidence should be photographed prior to lifting. For laboratories not using routine photography, marking and/or use of pre-numbered lift cards may be acceptable. Logs of latent print lifts should be maintained and both supervisory review and random audits by an outside source regularly made to ensure consistent quality and integrity. Wertheim, "Integrity Assurance: Policies and Procedures to Prevent Fabrication of Latent Print Evidence," 48 *J. Forensic Ident.* 431 (1998).

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