



### B36 The Recovery of Foreign DNA Introduced Through Kissing

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**Learning Overview:** The goals of this presentation are to: (1) describe the prevalence of oral sexual assault and understand the time frame DNA lasts in the mouth; (2) explain the differences in collection locations in the mouth; and (3) recommend improvements in oral evidence collection protocols.

**Impact on the Forensic Science Community:** This presentation will impact the forensic science community by improving the competence level of persons recovering foreign DNA in and around the oral cavity following sexual violence encounters, thus enhancing the overall outcomes for victims.

Prosecution of cases with analyzed forensic evidence (including DNA) are known to increase conviction rates, but unless there is a scientific basis for the evidence to be admitted in Court under the *Daubert* Rule, evidence that links a perpetrator to a victim may be excluded.

Victims subjected to oral rape may have foreign DNA deposited in the mouth. However, there is no scientifically based protocol for the effective collection of a suspect's DNA from the oral cavity whether by a forensic practitioner, other medical provider, or law enforcement. Different jurisdictions vary with respect to their data collection including device used, area of collection, and laboratory procedures. Collection devices and laboratory procedures have been researched, but the areas of the mouth where the collection takes place have not been studied.

A review of the literature to examine protocols for collection including the National Protocol for Sexual Assault Medical Forensic Examinations only provided recommendations for collection.

Scientific protocols for the collection of DNA on the skin and in the vagina have provided rigor regarding collection techniques using the double swab and Y-STR respectively.

There is a need for empirically-based evidence to determine sensitive and probable areas to swab within the oral cavity and the number of swabs to be collected.

The evolution of DNA analysis is now more sensitive and specific to identify perpetrators.

Gaps exist in the collection of evidence from the oral cavity. This study will describe the research involved to distinguish areas of higher concentration in and around the oral cavity where male DNA can be collected. The rationale for the study is to isolate areas where higher concentrations of male DNA reside following intimate contact and to improve the efficiency of protocols for the collection process. Saliva is recognized as an important source of DNA.

The results may improve educational training for all professionals who provide expert care to victims of violence (forensic nurses, emergency providers, and law enforcement). Lab analysts could receive evidence that is labeled from precise areas in and around the mouth to examine and identify foreign DNA. Additionally, this study may improve the national standard for the collection of foreign DNA in and around the oral cavity in sexual assault cases.

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#### DNA, Oral Assault, Offender