B125 Body Fluid and DNA Persistence on Juvenile Victims of Sexual Assault

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Learning Overview: After attending this presentation, attendees will have gained insight into the persistence of body fluid and DNA on juvenile victims of sexual assault.

Impact on the Forensic Science Community: This presentation will directly impact the forensic science community by seeking to provide a scientific basis for changes to state and national protocols for evidence collection from juvenile victims of sexual assault. Additionally, practitioners who attend the presentation will gain knowledge that can directly inform procedures within their laboratory as well as their own testimony.

The primary goals of this study are to evaluate body fluid and DNA persistence on juvenile victims of sexual assault, inform state and national protocols for evidence collection, and inform testing protocols within forensic laboratories. Previous studies have evaluated body fluid and DNA persistence from consenting, sexually active adults as well as on living and deceased adult victims of sexual assault. Policies regarding the length of time after an alleged assault to collect various types of samples from adult victims of sexual assault are based on the empirical data presented in such studies.

A National Protocol for Sexual Abuse Medical Forensic Examinations: Pediatric (2016) specifies Sexual Assault Evidence Kit (SAEK) collection "within the prescribed jurisdictional time frame (which should be a minimum window of 72 hours since the sexual abuse)" and that "case circumstances and future research may indicate a need for an acute examination and forensic sample collection beyond that time frame."[1] The National Protocol recommends the involvement of "pediatric examiners and crime lab personnel in determining how any new information results in changes in practice."[1] National Best Practices for Sexual Assault Kits (2018) issued by the National Institute of Justice recommends sample collection "up to five days or longer post-assault" and cites advancements in DNA sensitivity for "potential to extend the time frame to nine days post-assault in the living patient."[2] These statements are echoed in A National Protocol for Sexual Assault Medical Forensic Examinations: Adults/Adolescents (2013).[3] Neither document specifies that the support for increasing the amount of time post-assault for kit collection due to increased sensitivity of DNA testing is only applicable to adult victims.

This collaborative study between a certified Sexual Assault Nurse Examiner and forensic laboratory personnel seeks to provide casework data from over 500 cases of child sexual assault to inform changes to policies pertaining to evidence collection from juvenile victims of sexual assault. The persistence of acid phosphatase, prostate-specific antigen, spermatozoa, and foreign DNA detected with Quantifiler™ Trio DNA Quantification Kit, GlobalFiler™, and YFiler™ Plus will be presented, as applicable. Preliminary findings from this study indicate that foreign DNA can be detected beyond 72 hours in internal and external samples collected from juvenile victims of sexual assault. These preliminary findings indicate that changes to state and national protocols for juvenile victims of sexual assault may be warranted to ensure that probative evidence is collected.

Reference(s):

1. U.S. Department of Justice Office on Violence Against Women. A National Protocol for Sexual Abuse Medical Forensic Examinations: Pediatric.
2. National Institute of Justice. National Best Practices for Sexual Assault Kits: A multidisciplinary Approach.
3. U.S. Department of Justice Office on Violence Against Women. A National Protocol for Sexual Assault Medical Forensic Examinations: Adults/Adolescents.

Persistence, Juvenile, Sexual Assault

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