



## Pathology/Biology Section - 2016

---

### H17 Can DNA Data Be Used to Establish a Cut-Off Time for Juvenile Sexual Assault Exams?

*Daniela Anane-Bediakoh, BS\*, 142 Zia Dodda Crescent, Brampton, ON L6P1N3, CANADA; Martin Lopez, MS, Houston Police Department, 1202 Washington Avenue, Houston, TX 77002; Holly Whillock, BS, Houston Police Department, 1200 Travis Street, Houston, TX 77002; Sheree R. Hughes-Stamm, PhD, Sam Houston State University, Dept of Forensic Science, Huntsville, TX 77341; and Amy Castillo, PhD, 1200 Travis Street, 20th Fl, Houston, TX 77002*

---

After attending this presentation, attendees will better understand the importance of prompt evidence collection in juvenile sexual assault cases, the link between DNA quantification results and downstream Short Tandem Repeat (STR) success, potential trauma caused by sexual assault exams, and the necessity in developing a post-incident cut-off time.

This presentation will impact the forensic science community by providing guidance on how to better serve juvenile sexual assault victims by helping to determine when an invasive, potentially traumatic, sexual assault examination improves an investigation. This research will help inform the forensic science community as to when the examination maximizes the likelihood of developing a profile while inflicting the least amount of trauma on the juvenile.

The knowledge gained from a sexual assault exam can be beneficial in the investigation of an alleged juvenile sexual assault. Nevertheless, it is critical to balance the information's value with the victim's trauma. A Sexual Assault Nurse Examiner (SANE) collects evidence from the victim as part of a comprehensive exam. The resulting Sexual Assault Kit is then processed to determine if a DNA profile foreign to the victim is present.

To have optimal effect, the Sexual Assault Exam should be done a short time after the alleged assault. While this is common knowledge, there is often a time lapse between the sexual assault of a juvenile and the Sexual Assault Exam. This often results either from a delayed outcry or because parents are unaware of the assault. Sexual assault exams may cause secondary trauma to the victim, in addition to the significant, initial trauma caused by the sexual assault. Previous publications have suggested that the Sexual Assault Exam be conducted within 24 hours in pre-pubescent children and within 72 hours in adolescents. Therefore, it should be considered that the trauma caused by the Sexual Assault Exam may not yield any evidence when collected outside of these published guidelines. Therefore, it is important to gain a better understanding of the relationship between the time interval between assault and collection and the downstream DNA profiling success.

This study will present the results of an extensive review of more than 1,000 sexual assault cases involving juveniles. The review focuses on DNA quantification data, the ratio between the amount of autosomal and male DNA detected and the success of retrieving a useable DNA profile foreign to the victim. The sooner SANEs are able to collect samples from the juveniles, the more likely it is that a profile will be developed that is Combined DNA Index System (CODIS) eligible. This study endeavors to determine the optimal time interval for the collection of a sexual assault kit based on the success of downstream DNA profiling results for the possible offender. In addition, this data may be used to develop a cut-off time post incident. This would allow SANEs to decline a sexual assault examination on juvenile victims based on the premise that the risk of inflicting further trauma may outweigh the likelihood of gaining a useable DNA profile.

---

#### Juvenile, Sexual Assault, DNA