



E102 Does It Wash Away? The Impact of Bathing or Showering on DNA Analysis Findings From Sexual Assault Kits

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Learning Overview: After attending this presentation, attendees will understand the minimal effect of post-assault bathing or showering on the development of the Federal Bureau of Investigation (FBI) Combined DNA Index System (CODIS) -eligible DNA profiles from Sexual Assault Kit (SAK) evidence.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by encouraging the submission and analysis of SAKs despite a victim history of post-assault bathing or showering.

SAK submission rates significantly decrease in cases where the victim has engaged in post-assault actions, such as bathing or showering. The belief that these actions diminish the possibility of finding prosecuting evidence heavily contributes to this decline.¹ This belief must now be reevaluated in light of improved DNA analysis methods that can yield CODIS-eligible DNA profiles. The post-assault action of bathing or showering has been found to be a significant negative predictor of SAK submissions by law enforcement.² However, DNA can be collected from skin and successfully analyzed regardless of victim bathing or showering.³ In an effort to eradicate misbelief and improve SAK submission rates, this presentation will evaluate SAK submission rates and SAK DNA analysis findings from 5,423 SAKs and provide research findings on the effects of post-assault bathing or showering on the development of probative CODIS-eligible DNA profiles.

In this retrospective study of 5,423 SAKs, 36% of victims reported post-assault bathing or showering. Post-assault bathing or showering was found to be highly correlated with time between assault and sexual assault forensic examination. In a Generalized Estimating Equation (GEE) logistic regression analysis on SAK submission rates, victim reports of post-assault bathing or showering was a consistent predictor of law enforcement not submitting kits. Yet, bivariable statistical analysis determined that victim bathing or showering post-assault was not associated with the lack of development of a DNA probative profile from SAK evidence.

The effect of post-assault bathing or showering must be reconsidered in the forensic science and criminal justice community as DNA analysis can yield probative DNA profiles, even after a victim has bathed or showered. The presentation of these research findings will encourage the submission of SAKs by law enforcement and potentially increase SAK submission rates by eradicating any doubt regarding the minimal effect of bathing or showering on the development of CODIS-eligible DNA profiles. At the conclusion of this presentation, attendees will understand the research data that supports the submission and testing of all SAKs, especially those with a victim history of post-assault bathing or showering.

Reference(s):

1. Patterson D., Campbell R. (2012). The problem of untested sexual assault kits. *J Interpersonal Violence*. 2012;27(11):2259-2275. doi:10.1177/0886260511432155
2. Valentine J.L., Sekula L.K., Cook L.J., Campbell R., Colbert A., Weedn V.W. Justice denied: Low submission rates of sexual assault kits and the predicting variables. *J Interpersonal Violence*. 2016;1-27. doi:10.1177/0886260516681881.
3. Williams S., Panacek E., Green W., Kanthaswamy S., Hopkins C., Calloway C. Recovery of salivary DNA from the skin after showering. *Forensic Sci Med Path*. 2014;11(1):29-34. doi:10.1007/s12024-014-9635-7.

Bathing/Showering, DNA, Sexual Assault Kit