

IMPLEMENTING BEST PRACTICE RECOMMENDATIONS: SEXUAL ASSAULT KIT TESTING AT THE SAN DIEGO POLICE DEPARTMENT CRIME LABORATORY

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The testing of sexual assault kits for DNA evidence continues to be at the forefront of the political, legal, and forensic communities. In California, as elsewhere, recent and pending legislation surrounding the inventory and processing of untested kits, as well as turnaround time (TAT) requirements for laboratory analysis, has necessitated forensic DNA laboratories to consider process improvements. In August 2017, the National Institute of Justice published “National Best Practices for Sexual Assault Kits: A Multidisciplinary Approach” containing 35 recommendations on a variety of aspects surrounding the collection and testing of sexual assault kits. The recommendations include: evidence submission policies for prioritization of probative items; process improvements to facilitate more efficient workflows; implementation of direct to DNA methods; use of standardized reporting templates; and DNA data interpretation software.

Since 2011, the San Diego Police Department (SDPD) Crime Laboratory has utilized a Y-Screen approach for sexual assault kit testing, where one quarter of every swab type in a kit was cut and extracted using a single method that would provide DNA from all cell types, including sperm cells. Samples identified as containing male DNA were then considered for further analysis. Subsequent analysis generally required resampling followed by differential extraction.

In 2018, the SDPD Forensic Biology Unit began re-evaluating its testing workflow to address long TAT, increased requests, and a growing backlog of sexual assault kits. Results from sexual assault kit samples tested using the original Y-screen approach were evaluated for the amount of male DNA obtained and whether the sample yielded a CODIS eligible profile. A combination of this data and case-specific information was used to move to a new “informed triage” method for a standardized, direct to DNA testing approach, using both differential and non-differential extractions. The new testing workflow was implemented in January 2019. Since implementation, the changes to the SDPD Forensic Biology Unit’s sexual assault kit workflow have improved our ability to isolate DNA suitable for CODIS upload, and have reduced the TAT for sexual assault kit processing by more than 50%.