



A25 Forensic Utilization of Familial Searches in DNA Databases

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After attending this presentation, attendees will be familiar with: (1) the importance of DNA evidence with regard to the forensic utilization of DNA database searches, (2) the process of forensic familial searches in DNA databases, (3) the state-by-state code variations pertaining to

familial searches in DNA databases, (4) the potential positive and negative consequences of utilizing familial searches, and (5) case examples of successfully utilized familial DNA searches.

This presentation will impact the forensic community by increasing awareness of recent changes within the law regarding the utilization of familial DNA searches, as well as the potential for a higher number of closed cases if familial DNA searches are employed.

The technology of DNA evidence has become an invaluable tool in the process of identification and investigation, as well as the 'gold standard' on which juries rely during their deliberations of whether or not to convict. The development of state and federal DNA databases has greatly impacted the forensic community by creating an efficient, searchable system that can be used to eliminate or include suspects in an investigation based on matching DNA profiles – the profile already in the database to the profile of the unknown sample in evidence.

The importance of DNA evidence is widely recognized and largely irrefutable. Recent changes in legislation have begun to allow for the possibility to expand the parameters of DNA database searches, taking into account the possibility of low-stringency or familial searches. Throughout this presentation, the terms "familial" and "low-stringency" will be used interchangeably to discuss the forensic process of searching a DNA database based on matching only a limited subset of the available typed loci. Such searches would yield a larger number of possible suspects by incorporating near-hits – DNA samples that match the unknown sample on a fewer number of loci. These near-hits may indicate a close relative to the source of the unknown forensic sample, thereby broadening the inclusion criteria of the searched DNA database to include not only offenders, but also these offenders' relatives.

Acceptable uses for DNA database searches (as well as which DNA profiles are included in the database) are dictated by state codes which differ from state-to-state and are currently expanding. Recently, certain states (i.e., California) have begun to allow the process of low-stringency searches or have attempted "test runs" in an effort to identify the potential positive outcomes of allowing the utilization of familial searches (i.e., Colorado). In terms of the FBI-developed Combined DNA Index System (CODIS), familial searches are not in common practice but partial matches are occasionally acknowledged, and the decision to follow up on the possible involvement of a relative is left up to the state in question. The United Kingdom has been utilizing familial searching for the past few years and has already found success. Even in the United States there are examples of cases closed due to the use of low-stringency searches. For instance, the BTK killer, Dennis Rader, was identified through comparing forensic DNA evidence from the BTK case with a DNA sample obtained from a pap smear taken previously from Rader's daughter.

This presentation proposes to highlight the prospective importance of familial DNA searches by providing case examples in which familial searching was successful. This presentation will also acknowledge the possible negative outcomes of employing familial searches, thereby presenting both sides of this very complicated, rapidly evolving situation.

DNA, CODIS, Familial Search