



F2 When Right Is Wrong: Methods for Resolving Cold Identity Cases

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After attending this presentation, attendees will understand the resources available to medical examiners/coroners, law enforcement and families to aid in resolution of long term unidentified remains and missing persons cases.

This presentation will impact the forensic community and/or humanity by encouraging the forensic community to continue working older unresolved identity cases. The current available resources that should be utilized in such cases are presented. By highlighting an error that occurred in this case study the forensic community will be made aware of pitfalls to avoid.

This poster documents the path to identification of female skeletal remains discovered in Johnson County, Texas in 1993. A mistake in dental information entry into NCIC eliminated the decedent from further consideration until a cold hit in the National Missing Persons DNA Database alerted investigators to the true identity of the remains. Attendees will learn the resources available to them in cases of long- standing unresolved identity cases.

In August 1982 Donna Williamson disappeared from North Richland Hills, TX. Her vehicle was found abandoned and she was never heard from again. In May 1993, skeletal remains were recovered in Johnson County Texas. The local medical examiner evaluated the partially recovered remains and entered the biological profile into the National Crime Information Center (NCIC). In June 2003, the case was revived by the Johnson County Sheriff's Office. At that time, bone was submitted to the Texas Missing Person's DNA database and the rest of the evidence was submitted to the Tarrant County Medical Examiner Anthropology laboratory. An anthropology exam and facial reconstruction were requested.

In July 2003, the NCIC entry was modified on the unidentified remains including charting of the maxillary teeth. The mandible was not recovered. The anthropology examination determined that it was necessary to lower the age interval and expand the postmortem interval. Multiple stab wounds were detected thus changing the cause of death from undetermined to homicide. The new biological profile indicated a white female, aged 16 to 23 years, with a postmortem interval of 5 years minimum. The probable year of birth was estimated to be 1952 to 1972 and the probable date missing was estimated to be 1975 to 1988. The NCIC entry was modified with the assistant of Patricia Blake at the Texas Department of Public Safety Missing Persons Clearinghouse (TxMPCH). Over one hundred potential matches were generated. Donna Williamson was one of the potential names, however she was eliminated along with many others, when the dental information available through NCIC did not match. The postmortem dental profile for the unidentified maxilla did not match the antemortem NCIC dental entry for Donna Williamson because the unknown tooth #14 had a one surface amalgam restoration and Donna Williamson's record showed this tooth with a three surface amalgam restoration. This does not follow a natural progression of treatment and is physically impossible. A dental restoration can get larger over an individual's life span but not smaller.

In August 2003, Detective Rica Garcia, North Richland Hills P.D, reviewed the missing person file of Donna Williamson. Detective Garcia determined that Donna was still missing and she sought assistance from the TxMPCH to locate Donna's biological relatives and obtain a DNA reference sample. The sample was located and submitted to the Texas Missing Person's DNA Database, housed at the University of North Texas Health Sciences Center in Fort Worth, TX. The Texas Legislature funded the DNA database in 2001 and extractions began in March 2003.

In June 2004, the skeletal remains were identified as Donna Williamson with a probability of maternity equal to 95.21%. This case was the first cold hit for the Texas Missing Person's DNA Database.

The question remained of why the dental profile as entered in NCIC did not match between the unidentified cranium and Donna Williamson. A review of the original dental records showed that the antemortem dental radiographs were originally mounted with the raised embossed dot facing away from the examiner ("dot-down" orientation). Apparently, however, the person reviewing the antemortem dental radiographs made a written dental chart for NCIC data entry assuming "dot-up" orientation. This resulted in a flip-flop of right and left sides. When the raised embossed dot is oriented facing the examiner ("dot-up"), the conditions of teeth 3 and 14 clearly agree between antemortem and postmortem charts. Compounding the confusion was the fact that Williamson's restorations were fairly "symmetrical," i.e., contralateral teeth had very similar restorations, and thus a "right-to-left flip-flop" might not readily be noticeable. This explainable inconsistency did not contradict the strong DNA evidence and Donna Williamson was positively identified.



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This case study highlights the need for a trained forensic odontologist to review any dental records before a dental profile is entered into NCIC.

NCIC, Dental Radiographs, Human Identification