G39 Identification of Decomposed Human Remains Found in a Septic Tank

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After attending this presentation, attendees will be better informed regarding how a medical examiner's office and a law enforcement agency used scientific methods and old-fashioned detective work to identify decomposed human remains found in a septic tank.

This presentation will impact the forensic science community by illustrating the five forensic methods (visual, fingerprints, anthropology, DNA, and dental) commonly used in human identification.

On August 27, 2013, partially skeletonized human remains were found when a septic tank service company routinely drained a residential septic tank in Storey County, NV. These remains were brought to the Washoe County Medical Examiner's Office (WCMEO) in Reno, NV, where an autopsy and postmortem data collection were performed. Fingerprints were taken and analyzed. Forensic anthropology and forensic odontology examinations were performed.

Storey County law enforcement checked missing person rosters and submitted a National Crime Information Center (NCIC) search. No information regarding the identity of this unidentified person was obtained. It was not until a WCMEO death investigator performed a Google® search on the design and logo of a medallion recovered with the body that a lead on this person's identity was generated. Law enforcement expanded on this lead. More information was gathered, including United States Navy dental records. When these records were compared to the results of the forensic dental examination, a possible dental identification was obtained. Law enforcement located a biological relative of this individual and DNA was obtained from a section of the unidentified person's femur and compared to that of the potential biological relative. This culminated in positive identification of a man who had been reported missing in 1980.

A septic tank system is a privately owned, on-site sewage treatment plant. Septic tanks are usually located in rural areas lacking connection to a municipal sewer system. The naturally occurring populations of bacteria in the tank break down organic solids and dissolved chemicals in waste water. Corrosive chemicals like sulfuric acid, hydrogen peroxide, and formaldehyde are added when drain pipes become clogged. Sludge accumulation in the tank is reduced by having the tank pumped every three to five years. The effects of such an environment on a human body for more than 20 years will be discussed.

This unique identification case illustrates the importance of combining detective work and forensic science when endeavoring to identify severely decomposed human remains.

Forensic Science, Forensic Odontology, Dental Identification

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