



### F49 Campfire Murder – Identification From the Ashes

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The objective of this presentation is to provide details on the investigation, recovery, and examination of burnt and highly fragmented human remains which were utilized in the identification of a serial murder victim that of a nine year old male. Examination procedures involving sorting fragmented and burnt human elements will be discussed in addition to identifying specific features of both dental and skeletal remains which provided identification of the victim.

This presentation will impact the forensic science community by providing present and future forensic investigations insight as to the possibilities of forensic analysis of highly burnt human remains. The forensic community will benefit from the knowledge that even very small fragmentary remains both dental and skeletal can provide useful information in reference to the identity of a victim as well as the type of fire and temperatures involved in their breakdown and destruction.

Reconstruction of highly burnt and fragmented remains of a body is one of the most difficult tasks in forensic investigation. As the result of exposure to an extremely hot fire many times all that remains of a body is calcined bone and tooth remnants. Proper recovery of such remains requires much care during the collection process in addition to treatment of the remains with various polymers to insure their preservation.

The case to be presented involves the kidnapping and brutal murder of Dylan Groene, a nine year old male, who was kidnapped along with his eight year old sister, Shasta Groene. On May 15<sup>th</sup>, 2005 a previously convicted sex offender Joseph E. Duncan III along with a female accomplice broke into the Idaho home of Dylan and Shasta Groene. Duncan killed the mother, older brother and mother's fiancé of Dylan and Shasta, and abducted both of the children.

Duncan and his female accomplice evaded law enforcement efforts to arrest them until July 2, 2005 when they were apprehended. Shasta Groene was still in their company but Dylan was missing. An interview of Shasta by law enforcement revealed her younger brother had been murdered earlier by Duncan while they were staying at a campground. According to Shasta, Dylan had been repeatedly sexually and eventually shot and killed by Duncan. In order to dispose of the body, he put Dylan in the campfire and burnt his remains while Shasta watched. Duncan threw the burnt bones and teeth down a nearby gutter.

FBI agents later conducted a search of the campground and gutter which led to the recovery of numerous calcined bone and tooth fragments. Forensic examination of the remains by staff of the Office of the Armed Forces Medical Examiner revealed the hard tissue material recovered to consist of a total of 1752 bone and tooth fragments weighing approximately 424 grams. An inventory of the fragments revealed 37 to be dental, 126 to represent cranial portions, and 1589 to represent postcranial or undetermined fragments. Anthropological study found no evidence of anatomical duplication indicating a minimum number of individuals of one. Several unfused epiphyseal surfaces were observed within the assemblage as well as shallow tooth crypts of mandibular and maxillary fragments, indicating a sub adult individual.

Odontological examination of the dental remnants revealed the presence of deciduous and developing adult dentition. Based upon the dental development of the tooth remnants an upper and lower age estimation was established which was consistent with the age of Dylan Groene at death. The condition of the dental and skeletal fragments indicated they had been exposed to temperatures in excess of approximately 1400 degrees Fahrenheit. The degree of fragmentation and burn patterning exhibited by the remains was noted to be the result of continual stoking in a campfire.

As a result of the forensic evidence presented in reference to the murder and burning of the body of Dylan Groene, Joseph Duncan was sentenced to death on August of 2008. In total, he received three death sentences and nine life sentences for the Idaho crimes.

**Anthropology, Burnt Remains, Odontology**