



Dental Matching

Forensic Science



- The uniqueness of a set of teeth is a powerful tool in confirming the identity of someone unknown, especially when a lack of DNA evidence is the case. You may be intrigued by the number of clues an examination of teeth can provide.

The Uses Of Dental Matching

- Forensic odontologists or in other words, forensic dentists, have the job of examining dental evidence that is left behind after a crime has been committed. Teeth are an excellent source of identification, as they are hard wearing and durable. With the ability to survive fires that destroy evidence, burn human bones to ashes and melt copper and glass, teeth are able to withstand criminal's attempts to hide the crimes they've committed and the evidence held within the crime scene and dental analysis provides a cost efficient alternative to solving a crime.

[Comparing Records]

- At the scene of the crime, odontologists collect the skull or remaining teeth, which are taken back to the forensic laboratory for the postmortem dental investigation. X-rays are taken and if the jaw is completely intact and the dental records used to compare are recent, the job of proving a match is a relatively simple one. Dentists mark on a chart the position of missing teeth, crowns, bridges, fillings, caps, root canals and various other treatments during a patient's routine check-up. The task of identifying a victim is made more difficult when the dentist records and x-rays are out of date or when the skull is severely damaged and has parts missing.

[Alternative Factors]

- Where no dental x-rays are found, full-face x-rays are sometimes used as an alternative record, as the sinuses present above the nose have a unique shape in every person and can be used in the accurate identification of a victim. If no dental, face or x-ray records are present, the ability to make decisions about the victim's identity is very restricted, but other guidelines are useful. Some of these guidelines include the tooth roots becoming more transparent in older people and the stage of development of a child's teeth can determine their age. The teeth's pattern of wear in adult's show the person's age, diet and the materials/dentistry techniques used during dental treatment, which can point out the country in which treatment was received.

[Bite Marks]

- Odontologists also play a vital role in the study of bite marks. Human and animal teeth both leave conspicuous marks. In the flesh, they leave behind noticeable bruises or puncture marks and in soft foods, such as fruit, marks are also preserved. The distinctiveness of the bite mark is used for the identification of the person. For example, gaps or abnormalities present in the teeth of a suspect are compared with the bite mark to see whether it is logical to say that the suspect's teeth made the bite mark.

[Bite Marks (Cont'd)]

- To be able to match a suspect with a bite mark, the mark is documented using photographs and in the case of food containing the mark, it is alcohol or other preserving agents such as glycerol and formaldehyde, which are used to preserve the food.
- Then a record of the suspect's teeth is acquired, where odontologists take an impression of the teeth in silicon rubber.
- The impression left in the rubber is set using plaster to make a replica of the gums and teeth and compared with the samples. These photos and replicas are then compared with the crime scene bite mark.
- The forensic odontologist simply gives evidence as a witness to injuries caused by biting and it is the method in which they choose to present evidence in court that convinces a jury whether a suspect guilty or innocent.