

Forensic dental diseases.

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Abstract

Forensic odontology is a growing field with a lot of room for advancement. It has established itself as a necessary science in medical and legal concerns, as well as in the identification of the deceased. Even if a person is skeletonized, degraded, burned, or dismembered, dental tissues are frequently retained. Using dental tissues, several methods have been devised to estimate a person's age, sex, and ethnicity. In forensic dental identification, data collecting methods and auxiliary technology have experienced considerable changes. This article gives an overview of current developments in traditional procedures as well as new concepts in forensic odontology.

Keywords: Forensic Odontology, Diseases, Dental.

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Introduction

Teeth are the human body's toughest and most durable tissues. Even in catastrophic accidents, crimes, burials, or other harsh exposure to the elements, they are frequently resistant to decomposition. Every person's dental patterns are different. This one-of-a-kindness stems from the dentist's wide range of treatments. As a result, if records exist for the purpose, a person's dentition can be used for individual identification and comparison. [1] When postmortem alterations, severe tissue injury, or a lack of fingerprint records render the use of ocular or fingerprint methods ineffective, forensic dental identification plays a critical role in the identification of remains. [2] The field of forensic odontology has a lengthy history. For many years, dental evidence has been utilised in courtrooms. The techniques employed in forensic odontology have developed throughout time as civilization has progressed. [3]

Methods

Dental Imaging

When earlier data are unavailable for comparison, radiographs are utilised as an alternate method of identifying individuals. The deceased's radiographic pictures can be retrieved and compared to the suspected person's accessible antemortem radiographic image. Radiographs were first used in forensic sciences in 1896, barely a year after Roentgen's discovery of X-ray, to indicate the presence of lead bullets within the brain of a victim.

Bite Mark Analysis

In violent occurrences such as sex-related crimes, child abuse cases, and offences involving physical altercations, such as homicide, bite marks on human tissues can be seen. It can happen when an attacker bites the victim or when the victim bites the assailant in self-defense, but keep in mind that the bite victim could be a suspect in the case.

DNA Analysis

When traditional identification methods fail owing to the impacts of heat, traumatism, or autolytic processes, distortions, and analytical problems, DNA analysis is a novel tool employed in the area of forensic odontology.

Cheiloscopy

Cheiloscopy is a forensic investigative method that uses the lip traces of people to identify them. When utilising teeth as an antemortem record, we occasionally discover that tooth loss and restoration destruction make it difficult to compare the antemortem and postmortem data. [4] To get around these issues, you should utilise an immutable parameter.

Rugoscopy

Because of its distinctiveness, the palatal rugae pattern can be used as an alternative means of identification in cases when teeth have been lost owing to factors such as trauma. Rugae is shielded from heat and other attacks since it is located internally in the mouth cavity and is protected by the tongue and buccal pad of fat.

Forensic Dental Identification: Recent Concepts

Facial Reconstruction

Every human being born in our earth in the past has a unique face. Face is essential for human identity and a gift to humanity. It is important in forensic sciences because if the deceased person's face remains intact, the identification of the individual may be easily determined without the assistance of forensic specialists.

Denture Identification Methods

Victims with all or most of their dentition can be recognised by numerous techniques utilising their teeth, but those who

are missing all of their teeth have no such information. In such cases, the victim's dentures are the only thing that may be identified.

Comparison Microscopes

In forensic sciences, the use of microscopes has an influence on accuracy. The presence or lack of Y-chromatin on teeth under a microscope can establish sex.[4] The phase contrast microscope is effective in studying the cemental annulations for age estimate.

Tongue Prints

The tongue is the only internal organ that can be protruded from the body and easily exposed for inspection, and its form and surface textures are unique to each individual. The use of tongue prints for forensic identification is now in its early stages. The antemortem picture or imprint of the tongue must be available for this procedure to work.

Conclusion

Forensic odontology is a new area of dentistry that has a lot of room for growth. Forensic odontologists are responsible for analysing and interpreting dental evidence at crime scenes. When the methods are used correctly, the unique character of the dental anatomy and bespoke restorations assure correctness.

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