Advancements in Forensic Odontology: Unraveling Mysteries, Enhancing Accuracy

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Forensic sciences employ various techniques to gather and analyze evidence in criminal investigations, with forensic odontology being a key method for identifying individuals through dental records. This field is especially crucial in mass disasters and criminal cases, where rapid and accurate identification is essential. As natural disasters, potentially exacerbated by climate change, are likely to increase, the role of forensic odontology becomes even more vital. Despite its importance, there is ongoing debate regarding the reliability of certain methods, such as bite mark analysis. This review explores key themes within forensic odontology, including the analysis of dental records for identification, bite mark analysis, and age estimation techniques using advanced imaging technologies like digital radiography and cone-beam computed tomography (CBCT). The review aims to address questions about the effectiveness and limitations of these techniques, revealing the need for improvements and refinements. The findings emphasize the necessity for continued advancements in forensic odontology to enhance the accuracy and reliability of victim identification, particularly in the context of increasing mass casualty events.