

## Endodontic Radiographic Records for Dental Identification

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## ABSTRACT

Currently, an increased trend of lawsuits is observed worldwide. Consequently, the correct registration of clinical procedures becomes more important over time. In odontology a detailed description of the treatment plan, practical steps and post-treatment outcomes is essential to support the dentist against potential legal and ethical complaints. Moreover, the registration of dental treatment also allows for further comparative techniques in human identification cases. To sum up, the registered clinical data play an important part both in the civil and criminal areas of the forensic environment. In this context, endodontics is a specific branch of odontology, which essentially depends on imaging exams. Dental radiographs are the most common source of ante-mortem (AM) evidence for human identification. Once the AM data is obtained, the comparison with post-mortem (PM) data is enabled. The comparative human identification is usually based on forensic evidence, such as dental treatments and unique morphology. Based on that, the present study reports a case of human identification through the comparison between AM and PM endodontic findings, highlighting the relevance of endodontics as an essential adjuvant to the forensic sciences. Dental radiographs are considered the most reliable source of AM data in the human identification field. Specifically, dental radiographs allow for a close PM duplication of AM evidence, consequently enabling an optimal comparative procedure. Additionally, root canal treatments are less modified in the clinical routine if compared to dental interventions performed on the dental crown. Thus, endodontic identifiers are maintained for a longer period as forensic tools. In special situations, such as major fire disasters, the dental structures become fragile. However, endodontic filling materials remain preserved up to 1100° Celsius, allowing for human identification processes. Accordingly, Bonavilla et al, 2008, confirmed the preservation of microscopic structural patterns of root sealers and gutta percha exposed to high temperatures data is enabled. The comparative human identification is usually based on forensic evidence, such as dental treatments and unique morphology. Based on that, the present study reports a case of human identification through the comparison between AM and PM endodontic findings, highlighting the relevance of endodontics as an essential adjuvant to the forensic sciences. Dental radiographs are considered the most reliable source of AM data in the human identification field. Specifically, dental radiographs allow for a close PM duplication of AM evidence, consequently enabling an optimal comparative procedure. Additionally, root canal treatments are less modified in the clinical routine if compared to dental interventions performed on the dental crown. Thus, endodontic identifiers are maintained for a longer period as forensic tools. In special situations, such as major fire disasters, the dental structures become fragile. However, endodontic filling materials remain preserved up to 1100° Celsius, allowing for human identification processes. Accordingly, Bonavilla et al, 2008, confirmed the preservation of microscopic structural patterns of root sealers and gutta percha exposed to high temperatures.

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