THE USE OF PANORAMIC IMAGES FOR IDENTIFICATION OF EDENTULOUS PERSONS

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ABSTRACT

Introduction: Forensic odontology is a valuable tool in human identification processes. Antemortem radiographic examinations make it possible to use postmortem examinations for comparison.

Aims: The overall aim was to determine the possibility to identify edentulous persons using panoramic examinations by I) investigating the possibility to match two panoramic radiographs of one person performed at two different occasions, II) determining what anatomical features are used as the base for matching III) investigating if there is a difference between oral and maxillofacial radiologists (OMR) and non-oral and maxillofacial radiologists (NOMR) in the ability to match the images, IV) determining if the time elapsed between the images to be compared affect the results or the confidence in the match.

Materials and Methods: Panoramic image pairs from 19 patients examined twice at different occasions, plus 10 images from other edentulous patients comprised the material. The time elapsed between the image pairs varied between four months and six years. Four OMR and four NOMR matched image pairs depicting the same patient. The participants marked each match as “certain”, “likely” or “possible” and what anatomical structure that was used for matching.

Results: The OMR group had 100% correct matches and the NOMR group had 96%. The anatomy of the mandible was most used for matching. The OMR group was more certain in their decisions than the NOMR group. The time elapsed between the examinations did not affect the result or the confidence in the matches.

Conclusion: Panoramic images can be helpful when identifying edentulous patients.