

Editorial

Dental Biometrics

Biometrics refers to technological and scientific authentication methods to detect and recognize unique human physical and biological characteristics for personal identification. Although fingerprints are considered as the mainstay of biometrics, there are many anatomical structures such as retinal prints, facial features, foot prints, and voice analysis used in biometrics.

Dental biometrics refers to human identification using unique dental records such as teeth, dental radiographs, and other soft-tissue oral structures such as lip prints, tongue prints, and rugae prints.

Dental biometrics applications are still in infancy stage though there are many research carried out and published by many forensic odontologists.

As forensic science is a multidisciplinary subject which needs the involvement of almost all disciplines to submit a report starting from forensic photography till forensic pathology, dental biometrics can be improvised with complete team work contribution from all disciplines such as photography, engineering, anatomist, odontologist, and also technologically updated pioneers.

Researchers are more focused on digitalization of anatomic structures and software applications involving various algorithms proving the uniqueness of these anatomical structures, but applications of these in the field of biometrics are still not established to the fullest.

Lip biometrics is becoming popular, but utilization of lip prints in lip sensors just like fingerprints is still not developed.

Research on rugoscopy needs to be even more focused as research is still established only on digitalization of dental casts for rugae pattern and type analysis.

Teeth prints and morphological analysis of dental structures such as size, shape, developmental anomalies, crown root width and height ratio, and interarch distance have been analyzed by many forensic odontologists to prove the uniqueness and its application in personal identification and criminalization.

Dental radiographs have been used in forensic applications mainly for age estimation using various radiographic

methodology to assess age. Dental radiography is also useful in personal identity as the restorations such as fillings, root canal treatment, crown placements, bridge work, and implants are considered as unique and documentation of these information as antemortem records are most valuable in personal identification and for future comparisons with postmortem records if needed.

Software application development in dental biometrics can also be paid attention as there are very few research activities in exclusive biometric application developed for dental and orofacial structures.

Documentation of dental records and maintenance of antemortem records is the need of the hour in all hospital and dental clinic setups as this may be the data for future research purposes on dental biometrics.

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