The Role of Laser Surface Imaging in the Evaluation of Craniomaxillofacial Disorders: The Singapore General Hospital Experience

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Abstract

The medical profession today, has the choice of many imaging techniques for documenting, investigating, assessing or planning treatment. Amongst them, the laser surface imaging system is emerging as a useful tool to capture and store digital data for reformatting into a three-dimensional computer model.

The laser scanning system captures only the surface morphology of a subject, and is highly appropriate for the evaluation of surface morphological changes of craniofacial disorders. Although originally acquired for the study of facial anthropometry, many other clinical uses have been found for the scanner and this paper describes our experience with the laser scanner in our department. These include archival, preoperative assessments, projective linear and surface measurements, area measurements, comparative analysis, planning and prediction of surgical outcomes, and in the fabrication of physical models and external prostheses.

Key words: Comparative analysis, Image archival, Laser surface scanner, Physical models, Quantitative assessment

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