

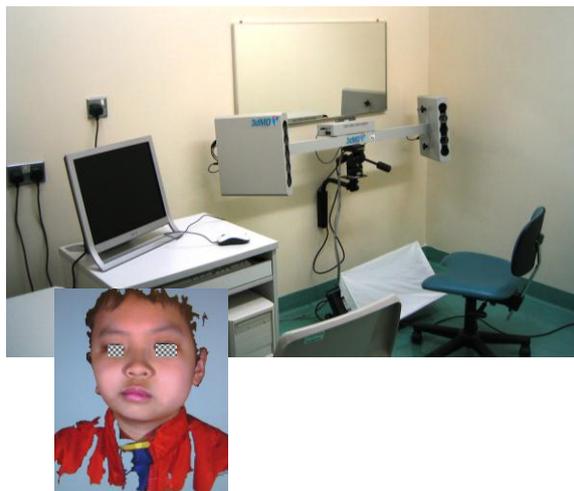
Oral and maxillofacial surgery adds extra dimension to health care

The Oral and Maxillofacial Surgery unit of the HKU Faculty of Dentistry at the Prince Philip Dental Hospital has added an extra dimension to oral health care by installing a special digital camera system to allow 3D imaging of patients' faces during treatment planning and follow-up.

Currently in much of the world, changes in the soft tissues of the face can be visualised in 2D only, which limits both assessment and tracking of treatment progress for deformities in the frontal plane of the face. With the assistance of The University of Hong Kong and Faculty Development Fund 2005, the Oral and Maxillofacial Surgery unit purchased a 3D camera system called 3dMDface (3dMD, Atlanta, Georgia, USA) at the end of 2005, and this has already had an impact on care delivery.

“Thanks to this upgrade, we have already started making some improvements to our clinical service and research, and patients have begun to benefit from the direct, real-coloured 3D visualisation of their facial condition,” says Dr John Lo, Assistant Professor in Oral and Maxillofacial Surgery at the faculty.

The 3D digital imaging system records the external condition of the face through six cameras that are synchronised to take a single shot in less than 2 milliseconds—before the patient can make any large head or facial movements. A computer processes the data to reconstruct the 3D surface with submillimetre accuracy.



Going to the next level

The HKU Faculty of Dentistry has started using 3D imaging in patient treatment planning and follow-up

According to Dr Lo, this technique will allow high-quality facial examination, accurate surgical planning, and good prediction of soft-tissue outcomes. In addition, how facial soft tissue responds to treatment can be monitored by conducting volumetric analyses of the 3D surface instead of the old method of comparing multiple 2D photographs. Several research projects have also been initiated in various fields. “This technology promises to transform oral and maxillofacial surgery in Hong Kong,” says Dr Lo.

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