Dear Dr Isti Rahayu Suryani,

Thank you for your interest in the FDI Annual World Dental Congress.

This is our great pleasure to inform you that the abstract listed below has been accepted for free communication at the 2016 FDI Annual World Dental Congress to be held in Poznan September 7-10, 2016.

AbsRef: 0323

Abstract Title: Clinical image quality evaluation of digital panoramic radiographs with dedicated smart processing in children with mixed dentition

To confirm the acceptance of your abstract, we kindly ask you to register to the congress before 10 June 2016.

Please note that non-registered presenters’ abstracts will neither be published in the AWDC final programme, nor in the IDJ special e-supplement.

Online registration (deadline 10 June 2016)

If you are already registered please log in to your account at [link] and edit your data adding your abstract ID number.

The schedule of your presentation and logistical details will be communicated later when your Congress registration will be completed.

We look forward to welcoming you to the 2016 FDI Annual World Dental Congress in Poznan.

With best regards,

FDI 2016 Scientific Department
on behalf of

Virginie Horn, PhD
Associate Director, Education and Development

Isabelle Bourzeix
Education and Professional Affairs Manager
Clinical image quality evaluation of digital panoramic radiographs with dedicated smart processing in children with mixed dentition

Isti Rahayu Suryani*, Natalia Salvo Villegas**, Azhari Azhari***, Suhardjo Sitam****, Reinhilde Jacobs****

*Department of Dentomaxillofacial Radiology, Universitas Gadjah Mada, Indonesia
**Department of Oral and Maxillofacial Radiology, University of the Andes, Chile
***Department of Dental Radiology, University of Padjajaran, Indonesia
****OMFS Impath Research Group, Department of Imaging and Pathology, Faculty of Medicine, University of Leuven

Objective
To determine the depiction of anatomical structures in digital panoramic radiographs processed with a dedicated algorithm in children with mixed dentition.

Material and Methods
Fifty panoramic images from children aged 6-12 years were retrospectively assessed before and after processing with a dedicated algorithm for smart panoramic curve adaptation to the dental arch (Vistapano S Pan, Durr Dental). All radiographs were evaluated using a modified Clinical Image Quality Evaluation Chart in different areas of the jaw bones. The evaluation aspect includes the extent of proximal overlap, dento-enamel junction and periodontal ligament space of deciduous and permanent teeth, definition of deciduous and permanent root shape, definition of permanent crown shape, definition of alveolar crest, and definition of trabecular pattern. Apart from repeated measures to determine the intra-observer variation, inter-observer variability was assessed by data observations by 2 dentomaxillofacial radiologists. A paired t-test was used to compare the image quality assessment results.

Result
Intra-observer and inter-observer variability showed a kappa of respectively 0.8 and 0.7, indicating strong to good agreement. Observations before and after application of the dedicated smart pan algorithm indicated a significant difference in image quality, more specifically in the premolar area of upper jaw and anterior area of both jaws (p< 0.05), with an overall improved of the quality scoring for the anatomical features.

Discussion
A dedicated panoramic algorithm may aid depiction of the anatomical structures, more specifically in the anterior areas of both jaws and the premolar area of the upper jaw.

Keywords: Digital panoramic radiograph, image quality evaluation, image processing