

Publication

Prediction of Cranio-Maxillofacial Surgical Planning using an Inverse Soft Tissue Modelling Approach

JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)

ID 2562360

Author(s) Shahim, Kamal; Juergens, Philippe; Cattin, Philippe C.; Nolte, Lutz-P.; Reyes, Mauricio

Author(s) at UniBasel [Cattin, Philippe Claude](#) ;

Year 2013

Title Prediction of Cranio-Maxillofacial Surgical Planning using an Inverse Soft Tissue Modelling Approach

Journal Medical Image Computing and Computer-Assisted Intervention – MICCAI

Volume 8149

Pages / Article-Number 18-25

In cranio-maxillofacial surgery, the determination of a proper surgical plan is an important step to attain a desired aesthetic facial profile and a complete denture closure. In the present paper, we propose an efficient modeling approach to predict the surgical planning on the basis of the desired facial appearance and optimal occlusion. To evaluate the proposed planning approach, the predicted osteotomy plan of six clinical cases that underwent CMF surgery were compared to the real clinical plan. Thereafter, simulated soft-tissue outcomes were compared using the predicted and real clinical plan. This preliminary retrospective comparison of both osteotomy planning and facial outlook shows a good agreement and thereby demonstrates the potential application of the proposed approach in cranio-maxillofacial surgical planning prediction.

ISSN/ISBN 978-3-642-40810-6 ; 978-3-642-40811-3

edoc-URL <http://edoc.unibas.ch/50216/>

Full Text on edoc No;

Digital Object Identifier DOI 10.1007/978-3-642-40811-3_3

Document type (ISI) article