



3 D - RADIOGRAPHICS / CLIN CHEK IN ORTHODONTIC IMPLANTOLOGY COMBINATION TREATMENT

G. Polzar, N. Spyropoulos, N. Viwattanatipa; Germany, Greece, Thailand



Objective: Can modern 3D-imaging help to enhance the quality and certainty of prosthetic implantology, followed after 3D-ortho-treatments with invisalign and planned with CAD-supported clinchek by Align-Tec.

Material and Methods: The presented example shows a patient with missing lateral maxillary incisors. Treatment objective is to mesialise the lateral canines after remodelling into incisors. It was planned to open the canine-space for implant insertion. After extraction of the primary canines the treatment starts with 3D-clinchek from invisalign® to ensure for enough implant-space. After the aligner-therapy CT-images were transferred to 3D-computermodels with SIMPLANT® to get an overview into the area of implant-surgery.

Before treatment

Class III overbite, cross-bite on the left front teeth, asymmetric relation.



Missing lateral incisor and permanent deciduous canine broken, space covered with pontic.



Before treatment

Missing lateral, canine in position of the incisor and milky canine still in position.



After treatment

The canines appear as lateral incisors and the implants are prosthetic canines



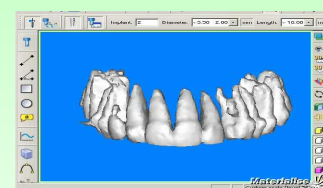
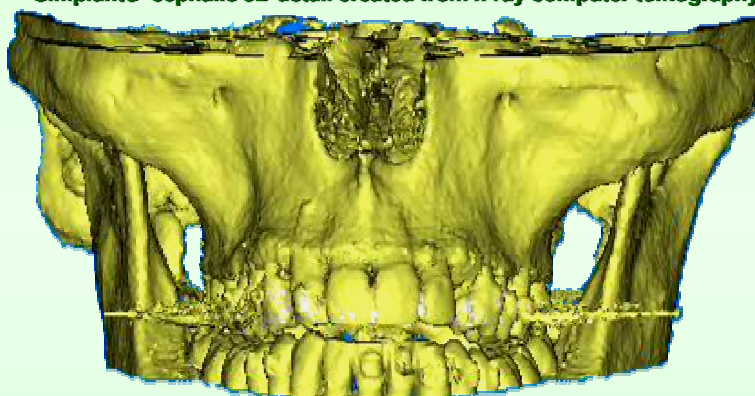
Panoramic X-ray before treatment



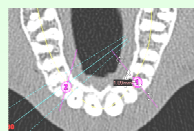
After invisalign treatment, Implants in situ.



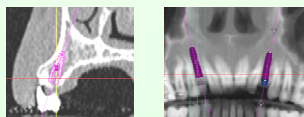
Simplant® cephalic 3D detail created from x-ray computer tomography.



Simplant® software working station.



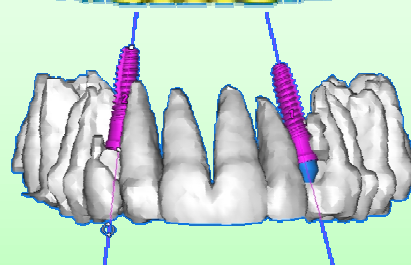
Computer tomography images with Computer aided implant planning.



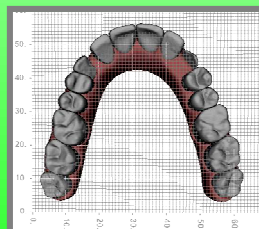
Panoramic X-ray after implant insertion and before superimposing the prosthetic supraconstruction.



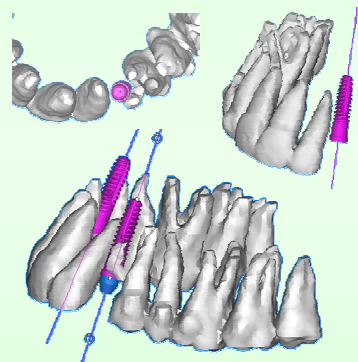
Comparison of the intraoral view with the clinchek® before the invisalign®-treatment. The lower left lateral incisor had to be extracted to level the cross bite into a class I overbite.



Additional tools like the mm-scale-lines help to predict if the created space will be sufficient for the prosthetic implants.



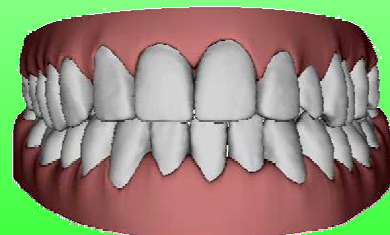
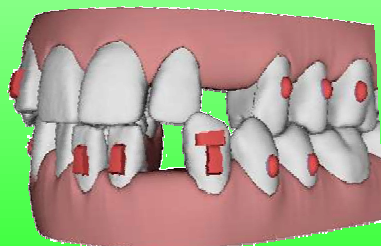
Simplant® reduced lower density tissue exposing dentition. Computer aided modelling will predetermine the ideal position of the implant.



Canines odontoplastic remodeling into lateral incisor shape.



Comparison of the intraoral view with the clinchek® after invisalign® and implant treatment. The cross-bite is eliminated and an orthognatic overbite is established.



Results: The Example demonstrates the advantages of modern computer added treatment design.

Particularly importance increased in this case to use 3-D-radiographics. Only this modern investigation could show the risk, increasing in residual roots of the milk teeth. Conclusions: Three-dimensional CAD for treatment-planning and 3D-CT-radiographic investigation ensures the quality of complex treatments process.