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May
2010

Published in:

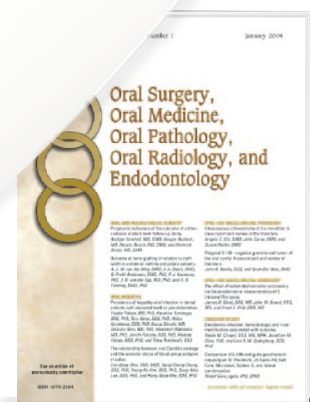
Oral Surgery, Oral Medicine, Oral Pathology, Oral Radiology and Endodontology

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Accuracy of a laboratory-based computer implant guiding system”

Eitan Barnea, DMD; Ido Alt, DMD; Roni Kolerman, DMD; Joseph Nissan, DMD.

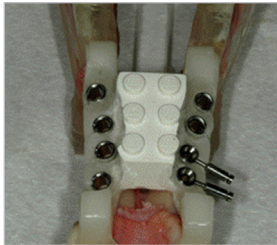
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2010, 109: e6-e10.



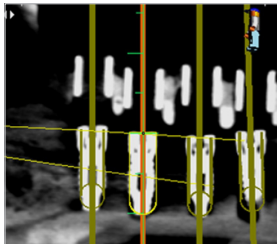
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“Accuracy of a laboratory-based computer implant guiding system”

ABSTRACT.



Implants placement according to the metal tubes.



The initial drill plan was positioned on the second CT scan.

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Objective

Computer-guided implant placement is a growing treatment modality in partially and totally edentulous patients, though data about the accuracy of some systems for computer-guided surgery is limited. The purpose of this study was to evaluate the accuracy of a laboratory computer-guided system.

Study design

A laboratory-based computer guiding system (M Guide; MIS technologies, Shlomi, Israel) was used to place implants in a fresh sheep mandible. A second computerized tomography (CT) scan was taken after placing the implants. The drill plan figures of the planned implants were positioned using assigned software (Med3D, Heidelberg, Germany) on the second CT scan to compare the implant position with the initial planning. Values representing the implant locations of the original drill plan were compared with that of the placed implants using SPSS software.

Results

Six measurements (3 vertical, 3 horizontal) were made on each implant to assess the deviation from the initial implant planning. A repeated-measurement analysis of variance was performed comparing the location of measurement (center, abutment, apex) and type of deviation (vertical vs. horizontal). The vertical deviation (mean -0.168) was significantly smaller than the horizontal deviation (mean 1.148).

Conclusion

The laboratory computer-based guiding system may be a viable treatment concept for placing implants.