Buccal Bone Thickness in Anterior and Posterior Teeth – a Systematic Review

Implications for Immediate Implant Placement

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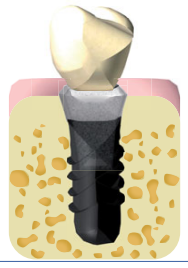
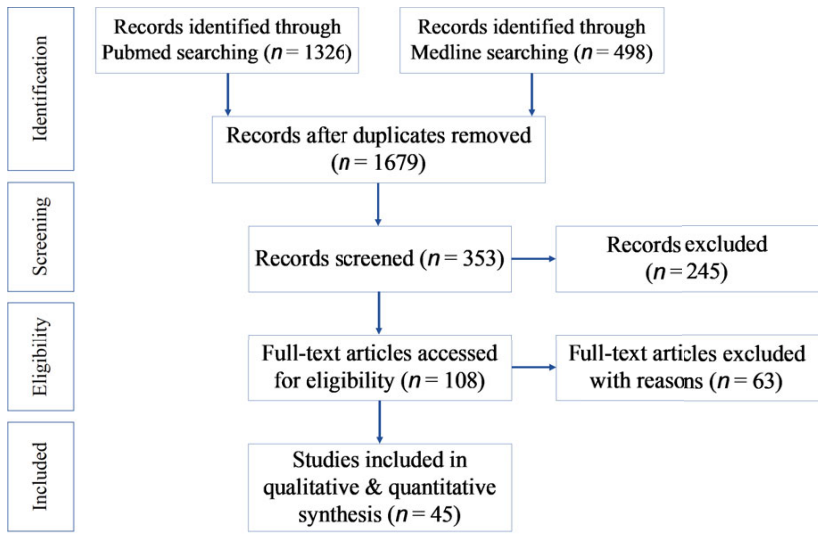
45 Studies
4,324 Patients
25,452 Teeth

INTRODUCTION

Immediate dental implant placement has been a subject of great interest over the last decade. Here, information regarding the anatomy and bone thickness of the jaw prior to dental implant placement is crucial to increase the surgery's success. One heavily discussed premise is a **buccal bone thickness of at least 1 mm**. How often are those conditions fulfilled? The aim of this **systematic review** was to answer this question to assess the feasibility of immediate dental implant placement in daily practice.



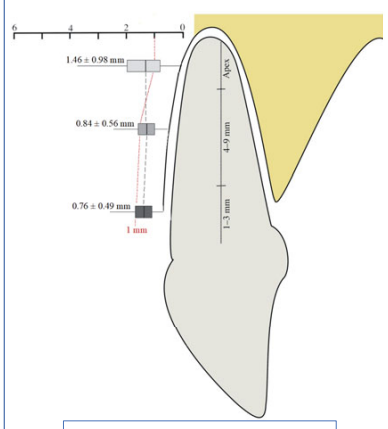
MATERIALS & METHODS

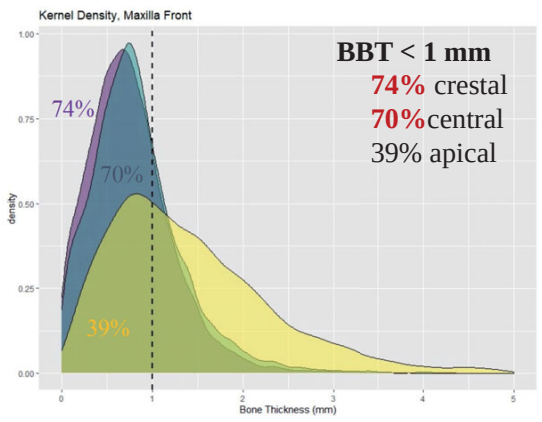


A search string consisting of the following terms was used: alveolar/buccal/facial/bundle ± bone/plate/shelf/crest/ridge ± thickness/width AND tooth, teeth, maxilla*, mandib*, incisor, canine, premolar, molar AND cone beam computed tomography, computed tomography (CT), cone-beam computed tomography (CBCT), tomography, computed tomography, CT imaging, CBCT imaging

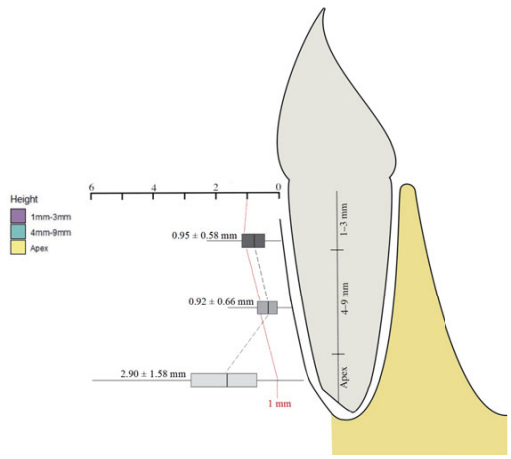
RESULTS

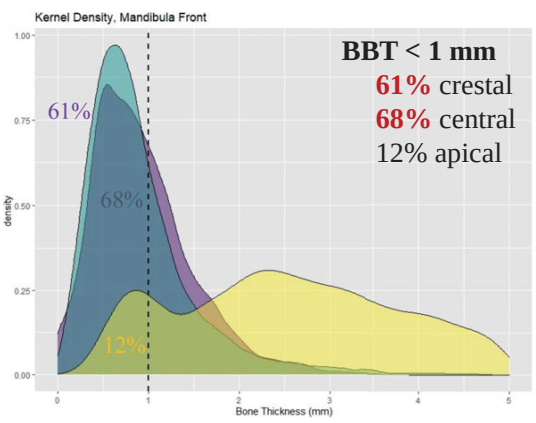
Maxilla Front



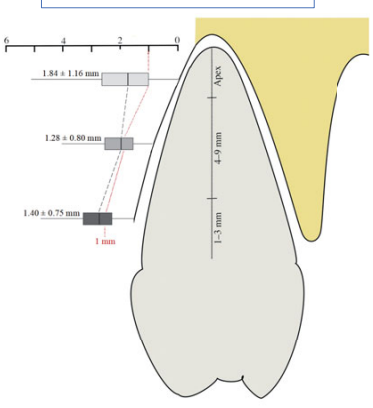


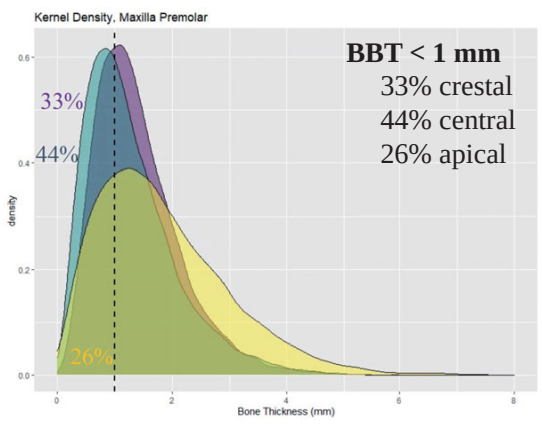
Mandible Front



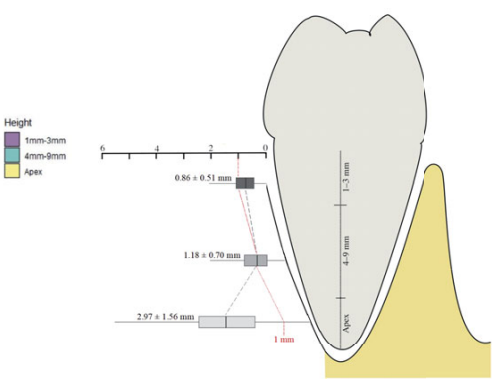


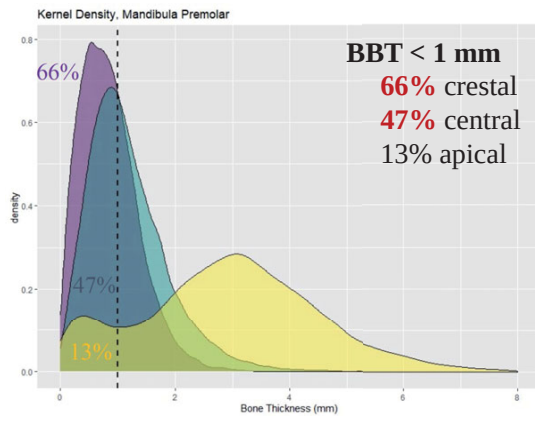
Maxilla Premolar



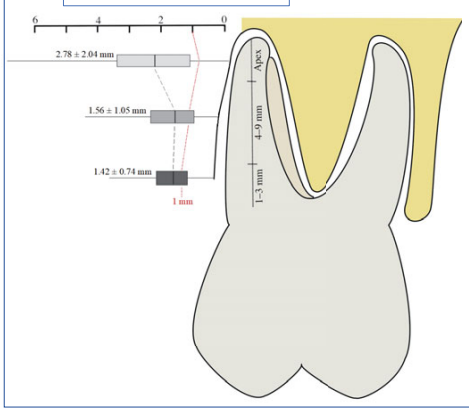


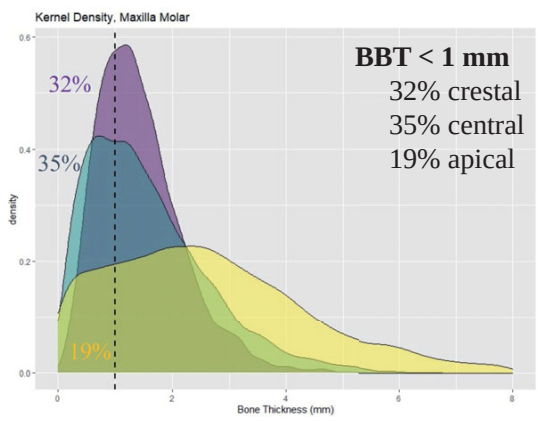
Mandible Premolar



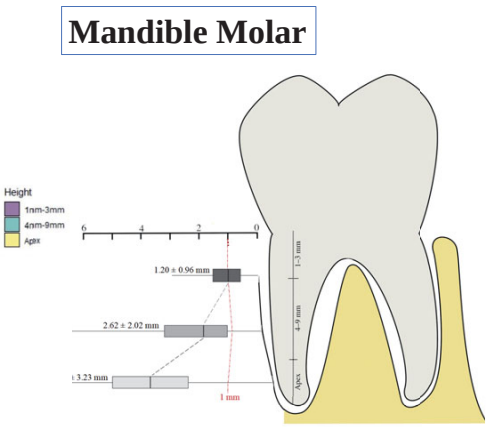


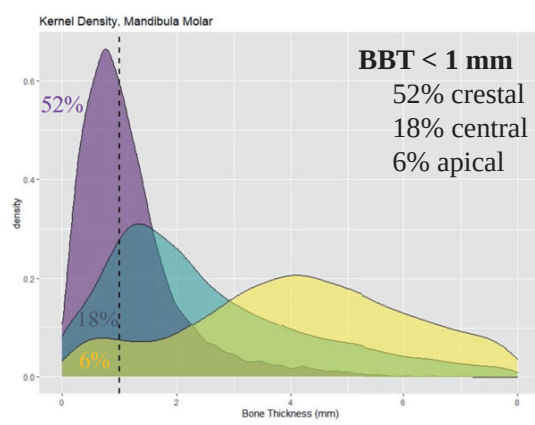
Maxilla Molar





Mandible Molar





CONCLUSION

In more than **60%** of the cases, the BBT at the alveolar crest is < 1 mm in maxillary and mandibular frontal regions. Considering the requirements of the **6. ITI Consensus Conference** regarding the premises of a buccal bone thickness of a least 1 mm, the anatomic data support careful pre-surgical assessment, planning, and critical selection of indication for immediate implant placement.