

## ANTHROPOMETRIC EVALUATION OF BUCCAL ALVEOLAR BONE DIMENSION OF MAXILLARY ANTERIOR TEETH IN INDIAN POPULATION: A CONE BEAM COMPUTED TOMOGRAPHY STUDY

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### ABSTRACT

#### Purpose

To analyze the anatomical dimensions of the buccal bone wall of the anterior maxillary region based upon (CBCT) scans in Indian population.

#### Methods

100 subjects with intact maxillary dentition who got CBCT done for diagnostic purposes were selected. The dimension from the radiographic (CEJ) to the buccal alveolar bone crest (A) was recorded. The thickness of the buccal bone plate perpendicular to the long axis of the tooth root was measured in three locations: (1) 1 mm apical to the buccal alveolar bone crest (B), (2) midroot (C), and (3) 1 mm coronal to the root apex (D). The measurements for all the four locations were grouped into 3 groups: missing bone (0 mm), bone < 1 mm, and bone > 1 mm.

#### Results

At the CEJ and 1mm apical to CEJ, most of the teeth showed no existing bone, the least dimension is seen for the left canine region and maximum for left central incisor. As the apical region is approached, the width of the buccal wall increases drastically. Around 80% of the teeth on the right side showed <1mm of bone while 20% showed >1mm facial wall width. At the apex, maximum width was seen for the right canine region (76% had >1mm bone and rest of the patients showed varied thicknesses (0.7-0.8mm).

#### Conclusions

Only 10% of the maxillary anterior teeth showed buccal alveolar bone thickness of 2mm. For the percentage of cases with buccal bone thickness >2 mm, it was noticed that a high prevalence were in the central incisors (23%), lateral incisors (16%) and canines (20%).

**KEYWORDS:** Buccal Bone, Immediate Implant Placement, Implant Esthetics, Anterior Maxillary Teeth, CBCT