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## **Influence of Mandibular Residual Ridge Morphology on Pressure Distribution During Impression Procedures: An In Vitro Study**

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### **ABSTRACT**


**Purpose:** To assess the relationship between residual ridge morphology and pressure distribution of the alveolar bone surface during dental impression procedures and to compare the influence of different mucosal thickness on pressure distribution during dental impression procedures.

**Materials and Methods:** Seven experimental models of the mandibular posterior residual ridge with the same ridge morphology but different mucosal thicknesses and ridge shapes and sizes were fabricated. The pressure applied on the ridge impression making was recorded using a pressure sensor sheet. The data obtained was statistically analyzed.

**Results:** The distribution of the impression pressure on the ridge differed based on its mucosal thickness as well as its shape and contour. Pressure was observed to concentrate on sharp edges and prominences of a slope and was found to be widely distributed as the mucosal thickness increased.

**Conclusion:** Within the limitations of this present study, the morphology of the residual alveolar ridge (i.e. Bone and mucosa) appears to be a significant influencing factor in distribution of pressure during impression procedures.

**Keywords:** Removable denture, mandibular ridge, selective pressure impression, ridge morphology

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