

## ·基础与临床研究·

# 运用激光扫描和三维重建技术测量蒙古族和汉族青少年上切牙的厚度及宽度

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**【摘要】目的** 测量并分析呼和浩特地区蒙古族和汉族人群上切牙牙冠厚度、宽度及宽厚比例的相关性。**方法** 筛选 120 副蒙古族和汉族青少年牙模型, 对样本模型激光扫描并三维重建, 测量上切牙厚度及宽度, 采用配对  $t$  检验及回归分析。比较不同民族及性别宽度与厚度的差异, 并分析宽厚比例及相关关系。**结果** ①上切牙厚度男性 > 女性 ( $P<0.05$ )。②上颌侧切牙厚度蒙古族 > 汉族 ( $P<0.05$ )。③蒙古族上颌中切牙及侧切牙宽度男性 > 女性 ( $P<0.05$ ); 汉族上颌中切牙宽度男性 > 女性 ( $P<0.05$ )。④上颌侧切牙牙冠宽度蒙古族 > 汉族 ( $P<0.05$ )。⑤蒙古族和汉族上切牙牙冠厚度与宽度均具有线性关系。**结论** 上颌切牙的边缘嵴厚度及宽度存在性别及民族差异, 牙冠厚度与宽度呈线性相关关系, 同时建立了本地区蒙古族和汉族人群牙冠宽度及厚度的均数及标准差, 为本地区患者临床正畸治疗中前牙美学及覆骀覆盖的设计提供理论参考。

**【关键词】** 上颌切牙 青少年 牙冠宽厚比 数字化三维模型

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## Measurement of thickness and width of upper incisor of Mongolian and Han adolescents by laser scanning and 3D reconstruction

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**【Abstract】Objective** The correlation of thickness, width and the ratio of width to thickness of upper incisor crown of Mongolian and Han people in Hohhot was measured and analyzed. **Methods** 120 sets of Mongolian and Han models were selected from the orthodontic model bank of The Affiliated Hospital of Inner Mongolia Medical University. The sample model was scanned by laser and reconstructed in 3D. The thickness and width of the upper incisor were measured and the data were analyzed by paired T test and regression analysis. The differences of width and thickness among different nationalities and genders were compared and the ratio of width to thickness and its correlation were analyzed. **Results** ① The thickness of the upper incisors of male was generally higher than that of female ( $P<0.05$ ). ② The thickness of maxillary lateral incisor of Mongolian was higher than that of Han people ( $P<0.05$ ). ③ The width of maxillary central incisor and lateral incisor of Mongolian male was significantly larger than that of female ( $P<0.05$ ). The width of maxillary central incisors in Han male was larger than that in Han female ( $P<0.05$ ). ④ The crown width of maxillary lateral incisor was larger in Mongolian than that in Han ( $P<0.05$ ). ⑤ There was a linear relationship between crown thickness and width of

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