Acquiring Anatomical Representation of Human Maxilla for Rapid Maxillary Expansion Abstract

Abstract

The purpose of the study is to model and provide a better understanding of maxilla bone involved in the treatment for rapid maxillary expander (RME) for dento-facial applications. The treatment is recommended for patients presented with an arch width deficiency named cross bites. Cross bites often cause abnormal physical forces that disrupt the balance of the occlusal relationship. More commonly, the maxilla or the upper jaw appears to be narrow and contributes to significant degree of crowding in the mouth. Early investigators [1-4] discovered that rapid maxillary expansion resulted in a splitting of the median palatal suture. The expansion is possible with the process of bone resorption and new bone deposition thus maintaining the expansion achieved [10]. This preliminary study shows that the FE model has the potential to be a valuable tool for further analysis of dental simulation and the understanding of orthodontic treatment.
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