

# **3D COMPUTER-AIDED RECONSTRUCTION OF SIX TEETH WITH MORPHOLOGICAL ABNORMALITIES**

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The purpose of this study was the 3D reconstruction of six teeth with morphological peculiarities using serial cross-sections. All the teeth were put in 3% NaOCL solution after extraction, washed under running water and air-dried. They were then embedded in a two-phase polyester resin and serial cross-sections were produced from each specimen using a special microtome. The thickness of each specimen was 0.75 mm. Each section was photographed under a stereoscopic microscope. The photographs of the cross-sections were digitized and the external contours of the teeth and the root-canal outline were annotated for each section. Semiautomatic alignment was achieved with the use of image-processing techniques. Three-dimensional surface representation was used in this project to reconstruct the inner and outer surface of the teeth.

The results showed in detail the internal morphology of the teeth under investigation. The fact that it was possible to observe and study these teeth from different angles is one of the main advantages of this method as the three-dimensional anatomy of these teeth was apparent. The 3D reconstructing method is a useful tool for the study of the morphology of the teeth.