

## Three-dimensional volume rendering of temporo-mandibular joint living

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In this study, we conducted a morphological analysis of the temporo-mandibular joint (TMJ), a highly specialized synovial joint that permits movement and function of the mammalian jaw. We studied the (TMJ) anatomy, directly on the living, from 3D images obtained by medical imaging Computed Tomography (CT) and Nuclear Magnetic Resonance (NMR) acquisition, and subsequent re-engineering techniques 3D Surface Rendering and Volume Rendering. Moreover, by same method, and after elaboration of the data through post-processing, the arterial supply of temporomandibular joint was also studied. The analysis revealed that the lateral and medial temporomandibular joints are at increased risk during soft-tissue procedures such as an elective arthroplasty of temporomandibular joint. Besides, it was possible to reproduce anatomy of the skeletal structures, as well as through acquisitions of MRI, it was possible to visualize the muscular, ligamentous and tendinous components of the articular complex and also the capsule and the fibrous cartilaginous disc. We managed the Surface Rendering and Volume Rendering not only to obtain three-dimensional images for colour and for resolution comparable to the usual anatomical preparations, but also a considerable number of anatomical more minutes detail, zooming, rotating and cutting the same images our linking, graduating from time to time the colour, transparency and opacity.

Key words

Rendering, surface, three-dimensional image