

MAGNETIC RESONANCE EVALUATION OF THE TEMPOROMANDIBULAR JOINT DISC SHAPE

Milica Jeremić Knežević¹, Knezevic Aleksandar², Jasmina Boban³, Milekic Bojana⁴,
Djurovic Koprivica Daniela¹, Markovic Dubravka⁴, Puskar Tatjana⁴



¹ University of Novi Sad, Faculty of Medicine, Department of Dentistry, Novi Sad, Serbia ² University of Novi Sad, Faculty of Medicine, Department of Medical Rehabilitation; Clinical centre of Vojvodina, Clinic for Medical Rehabilitation, Novi Sad, Serbia ³ University of Novi Sad, Faculty of Medicine, Department of Radiology, Novi Sad; Institute of Oncology, Center for Imaging diagnostics, Sremska Kamenica ⁴ Clinic for Dentistry of Vojvodina, Novi Sad, Serbia.; University of Novi Sad, Faculty of Medicine, Department of Dentistry, Novi Sad, Serbia

The temporomandibular joint (TMJ) is the critical load-bearing joint in the human body, with articular disc acting as a stress absorber during everyday orofacial activity. The TMJ disc increases the contact area between opposing articulating surfaces and, thus, distributes lower magnitude stress to a larger surface area in the joint. Normal shape of the TMJ articular disc of is biconcave and has a bow-tie configuration.(Figure1.)

According to these characteristics, Murakami divided the shape of articular disc into biconcave (normal), biconvex (Figure 2.), biplanar (Figure 3.), hemiconvex (Figure 4.), and folded (Figure 5.). Biconcave disc has concave both upper and lower surfaces; biplanar, the whole disc is of even thickness; hemiconvex has only upper surface concave, while the lower is convex; biconvex disc has convex both upper and lower surfaces and folded disc is folded at the centre.

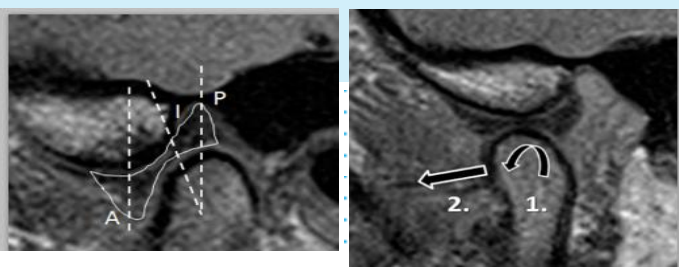


Figure 1. Normal shape of TMJ disc on MRI-closed and opened mouth position

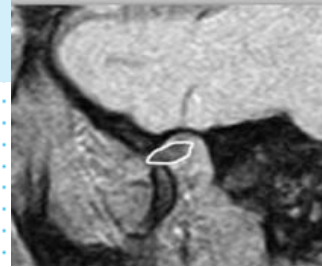


Figure 2. Biconvex disc

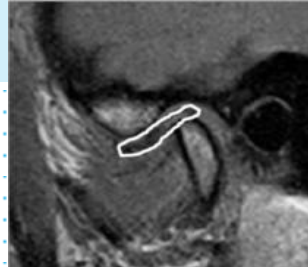


Figure 3. Biplanar disc

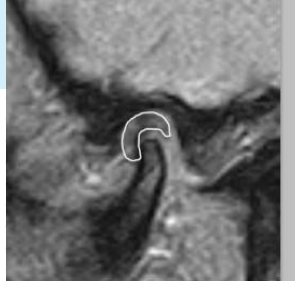


Figure 4. Hemiconvex disc

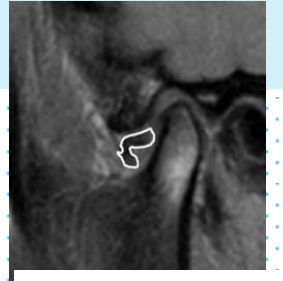


Figure 5. Folded disc

CONCLUSION: *Without ionizing radiation and invasion, MRI is considered suitable and internationally recognized standard for analyzing the TMJ disc position, morphology and mobility as well as surrounding anatomical structures in normal and pathological conditions.*