

Evaluation of the temporomandibular joint by magnetic resonance imaging using a standardized evaluation form

Language: English

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Date/Event/Venue:

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Bad Homburg

Poster Award

Posterpreis der Tagung

Objectives

- Systematic diagnostic evaluation of MRI images of the temporomandibular joint
- Documentation of primary/secondary findings

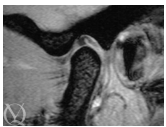


Fig. 1a: TMJ right, closed, "sagittal": NPF (Patient M.M.)



Fig. 1b: TMJ right, closed, coronal: NPF (Patient M.M.)

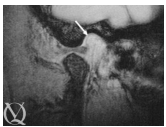


Fig. 2: TMJ right, open, "sagittal": NPF (arrow: discotemporal ligament)

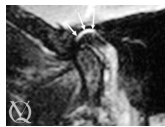


Fig. 3: TMJ left, closed, "sagittal", T2-weighted: Joint effusion

Examination form

The following parameters are evaluated:

- Condylar morphology (compacta, spongiosa)
- Fossa and tubercular morphology
- Disc morphology
- Condyle/fossa relationship (closed/open mouth)
- Disc position in two planes (closed/open mouth)
- Signal areas, T₂-weighted (condyle, joint space, bilaminar zone)

Condylar morphology

R **L**

No pathological findings/Convex
Gable-shaped/Pointed angle
Depression
Concavity
Hypoplasia
Deformation
Fracture

Compacta: No pathological findings
Erosion
Osteophyte formation

Spongiosa: No pathological findings
Degeneration
Inflammation/Tumor

Fossa morphology

R **L**

No pathological findings
Erosion
"Irregular joint surface"
(cartilaginous formations, exostoses)

Disc morphology

R **L**

No evaluation possible
Biconcave
Biplanar
Overall thickening
Overall or central thinning
Thickening in the marginal area
Depression in the marginal area
Deformed
Plicated
Spherical
Perforated
Destroyed/Fragmented

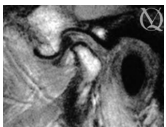


Fig. 4: TMJ right, closed, "sagittal": Partial anterior disc displacement

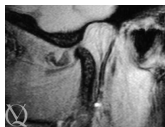


Fig. 5: TMJ right, open, "sagittal": Total anterior disc displacement without reduction



Fig. 6a: TMJ right, closed, coronal: Partial anterior disc displacement (Patient T.K.)



Fig. 6b: TMJ left, closed, coronal : Osteochondrosis dissecans (Patient T.K.)

**Condyle/fossa relationship
(closed mouth)**

R **L**

- Centric condylar position
- Anterior orientation
- Posterior orientation

- Cranial orientation
- Caudal orientation

**Condyle/fossa relationship
(open mouth)**

R **L**

- Translation movement: Yes
- Translation movement: Hypermobile
- Translation movement: Reduced
- Translation movement: No

**Disc position "sagittal"
(closed mouth)**

R **L**

- No evaluation possible
- Regular
- Partial anterior disc displacement
- Total anterior disc displacement
- Posterior disc displacement

**Disc position "sagittal"
(open mouth)**

R **L**

- No evaluation possible
- Regular
- Anterior displacement
- Posterior displacement

- Disc repositioned: Yes
- Disc repositioned: No

Disc adhesion

**Disc position coronal
(closed mouth)**

R **L**

- No evaluation possible
- Coping-shaped
- Lateral displacement
- Medial displacement

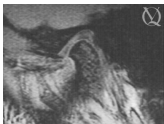


Fig. 7a: TMJ right, closed, "sagittal": Disc position regular? (Patient T.B.)

Fig. 7b: TMJ right, closed, coronal: Lateral disc displacement (Patient T.B.)

**T2 weighting
(condyle, joint space, bilaminar zone)**

R **L**

- No high-signal areas
- High-signal areas

Retrospective study

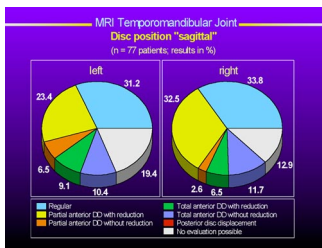


Fig. 8: The relevance of the examination form for MRI evaluation is exemplified by the results for "Disc position sagittal". (DD = Disc displacement)

This Poster was submitted on 12.05.00 by OA Dr. Peter Ottl

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Poster Faksimile:

Evaluation of the Temporomandibular Joint by Magnetic Resonance Imaging Using a Standardized Evaluation Form

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Objectives

- Systematic diagnostic evaluation of MRI images of the temporomandibular joint
- Documentation of primary/secondary findings

Fossa morphology

No pathological findings	
Erosion	
„Irregular joint surface“ (cartilaginous formations, exostoses)	

Disc morphology

No evaluation possible	
Biconcave	
Biplanar	
Overall thickening	
Overall or central thinning	
Thickening in the marginal area	
Depression in the marginal area	
Deformed	
Plicated	
Spherical	
Perforated	
Destroyed/Fragmented	

Disc position

„sagittal“ (closed mouth)

No evaluation possible	
Regular	
Partial anterior disc displacement	
Total anterior disc displacement	
Posterior disc displacement	

„sagittal“ (open mouth)

No evaluation possible	
Regular	
Anterior displacement	
Posterior displacement	
Disc repositioned: Yes	
Disc repositioned: No	
Disc adhesion	

coronal (closed)

No evaluation possible	
Coping-shaped	
Lateral displacement	
Medial displacement	

Examination form

The following parameters are evaluated:

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Condylar morphology

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Gable-shaped/Pointed angle	
Depression	
Concavity	
Hypoplasia	
Deformation	
Fracture	

Compacta: No pathological findings

Erosion	
Osteocytic formation	

Spongiosa: No pathological findings

Degeneration	
Inflammation/Tumor	

Condyle/fossa relationship (closed)

Centric condylar position	
Anterior orientation	
Posterior orientation	
Cranial orientation	
Caudal orientation	

Condyle/fossa relationship (open)

Translation movement: Yes	
Translation movement: Hypermobile	
Translation movement: Reduced	
Translation movement: No	

T₂ weighting (condyle, joint space, bilaminar zone)

No high-signal areas	
High-signal areas	

Retrospective study

The relevance of the examination form for MRI evaluation is exemplified by the results for "Disc position sagittal".