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

Language: English

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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.)](image1)

![Fig. 1b: TMJ right, closed, coronal: NPF (Patient M.M.)](image2)

![Fig. 2: TMJ right, open, "sagittal": NPF (arrow: disco-temporal ligament)](image3)

![Fig. 3: TMJ left, closed, "sagittal", T2-weighted: Joint effusion](image4)

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, $T_2$-weighted (condyle, joint space, bilaminar zone)
Condylar morphology

<table>
<thead>
<tr>
<th>R</th>
<th>L</th>
</tr>
</thead>
<tbody>
<tr>
<td>No pathological findings</td>
<td>Convex</td>
</tr>
<tr>
<td>Gable-shaped</td>
<td>Pointed angle</td>
</tr>
<tr>
<td>Depression</td>
<td></td>
</tr>
<tr>
<td>Concavity</td>
<td></td>
</tr>
<tr>
<td>Hypoplasia</td>
<td></td>
</tr>
<tr>
<td>Deformation</td>
<td></td>
</tr>
<tr>
<td>Fracture</td>
<td></td>
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**Compacta:** No pathological findings
- Erosion
- Osteophyte formation

**Spongiosa:** No pathological findings
- Degeneration
- Inflammation/Tumor

Fossa morphology

<table>
<thead>
<tr>
<th>R</th>
<th>L</th>
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<tbody>
<tr>
<td>No pathological findings</td>
<td></td>
</tr>
<tr>
<td>Erosion</td>
<td></td>
</tr>
<tr>
<td>&quot;Irregular joint surface&quot;</td>
<td></td>
</tr>
<tr>
<td>(cartilaginous formations, exostoses)</td>
<td></td>
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</tbody>
</table>

Disc morphology

<table>
<thead>
<tr>
<th>R</th>
<th>L</th>
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</thead>
<tbody>
<tr>
<td>No evaluation possible</td>
<td></td>
</tr>
<tr>
<td>Biconcave</td>
<td></td>
</tr>
<tr>
<td>Biplanar</td>
<td></td>
</tr>
<tr>
<td>Overall thickening</td>
<td></td>
</tr>
<tr>
<td>Overall or central thinning</td>
<td></td>
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<tr>
<td>Thickening in the marginal area</td>
<td></td>
</tr>
<tr>
<td>Depression in the marginal area</td>
<td></td>
</tr>
<tr>
<td>Deformed</td>
<td></td>
</tr>
<tr>
<td>Plicated</td>
<td></td>
</tr>
<tr>
<td>Spherical</td>
<td></td>
</tr>
<tr>
<td>Perforated</td>
<td></td>
</tr>
<tr>
<td>Destroyed/Fragmented</td>
<td></td>
</tr>
</tbody>
</table>

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: