Management of hallux rigidus is determined based on the degree of joint degeneration and patient lifestyle.


Summary:

- 2.5% of all people over 50 years are affected by Hallux Rigidus. (1)
- 95% of affected patients have a bilateral presentation. (2)
- Conservative care should be carried out first particularly in the early disease stage. (3)
- Cheilectomy is a proven procedure for managing early to mid-stage hallux rigidus in patients of all activity levels. (3)
- Mid-stage patients with and without failed prior surgical history are ideal candidates for HemiCAP® MTP resurfacing showing significant pain relief, functional improvement, and high patient satisfaction. (4, 5, 6, 7)
- Arthrodesis remains the procedure of choice in patients with end-stage Hallux Rigidus and failed arthroplasty.
- Joint fusion can result in high satisfaction rates of 81-100% allowing return to moderate activities. (3)

Patient Goals:

Disease staging and patient expectation management are critical in determining the individual treatment approach:

Motion and Joint Preservation Procedures
- Eliminate pain
- Achieve hallux purchase for push-off
- Normalize gait
- Improve MTP range of motion
- Allow different sporting activities including running, jumping, and active professions
- Allow normal shoe wear
- Achieve a cosmetically acceptable result
- Acceptance of a future clinical exit into arthrodesis if needed

MTP Arthrodesis
- Eliminate pain
- Stabilization of the medial column
- Preference towards stronger predictability in pain relief and less emphasis on high level function.

HemiCAP® DF
HemiCAP® DF®
Toe Resurfacing System

CheckMATE®
CheckMATE®
Metatarso-Phalangeal Arthrodesis System
### Staging and Treatment:


**Clinical-Radiographic System for Grading Hallux Rigidus**

<table>
<thead>
<tr>
<th>GRADE</th>
<th>RANGE OF MOTION % LOSS COMPARED TO NORMAL SIDE*</th>
<th>RADIOGRAPHIC EVALUATION*</th>
<th>CLINICAL EVALUATION*</th>
<th>LIFESTYLE</th>
<th>TREATMENT</th>
<th>REHAB</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>• 40° - 60° • Up to 20% loss</td>
<td>• Normal</td>
<td>• Possible stiffness • No pain</td>
<td>• Primary Focus on Motion Preservation with Pain Relief • Higher Activity Levels for Sporting and Active Professions • Better Cosmesis and Ability to Wear High-Heel Shoes</td>
<td>Conservative</td>
<td>Motion Preserving Rehab</td>
</tr>
<tr>
<td>1</td>
<td>• 30° - 40° • 20 - 50% loss</td>
<td>• Osteophytes dorsally • Minimal joint space narrowing sclerosis and flattening of MT head</td>
<td>• Mild pain at end range of dorsi- &amp;/or plantar flexion • Occasional stiffness</td>
<td></td>
<td>Early Surgical Intervention: • Debridement • Cheilectomy</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>• 10° - 30° • 50 - 75% loss</td>
<td>• MT head appears flat • Definite osteophytes • Mild to moderate joint space narrowing • &lt; 1/4 of dorsal joint space involved (lateral)</td>
<td>• Moderate to severe pain before end of range dorsi-or plantarflexion • Moderate to severe stiffness • Possibly constant</td>
<td></td>
<td>Osteotomy: • Metatarsal Osteotomies • Phalangeal Osteotomies</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>• &lt; 10° • 75% to 100% loss • Loss of &lt; 10° MTP plantar flexion</td>
<td>• Severe narrowing • Possible periarticular cyst • &gt; 1/4 of dorsal joint involved • Sesamoids enlarged -possibly cystic or irregular</td>
<td>• Pain almost constant • Severe stiffness at end of range but none at midrange</td>
<td></td>
<td>Arthroplasty: • Soft Tissue Interpositional • Phalangeal Hemiartroplasty • Metatarsal Hemiartroplasty</td>
<td>Treatment Specific Rehab</td>
</tr>
<tr>
<td>4</td>
<td>Same as in Grade 3</td>
<td>Same as Grade 3 (including joint space narrowing at the sesamoid joint surface)</td>
<td>Same as Grade 3 • Pain at midrange of passive motion</td>
<td></td>
<td>Arthroplasty: • HemiCAP for Grade IV based on individual assessment and patient preference with exit into arthrodesis if necessary • Total Toe Arthroplasty Arthrodesis</td>
<td></td>
</tr>
</tbody>
</table>

### Conclusion:
Available treatment options for hallux rigidus allow for an individual treatment approach that can achieve high satisfaction rates across the treatment spectrum. Longer-term follow-up is necessary for management of mid-stage disease, in particular as it relates to athletic activities following various surgical methods. Despite the disadvantage of stiffness, arthrodesis remains the standard of care for patients with severe end-stage involvement and failed arthroplasty.

### References: