Can you make your knees more hip?
Anatomic AP positioning of the femur in extension virtually eliminates mid-flexion instability (paradoxical sliding)\(^6\)\(^{-14}\)

**Mid-flexion stability**

Anatomic AP positioning of the femur in extension virtually eliminates mid-flexion instability (paradoxical sliding)\(^6\)\(^{-14}\)

**Strength**

Muscular Function EMG Data\(^15\)

**3X Increase Quad Activity**

Restoring the normal kinematic patterns of the knee produces more normal muscular firing patterns throughout the range of motion - as demonstrated in lab simulation in the original JOURNEY BCS design.\(^16\)
Normal motion

The JOURNEY™ II BCS Knee System has a virtually identical kinematic pattern as the normal knee throughout its range of motion.\textsuperscript{16}

0° – Screw-home, anterior AP position

0° – 90° – Rollback medial pivot

90° – 155° – Posterior translation

High flexion

Allow for an anatomic, deep flexion performance up to 155°.\textsuperscript{17-23}
Durability

VERILAST® Technology

Combining the award-winning, pioneering materials of OXINIUM® Oxidized Zirconium and highly cross-linked polyethylene (XLPE), Smith & Nephew was able to create VERILAST® Technology, a highly durable and long-lasting material combination.

Mean volumetric wear rates of CoCr against conventional polyethylene (CPE), CoCr against crosslinked polyethylene (XLPE) and OXINIUM® against XLPE as published by the respective companies with their respective implants.

When comparing Smith & Nephew’s conventional technology to its XLPE technology, the XLPE technology provides an expected, significant reduction in wear rates. Moreover, when comparing Smith & Nephew’s XLPE technology to VERILAST Technology, there is another significant reduction in wear rates. Understanding these tests were conducted using pristine components, the differences in these wear rates would be even more pronounced with roughened components due to the resistance to micro-scratches of the VERILAST couple.

The implants identified above were tested by their manufacturers using different testing protocols and, therefore, the results are not directly comparable.

References can be found in the 00394 V2 VERILAST Technology Messaging Brochure 11/14.
* ISO 14243-1 testing protocol used. Other results obtained using ISO 14243-3 protocol

Metal Content

OXINIUM® Oxidized Zirconium, exclusively from Smith & Nephew, has less than 0.0035% nickel content, compared to a maximum content of 0.5% in cobalt chrome and 0.1% in titanium.

Surgeons should be aware that all metal implants contain varying amounts of cobalt, chromium, and nickel.

Metal content of implants

<table>
<thead>
<tr>
<th>Maximum nickel content</th>
<th>Maximum chromium content</th>
<th>Maximum cobalt content</th>
</tr>
</thead>
<tbody>
<tr>
<td>OXINIUM</td>
<td>&lt;0.0035%</td>
<td>&lt;0.002%</td>
</tr>
<tr>
<td>Titanium</td>
<td>0.1%</td>
<td>Titanium</td>
</tr>
<tr>
<td>Cobalt Chrome</td>
<td>0.5%</td>
<td>Cobalt Chrome</td>
</tr>
<tr>
<td>Ni content % by weight</td>
<td>Cr content % by weight</td>
<td>Co content % by weight</td>
</tr>
<tr>
<td>0.0%</td>
<td>0.0% to 10%</td>
<td>0.0% to 70%</td>
</tr>
<tr>
<td>0.2%</td>
<td>10% to 20%</td>
<td>10% to 50%</td>
</tr>
<tr>
<td>0.4%</td>
<td>20% to 30%</td>
<td>20% to 60%</td>
</tr>
<tr>
<td>0.6%</td>
<td>30% to 40%</td>
<td>30% to 70%</td>
</tr>
<tr>
<td>0.8%</td>
<td>40% to 50%</td>
<td>40% to 80%</td>
</tr>
<tr>
<td>1.0%</td>
<td>50% to 60%</td>
<td>50% to 90%</td>
</tr>
<tr>
<td>1.2%</td>
<td>60% to 70%</td>
<td>60% to 100%</td>
</tr>
<tr>
<td>1.4%</td>
<td>70% to 80%</td>
<td></td>
</tr>
</tbody>
</table>
The challenge

Total Knees are not performing as well as Total Hips:

- 20 – 30% Dissatisfied\(^1\,\,^2\)
- Poorer return to sports\(^3\)
- Lower Patient Reported Outcomes (PRO)\(^4\)

You, the surgeon, are left tempering your patients’ expectations and tolerating the limited capabilities of traditional knee replacements.

The solution is

PHYSIOLOGICAL MATCHING\(^\circ\) Technology

PHYSIOLOGICAL MATCHING is the pioneering technology powering JOURNEY II TKA to provide complete anatomic restoration through PHYSIOLOGICAL MATCHING.

Conventional total knee designs are symmetric and unanatomic in shape and motion. The result of this is an unnatural ligament strain and conflicting kinematics. The anatomic restoration of JOURNEY II TKA is designed to provide higher level of patient satisfaction and activity.\(^5\)
References

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