Aesculap® EnduRo
Rotating Hinge Knee Endoprosthesis
Aesculap® EnduRo

Safely on the move
Safely on the move.
The EnduRo knee system is the most recent development at Aesculap and incorporates our vast experience in the field.

Revision surgery today already accounts for roughly 15 percent of surgical interventions in knee endoprosthetics. This percentage is growing rapidly, and even more so the absolute numbers. At the same time, multiple replacements are also increasing. More and more primary implantations are being carried out on younger patients at a time when life expectancy in general is growing. For this reason, there is inevitably a steadily increasing number of patients who require a third or fourth endoprosthesis during lifetime. In these situations, an implant linked to a rotating hinge is usually the treatment of choice. However, this type of prosthesis was fraught with unresolved problems until now, due mainly to abrasive wear in the bush bearing and a geometric design which deviates significantly from physiological requirements. Both of these factors can lead to premature loosening and implant failure.

The EnduRo knee revision system is based on new concepts for biomechanical materials which practically eliminate the mechanisms that might cause failure. These novel materials are the prerequisite for increasing the service life of rotational hinge implants to that of established primary condylar implants.
Aesculap® EnduRo
Safely on the move

Linkage with a difference
- Security against dislocation – conical junction with additional securing nut
- Rotational axis with 3 mm lift
- PE gliding surfaces from 10 mm to 24 mm
- 6 patellae to choose from:
  Ø 26 x 7 mm, Ø 29 x 8 mm, Ø 32 x 9 mm,
  Ø 35 x 10 mm, Ø 38 x 11 mm, Ø 41 x 12 mm

Anatomic adaptation
- 3 sizes right/left
- Uniformly small box
- Spherical radius
- Femoral offset AP, +/- 2 mm
- Hyperextension 3° limited by design of femur and PE

Femoral augments
- distal: 4, 8 and 12 mm
- posterior distal:
  4 x 4 mm, 4 x 8 mm, 4 x 12 mm,
  8 x 4 mm, 8 x 8 mm, 8 x 12 mm,
  12 x 4 mm, 12 x 8 mm, 12 x 12 mm

Femoral offset stems
- cemented (6°): lengths 77 and 157 mm
  Ø 12 mm, 15 mm and 18 mm
- cementless (5°/7°): lengths 117 and 177 mm
  Ø 12, 13, 14, 15, 16, 17, 18, 19 and 20 mm

Indications:
Severe knee joint disorders which cannot be treated by other therapies:

<table>
<thead>
<tr>
<th>Degenerative arthrosis</th>
<th>Symptomatic knee ligament instability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rheumatoid arthritis</td>
<td>Knee-joint ankylosis</td>
</tr>
<tr>
<td>Posttraumatic arthrosis</td>
<td>Severe knee-joint deformities</td>
</tr>
</tbody>
</table>

Revision/Replacement operations
EnduRo

Security and quality of life for patients
- Tibial offset ML up to +/- 6 mm
- Symmetric tibial component
  3 sizes, rotation ± 12°
- Tibial augments, 4, 8, 12 and 16 mm
- Tibial offset stems
  cementless:
  lengths 92 and 172 mm
  Ø 11, 12, 13, 14, ... 20 mm,
  cemented:
  lengths 52 and 92 mm
  Ø 12, 15 and 18 mm

Endurance = Stability
Rotation = Quality of Life

EnduRo
Security and quality of life for patients
The cone-shaped rotational axis, which is secured in the tibial plateau, is joined to the inner cone of the femoral hinge ring. In addition, a securing nut is affixed which is embedded harmoniously in the design of the hinge ring.

A prolonged implant service life is to be expected thanks to the use of time-tested CoCrMo for the metal components, combined with innovative, carbon fibre-reinforced PEEK as bearing material for the axle bearings. The comprehensive implant portfolio provides PE gliding surfaces as well as wedges of varying heights for femur and tibia. Additionally, cementless and cemented extension stems of varying diameters and lengths as well as offset options for femoral and tibial shafts provide well adapted anatomic adjustment for your patient.

Security against dislocation

12° rotation on the vertical axis possible – in both medial and lateral direction.
At least 140° flexion angle, which is increased still further by the sophisticated 3 mm lift technology. Up to 3° hyperextension possible, securely limited by innovative interaction of femur and PE gliding surface design.

Mobility

Endurance = Stability
Rotation = Quality of Life

EnduRo

Security and quality of life for patients.
High tech – the Aesculap OrthoPilot®.

Figures that create confidence: more than 125,000 knee endoprostheses were implanted successfully in the last 15 years using the CT-free navigation system OrthoPilot®.

In future, it will also be possible to implant the linked EnduRo endoprosthesis using cutting-edge equipment from Aesculap.

Innovative. Allergy solution.

The EnduRo knee endoprostheses with AS (Advanced Surface) coating are special implants that offer an innovative and safe solution for patients showing allergic reactions to metals such as nickel, cobalt and chromium. The multi-layer coating reliably prevents the release of metal ions, and there is no danger of mechanical chipping.
Longevity thanks to excellent wear characteristics: 2.4 mm\(^3\)/million cycles


EnduRo offers approximately 3 times the area of contact compared to other modern high-flex knee systems.


Critical limit: 21 MPa
