Oxford
Partial Knee
Oxford Partial Knee

A Definitive Implant

The Oxford Partial Knee is the most widely used and clinically proven partial knee replacement (PKR) system in the world, offering industry leading approaches to patient care for increased OR efficiencies and reproducible results. Replacing just the affected medial compartment allows a more natural fit, improved range of motion and is a more bone conserving operation than total knee arthroplasty (TKA). Oxford PKR patients have also been found to be more satisfied with their ability to perform activities of daily living compared to TKA patients.

The Oxford Partial Knee System is available in the following variety of combinations; cemented, cementless, medial, lateral, and TiNbN components for the treatment of your patients.

Tibial Component
Anatomical shape for optimal bone coverage
**Femoral Component**

- Conforming, spherical design minimizes contact stress throughout entire range of motion[^19]
- Curved inner geometry for minimal bone removal[^19]

**Mobile Meniscal Bearing**

- Mobile bearing designed to remain fully congruent with femoral component throughout entire range of motion[^1]
- Proven wear resistance with ArCom Direct Compression Molded polyethylene[^2,3]

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**Cementless Fixation**

The Oxford Partial Knee for medial compartment replacement is now available with Porous Plasma Spray (PPS) & Hydroxyapatite (HA) coating for cementless fixation.

- Offers twin-peg femoral design to allow for additional rotational stability
- Plasma sprayed porous titanium coating provides mechanical interlock with the substrate[^4]
- Provides improved fixation[^5]
- Reduces the incidence of radiolucenties seen under the tibial components on screened radiographs[^5]
-Eliminates possible known failure mechanisms caused by poor cementing technique
- Reduces operating time as it eliminates cement preparation and curing time
- Available in 5 femoral component sizes for optimised patient fit
The Oxford Partial Knee System continues to advance partial knee arthroplasty with Microplasty Instrumentation. This instrumentation platform is designed to provide surgeons with innovative tools to help with ease of use, precision, efficiency and reproducibility for each patient:

- Spherical mill and spigots provide a simplified approach to balancing the flexion and extension gaps
- Minimal incision to avoid quadriceps disruption
- Size specific femoral instrumentation for precise 1 mm incremental bone removal
- Supports patient demand with accurate reproducible results
Oxford Partial Knee and Today's Fixed Bearing Partial Knee Replacements

The Oxford Partial Knee has demonstrated 91% survivorship at 20 years.²⁹

- Due to its congruent, forgiving design, the Oxford has demonstrated ultra low polyethylene wear in multiple retrieval studies.³²-³⁵
- No significant correlation exists between preoperative evidence of PFJ and poor outcomes with the Oxford PKR.³⁶,³⁷

Short term clinical outcomes found the Oxford Partial Knee restores joint kinematics better than today’s fixed bearing partial knee replacements due to:

- Larger and incremental increase in tibial internal rotation.¹⁰
- More consistent AP translation of the medial femoral condyle.¹⁰
- More consistent AP translation of contact point.¹⁰
# Overview of Oxford Unicompartmental Knee Arthroplasty

Gaurav Khanna, MD; Bruce A. Levy, MD

## Oxford Unicompartmental Knee Replacement: Literature Review.


<table>
<thead>
<tr>
<th>Authors</th>
<th>Year</th>
<th>n</th>
<th>Age (years)</th>
<th>Disease</th>
<th>Knee Score</th>
<th>Follow-up (y)</th>
<th>% Survivorship (y)</th>
<th>Mode of Failure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goodfellow et al</td>
<td>1988</td>
<td>103</td>
<td>70 (range: 54–86)</td>
<td>Medial or lateral OA</td>
<td>None Given</td>
<td>3 (2–5)</td>
<td>91.0</td>
<td>9 revisions (5 component loosening, 3 bearing dislocation, 1 disease progression)</td>
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<tr>
<td>Carr et al</td>
<td>1993</td>
<td>121</td>
<td>69 (range: 57–81)</td>
<td>Medial OA</td>
<td>40.1 (OKS)</td>
<td>3.8</td>
<td>99.0</td>
<td>1 revision (component loosening)</td>
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<tr>
<td>Murray et al</td>
<td>1998</td>
<td>143</td>
<td>71 (range: 51–91)</td>
<td>Anteromedial OA</td>
<td>None Given</td>
<td>7.6 (6–14)</td>
<td>98.0 (10)</td>
<td>5 revisions (2 component loosening, 2 lateral OA, 1 unexplained pain)</td>
</tr>
<tr>
<td>Vorlat et al</td>
<td>2000</td>
<td>41</td>
<td>62 (range: 46–84)</td>
<td>Medial or lateral OA</td>
<td>87.0 (HSS)</td>
<td>5 (2–8)</td>
<td>93.0</td>
<td>3 revisions (2 lateral OA, 1 component malalignment)</td>
</tr>
<tr>
<td>Svard et al</td>
<td>2001</td>
<td>124</td>
<td>70 (range: 51–86)</td>
<td>Anteromedial OA</td>
<td>None Given</td>
<td>12.5 (10.1–15.6)</td>
<td>95.0 (10)</td>
<td>6 revisions (3 bearing dislocation, 2 component loosening, 1 infection)</td>
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<tr>
<td>Emmon et al</td>
<td>2002</td>
<td>50</td>
<td>63 (range: 38–85)</td>
<td>Medial OA</td>
<td>92 (AKS)</td>
<td>6.8 (2–13)</td>
<td>93.0 (10)</td>
<td>7 revisions (4 lateral OA, 1 bearing impingement, 1 inflammatory arthritis, 1 component loosening)</td>
</tr>
<tr>
<td>Keys et al</td>
<td>2004</td>
<td>40</td>
<td>68 (range: 0–80)</td>
<td>Medial OA</td>
<td>None Given</td>
<td>7.5 (6–10)</td>
<td>100 (10)</td>
<td>None</td>
</tr>
<tr>
<td>Rajasekhar et al</td>
<td>2004</td>
<td>135</td>
<td>71 (range: 53–88)</td>
<td>Medial OA</td>
<td>92.2 (AKS)</td>
<td>5.8 (2–12)</td>
<td>94.0 (10)</td>
<td>5 revisions (2 component loosening, 1 component loosening/bearing dislocation, 1 bearing dislocation, 1 unexplained pain)</td>
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<tr>
<td>Langdown et al</td>
<td>2005</td>
<td>29</td>
<td>71 (46–85)</td>
<td>AVN</td>
<td>38.0 (OKS)</td>
<td>5.2 (1–13)</td>
<td>100 (10)</td>
<td>None</td>
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<tr>
<td>Price et al</td>
<td>2005</td>
<td>52</td>
<td>pts &lt;60: 56 (range: 35–60)</td>
<td>Medial OA</td>
<td>94.0 (HSS)</td>
<td>10</td>
<td>91.0 (10)</td>
<td>4 revisions (2 lateral OA, 1 component loosening, 1 bearing fracture)</td>
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<tr>
<td></td>
<td></td>
<td>512</td>
<td>pts &gt;60: 71 (range: 60–95)</td>
<td>Medial OA</td>
<td>86.0 (HSS)</td>
<td>10</td>
<td>96.0 (10)</td>
<td>20 revisions (8 lateral OA, 5 component loosening, 3 deep infection, 3 bearing dislocation, 1 unexplained pain)</td>
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<tr>
<td>Verdonk et al</td>
<td>2005</td>
<td>97</td>
<td>61 (range: 46–84)</td>
<td>Medial or lateral OA</td>
<td>None Given</td>
<td>6.8 (2–14)</td>
<td>86.0</td>
<td>14 revisions (5 component loosening, 3 bearing dislocation, 3 lateral OA, 2 unexplained pain, 1 supracondylar femur fracture)</td>
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<tr>
<td>Price et al</td>
<td>2005</td>
<td>439</td>
<td>70 (range: 49–95)</td>
<td>Medial OA</td>
<td>86.0 (HSS)</td>
<td>15</td>
<td>93.1 (15)</td>
<td>23 revisions (7 lateral OA, 5 component loosening, 5 bearing dislocation, 2 infection, 2 unexplained pain, 1 component loosening/bearing dislocation, 1 bearing fracture)</td>
</tr>
<tr>
<td>Vorlat et al</td>
<td>2006</td>
<td>149</td>
<td>66 (range: 46–89)</td>
<td>Medial OA</td>
<td>None Given</td>
<td>5.5 (1–10)</td>
<td>84.0 (10)</td>
<td>24 revisions (9 lateral OA, 6 component loosening, 4 bearing dislocation, 2 bearing fracture, 1 tibial subsidence, 1 instability, 1 unknown)</td>
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<tr>
<td>Kort et al</td>
<td>2006</td>
<td>46</td>
<td>56 (range: 43–60)</td>
<td>Medial OA</td>
<td>90.5 (AKS)</td>
<td>(2–6)</td>
<td>96.0</td>
<td>2 revisions (1 tibial loosening/femoral malalignment, 1 femoral malalignment)</td>
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<tr>
<td>Luscombe et al</td>
<td>2006</td>
<td>78</td>
<td>63 (range: 41–79)</td>
<td>Medial OA</td>
<td>38.3 (OKS)</td>
<td>2</td>
<td>95.0</td>
<td>4 revisions (1 unexplained pain, 1 deep infection, 1 component loosening, 1 bearing dislocation)</td>
</tr>
<tr>
<td>Pandit et al</td>
<td>2006</td>
<td>688</td>
<td>66 (range: 33–49)</td>
<td>Anteromedial OA</td>
<td>39.0 (OKS)</td>
<td>7</td>
<td>97.3</td>
<td>9 revisions (4 deep infection, 3 bearing dislocation, 2 unexplained pain)</td>
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<tr>
<td>Price and Svard</td>
<td>2010</td>
<td>682</td>
<td>69.7 (range: 48–94)</td>
<td>Anteromedial OA, Secondary OA, Osteonecrosis</td>
<td>None Given</td>
<td>5.9 (0.5–22)</td>
<td>98 (10)</td>
<td>91 (20)</td>
</tr>
</tbody>
</table>

Abbreviations: AKS=American Knee Score, AVN=Avascular Necrosis, HSS=Hospital for Special Surgery, OA=Osteoarthritis, and OKS=Oxford Knee Score.
The most widely used\textsuperscript{38} and clinically proven\textsuperscript{22} partial knee system in the world.

**Survivorship**

- **94\%** at 15 years\textsuperscript{27–29}
- **91\%** at 20 years\textsuperscript{29}

**Benefits of Partial Knees Include:**

- A multi-centre study\textsuperscript{31} found that Oxford PKR patients were 2.7 times more satisfied with their ability to perform activities of daily living and 1.8 times more likely to report that their knee felt normal compared to TKA patients.
- Improved range of motion compared to TKA\textsuperscript{23–25}.
- Preserves more healthy bone than TKA\textsuperscript{25}.
- Better functionality\textsuperscript{27} and more natural motion than TKA\textsuperscript{25}.
- Faster recovery and shorter hospital stay than TKA\textsuperscript{23}.
- Substantial cost savings over TKA (according to an independent study)\textsuperscript{26}.

**Survivorship**

- **94\%** at 15 years\textsuperscript{27–29}
- **91\%** at 20 years\textsuperscript{29}
References

5. Pandit, H et al. Cemented and Cementless Fixation of Unicompartmental Knee Replacement: A Randomised Controlled Trial.
31. Study by researchers at Washington University in St. Louis, Missouri, US. Portions of study funded by Biomet. Determined based on adjusted odds ratio calculation.