Simplifying the Most Clinically Proven[1] Partial Knee in the World

Oxford® Partial Knee with Microplasty® Instrumentation

ZIMMER BIOMET

Your progress. Our promise.™

Microplasty Instrumentation

Innovative, Accurate, Reproducible

Microplasty Instrumentation simplifies the surgical technique, providing accurate and reproducible femoral and tibial implant positioning.[2]

By referencing normal, intact cartilage and the MCL to set the amount of tibial resection, the technique is more bone-conserving compared to Phase 3 Instrumentation.[2] Microplasty Instrumentation has resulted in a greater number of 3 mm and 4 mm bearings being implanted (92% vs. 84%; p=0.001)[1] compared to Phase 3 Instrumentation, which has demonstrated better survivorship than 5 mm bearings, or thicker.[3]

The simplified Microplasty instrumentation showed a reduction in OR time of almost 9 minutes compared to Phase 3 Instrumentation.[4]

Microplasty Instrumentation has also been shown to reduce the risk of dislocation compared to Phase 3 Instrumentation.[5]

Key Oxford Microplasty Instruments

Anti-Impingement Guide and Anterior Mill

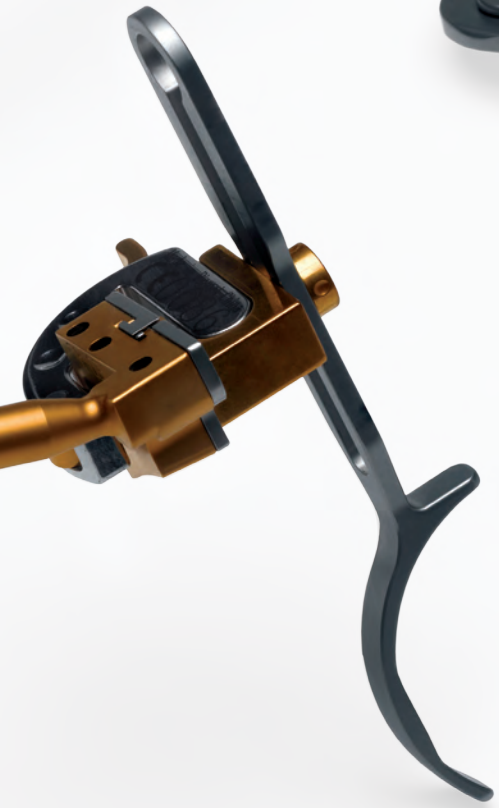
The design of the anterior mill, in combination with the anti-impingment guide, is intended to allow for precise removal of impinging osteophytes and anterior bone. This helps avoid impingement and is faster than the chisel method with Phase 3 Instrumentation.

Femoral Drill Guide, IM Rod and IM Link

The femoral drill guide linked to the IM rod provides accurate and reproducible femoral alignment.[2]

Posterior Resection Guide

The updated posterior resection guide features a captured cut slot, designed to reduce the risk of over or undercutting the posterior femur.



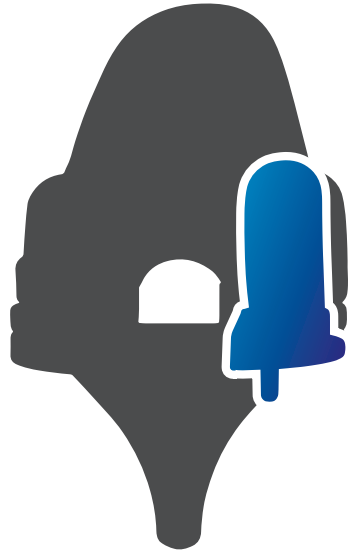
Tibia Resection Guide, G-Clamp and Femoral Sizing Spoon

The proprietary tibial resection guide uses patients' normal MCL tension to determine the level of tibial resection.

Patient Satisfaction and Survivorship Data

Satisfaction

After one year, a randomized, controlled study showed that significantly more partial knee patients would have the operation again compared to total knee patients.[6]



Survivorship

Now compare this satisfaction data with data from the England and Wales National Joint Register (NJR) which showed 87.5% survivorship of PKA at 10 years compared with 96.6% in cemented TKA.[7]

There's more to consider than just survivorship when deciding between PKA and TKA.

It is generally believed that the higher revision rate of PKR is due to a higher percentage of patients with poor results (OKS < 20). However, a review of the New Zealand Joint Register by Goodfellow, J. *et al.,* shows that TKR actually has a higher proportion (1.6x) of patients with poor results than PKR.[8]

Revision Threshold

An alternative explanation is that the threshold for revision is different for PKR and TKR. Data from the NZJR shows that if the outcome following TKR is very poor (OKS < 20) then 12% are revised whereas if the outcome following PKR is similarly poor then 63% are revised.[8] This clearly shows that the threshold for revision of TKR is most likely higher than for PKR.

Furthermore, PKRs have been proven to be easier to revise.[8] Fortunately, there are ways to reduce the revision rate of PKR through utilisation,[9-11] training and education.[12]

If TKR had a very poor outcome, then only

12%

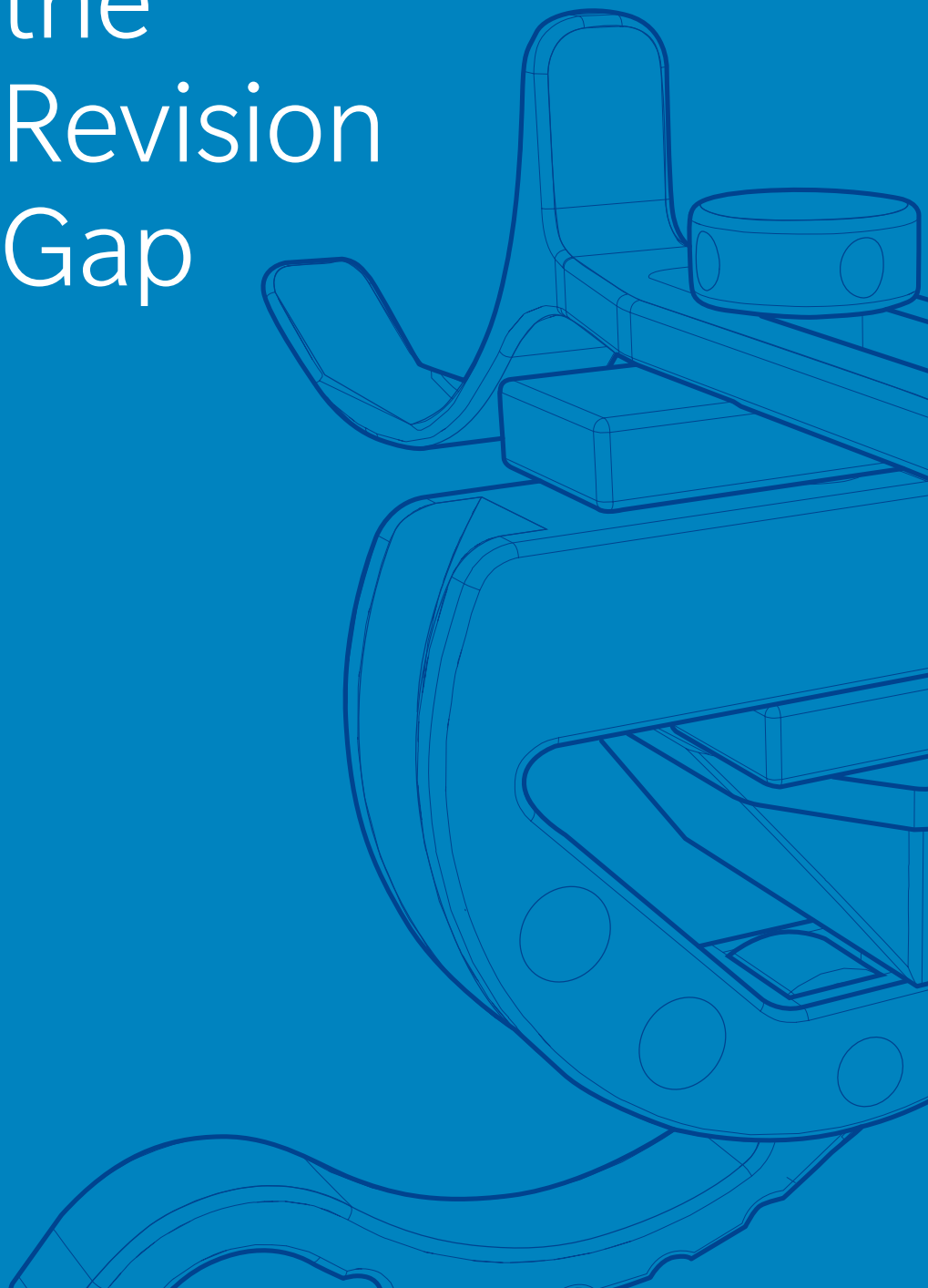
are revised[8]

If PKR had a very poor outcome, then

63%

are revised[8]

Closing the Revision Gap



Utilisation

The revision gap between PKR and TKR reported in NJRs can be reduced with increased utilisation of PKRs.[7]

Liddle, AD. *et al*. found that surgeons utilising PKR for **under 20%** of their annual knee replacements experienced an **increase in their revision rate.**[9]

A review of the NZJR by Treggonig *et al.* found surgeons implanting **at least 12 PKRs** per year are found to have a **decreased revision rate.**[10]

Similarly a study by Badawy, M *et al*. found a **lower risk of revision** in hospitals performing **more than 40 PKAs per year** compared to those performing under 10 PKAs per year.[11]

47.6% candidates for PKA[13]

8% current utilisation of PKR[14,15]

PKA Candidacy

When using criteria published by Kozinn & Scott in 1989, only 5% of patients are candidates for PKA.[16] This may partly explain why there is low utilisation of PKA today, with it only being used for 8% of knee replacements worldwide.[14,15]

In 2015, Scott revisited the 1989 criteria.[16] Using published data, he and five co-authors concluded that some of the original contraindications are no longer considered as such, thereby increasing patient candidacy.

Additionally, one study showed that 47.6% of all knee replacement patients are candidates for PKA.[13]

Training & Education

Training and education can have an improved impact in reducing revision rates. The Swedish Knee Arthroplasty Register (SKAR) found that "increased training of surgeons [on the Oxford PKR] showed improved results."[12]

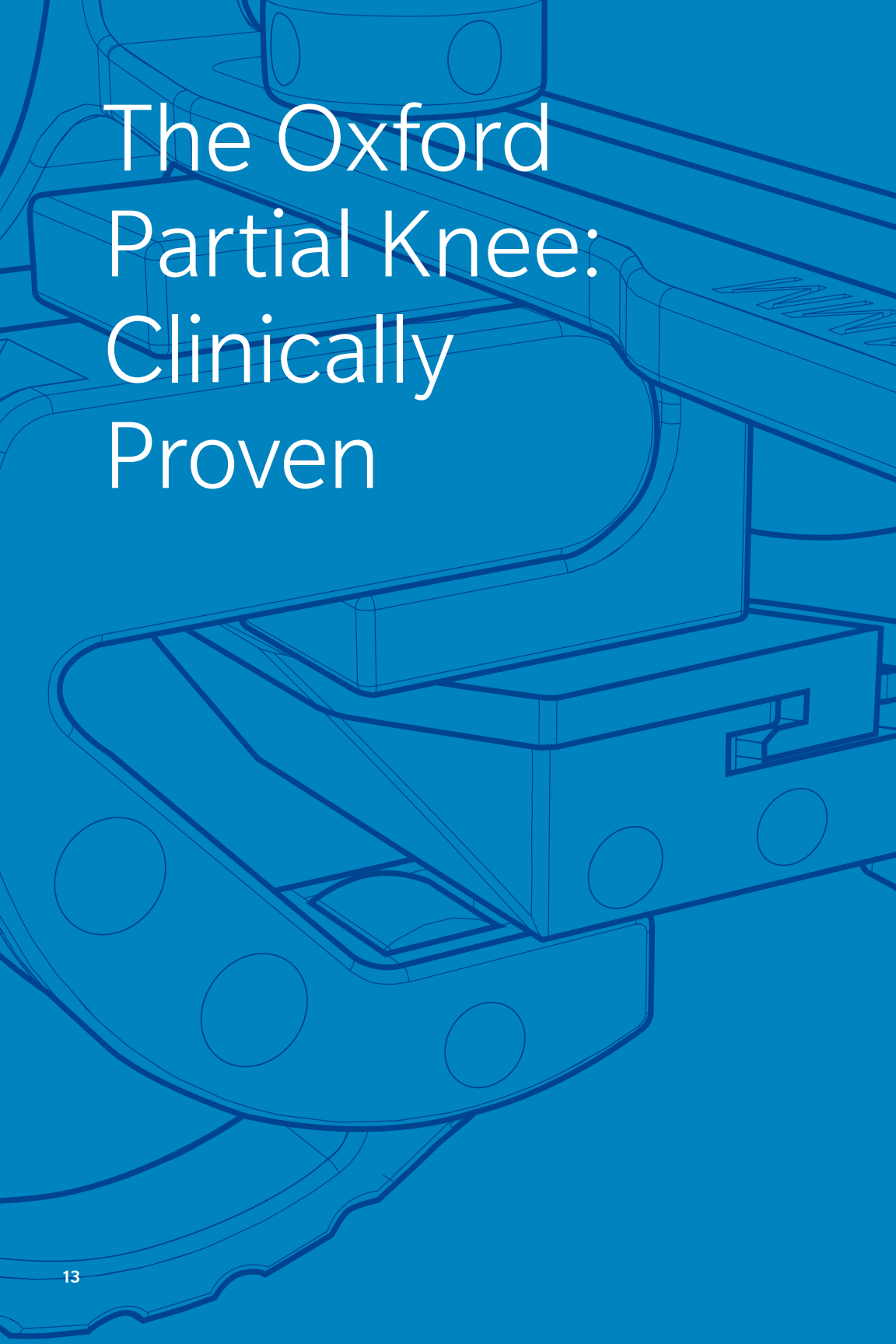
Zimmer Biomet makes it easy for you to become an Oxford PKR Trained Surgeon, through our ongoing lifetime education program.

Oxford Partial Knee Advanced Instructional Courses
This course provides the opportunity to learn more about the indications for the Oxford PKR and to practice the surgical technique, featuring Microplasty Instrumentation.

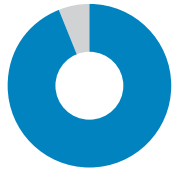
Oxford Partial Knee Master Courses
For more experienced users of the Oxford PKR, classes are available locally throughout the year.

Oxford Partial Knee Centres of Excellence
View live surgeries in a hospital setting and discuss implant design rationale.

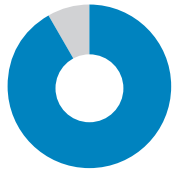
The Oxford Partial Knee: Clinically Proven



The Oxford PKR has over 40 years of clinical experience and is the only partial knee that's been clinically proven in survivorship at minimum 15[17] and 20 years.[18]



94% at 15 years[17]



91% at 20 years[18]

Benefits of PKA vs. TKA*

Better range of motion
compared to TKA[19,20]

Better functionality
than TKA[21]

Shorter hospital stays[19]
average length of stay in days

Lower risk of postoperative complications[22]*

At least 0.8 days
average reduction in length of stay in favor of PKA[19]

Additional cost savings
when associated with an accelerated recovery protocol[19]

References

* Some studies included Oxford Partial Knees as well as other 'non-Biomet' partial knees

1. Data on file at Zimmer Biomet

2. Hurst JM *et al.* Radiographic Comparison of Mobile- Bearing Partial Knee Single-Peg versus Twin-Peg Design. The Journal of Arthroplasty. 30(3): 475-478. 2015.

3. Pandit, H., *et al.* The Clinical Outcome of Minimally Invasive Phase 3 Oxford Unicompartmental Knee Arthroplasty: A 15 Year Follow Up of 1000 UKAs. Bone Joint J. 2015 Nov;97-B(11):1493-500

4. Berend, K, *et al.* New Instrumentation Reduces Operative Time in Medial Unicompartmental Knee Arthroplasty Using the Oxford Mobile Bearing Design. JISRF. Reconstructive Review. Vol. 5, No. 4, December 2015.

5. Koh IJ, *et al.* Are the Oxford medial unicompartmental knee arthroplasty new instruments reducing the bearing dislocation risk while improving components relationships? A case control study. Orthop Traumatol Surg Res (2016), http://dx.doi.org/10.1016/j.otsr.2015.11.015

6. Beard D, Price A, Davies L, *et al.* A Multicentre Randomised Study Comparing Total or Partial Knee Replacement – One Year Results of The Topkat Trial. BASK. Liverpool, UK 2016.

7. NJR (National Joint Registry of England and Wales) 12th annual report. 2014.

8. Goodfellow, J.W. *et al.* A critique of revision rate as an outcome measure. Re-Interpretation Of Knee Joint Registry Data. J Bone Joint Surg [Br] 2010;92-B:1628-31.

9. Liddle, AD, *et al.* Optimal usage of unicompartmental knee arthroplasty. Bone Joint J 2015;97-B:1506–11

10. Tregonning, R. *et al.* Early Failure Of The Oxford Phase 3 Cemented Medial Uni-Compartmental Knee Joint Arthroplasty: An Audit Of The Nz Joint Registry Over Six Years. 2015, 97-B (SUPP 2).

11. Badawy, M *et al.* Higher revision risk for unicompartmental knee arthroplasty in low-volume hospitals Data from 5,791 cases in the Norwegian Arthroplasty Register. Acta Orthopaedica 2014; 85 (4): 342–347.

12. Swedish Knee Arthroplasty Register. Annual Report. 2011.

13. Willis-Owen CA, *et al.* Unicondylar knee arthroplasty in the UK National Health Service: An analysis of candidacy, outcome and cost efficacy. *Knee.* 2009 Dec;16(6):473–8. Publication was performed from a UK perspective, for illustration purposes results have been converted to US$ using an average US$ to UK pound conversion rate as at 2008 (http://www.x-rates.com/average).

14. European Millennium Report Study 2013.

15. US Millennium Study 2014.

16. Kozinn, S and Scott, R. Current Concepts Review Unicondylar Knee Arthroplasty. The Journal of Bone and Joint Surgery. VOL. 71-A, NO. I. January 1989.

17. Price, A. *et al.* Long-term Clinical Results of the Medial Oxford Unicompartmental Knee Arthroplasty. Clinical Orthopedics and Related Research. 435:171–180. 2005

18. Price AJ, Svard U. A second decade lifetable survival analysis of the Oxford unicomparmental knee arthroplasty. Clin Orthop Relat Res. 2011 Jan;469(1): 174-9.

19. Lombardi, A. *et al.* Is Recovery Faster for Mobile-bearing Unicompartmental than Total Knee Arthroplasty? Clinical Orthopedics and Related Research. 467:1450-57. 2009.

References (cont.)

20. Amin A, *et al*. Unicompartmental or Total Knee Replacement? A Direct Comparative Study of Survivorship and Clinical Outcome at Five Years. JBJS Br. 2006; 88-B; Suppl 1, 100.

21. Lygre, SHL *et al*. Pain and Function in Patients After Primary Unicompartmental and Total Knee Arthroplasty. JBJS Am. 2010; 92:2890-2897.

22. Brown, NM, *et al*. Total Knee Arthroplasty Has Higher Postoperative Morbidity Than Unicompartmental Knee Arthroplasty: A Multicenter Analysis. The Journal of Arthroplasty. (2012)

To find out more, visit **www.oxfordpartialknee.com**

ZIMMER BIOMET
Your progress. Our promise.™

0100.1-IN-en-REV1216

Legal Manufacturer
Biomet UK Limited
Waterton Industrial Estate
Bridgend
CF31 3XA
United Kingdom

www.oxfordpartialknee.com