

Case #1

Female, 82 Y

Well functioning medial Oxford

Over 6 M she developed OA-like pain from
the knee

Had to give up Badminton



Right knee:

ROM 0-130

The pain at activity is Ant. Lat.

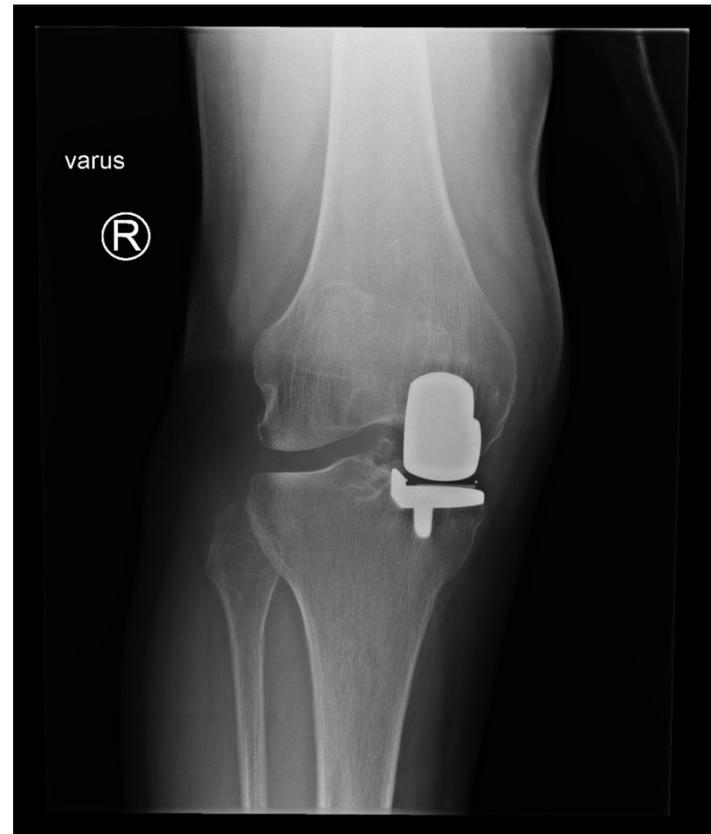
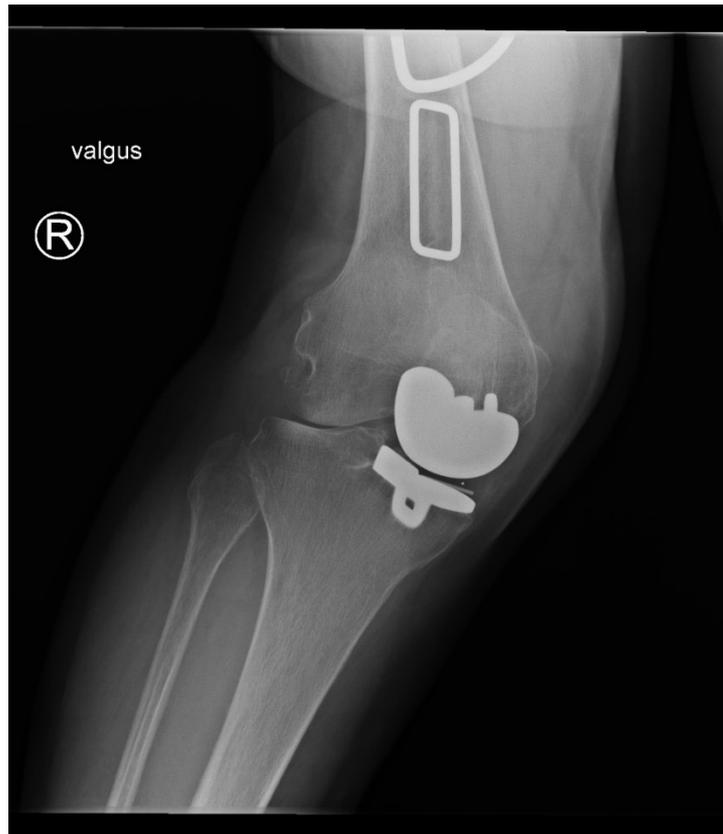
Ligaments sufficient

Oxford Knee Score 31/48

Radiographs



Stress views



1 year x-ray



1 year x-ray



Skyline 1 year







1 Y post op:

Oxford Knee Score: 42/48

Back to all normal activities
(incl. Badminton)



Clinical outcome of bi-unicompartmental knee arthroplasty for both medial and lateral femorotibial arthritis: a systematic review—is there proof of concept?

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Abstract

Introduction Unicompartmental knee arthroplasty (UKA) is a well-accepted treatment for isolated unicompartmental osteoarthritis (OA) of the knee. In previous literature, it has been suggested that bi-unicompartmental knee arthroplasty (bi-UKA) which uses two UKA implants in both the medial and lateral compartments of the same knee is a feasible and viable option for the treatment of knee OA. Given the advantages of UKA treatment, it is warranted to review the literature of bi-UKA and discuss the evidence in terms of implant selection, indications, surgical techniques, and outcomes, respectively.

Materials and methods Following the PRISMA guidelines, PubMed, Medline, Embase, CINAHL, Web of Science, and Cochrane Library were searched for studies presenting outcome of bi-UKA. Studies were included if they reported clinical outcomes using two unicompartmental prostheses for both medial and lateral femorotibial arthritis. Studies with the addition of patellofemoral arthroplasty or concomitant soft-tissue reconstruction and those not published in English were excluded.

Results In the early literature, the procedure of bi-UKA were performed for very severe OA and rheumatoid arthritis, but indications have evolved to reflect a more contemporary case-mix of knee OA patients. Both mobile and fixed bearing implants have been used, with the latter being the most frequent choice. A medial parapatellar approach for incision and arthrotomy has been the most frequently used technique. The present review found a promising clinical outcome of both simultaneous and staged bi-UKA although the number of long-term follow-up studies was limited.

Conclusions Both simultaneous and staged bi-UKA has demonstrated good functional outcomes. However, the volume and level of evidence in general is low for studies captured in this review, and the data on long-term outcomes remain limited. The present review indicates that bi-UKA is a feasible and viable surgical option for bicompartamental femorotibial OA in carefully selected patients.

OA progression

- 3 situations:
- Well functioning medial UKA with progression of lateral compartment OA + LAT UKA
- Medial Uni that didn't work with lateral progression and /or PF progression + TKA
- Well functioning medial uni with bi-comp progression of OA + TKA

Medial UKA – failure modes and fixation

Comparison of the 10-year outcomes of cemented and cementless unicompartmental knee replacements: data from the National Joint Registry for England, Wales, Northern Ireland and the Isle of Man

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Table 2. Reasons for revision in the matched cohort

Revision indication	All UKRs (n = 14,814) n (%)	Cemented UKRs (n = 7,407) n (%)	Time to revision indication mean (SD)	Cementless UKRs (n = 7,407) n (%)	Time to revision indication mean (SD)	p-value ^a
Aseptic loosening ^b	105 (0.71)	74 (1.00)	1.5 (2.1)	31 (0.42)	2.0 (2.0)	< 0.001
OA progression	127 (0.86)	72 (0.97)	3.5 (2.5)	55 (0.74)	3.7 (2.0)	0.1
Pain ^b	89 (0.60)	55 (0.74)	2.8 (2.1)	34 (0.46)	2.0 (1.5)	0.03
Other	70 (0.47)	41 (0.55)	2.5 (2.0)	29 (0.39)	2.0 (1.3)	0.2
Dislocation/subluxation	49 (0.33)	28 (0.38)	1.6 (1.6)	21 (0.28)	1.2 (1.2)	0.4
Instability	33 (0.22)	13 (0.18)	2.9 (1.3)	20 (0.27)	1.9 (1.9)	0.3
Component dissociation	29 (0.20)	13 (0.18)	1.4 (1.1)	16 (0.22)	2.2 (2.1)	0.6
Malalignment	37 (0.25)	13 (0.18)	1.2 (0.9)	24 (0.32)	1.8 (1.4)	0.1
Infection	28 (0.19)	15 (0.20)	1.9 (2.1)	13 (0.18)	1.8 (1.8)	0.8
Periprosthetic fracture ^b	26 (0.18)	7 (0.09)	1.0 (0.9)	19 (0.26)	1.0 (2.4)	0.01
Lysis ^b	14 (0.09)	11 (0.15)	2.5 (1.4)	3 (0.04)	1.6 (1.0)	0.03
Wear	14 (0.09)	7 (0.09)	4.0 (2.8)	7 (0.09)	3.5 (2.9)	1.0
Stiffness	12 (0.08)	5 (0.07)	1.6 (0.6)	7 (0.09)	1.4 (1.0)	0.7
Implant fracture	1 (0)	1 (0.01)	2.0	0 (0)	N/A	No revisions
Patellar wear	0 (0)	0 (0)	N/A	0 (0)	N/A	No revisions
Tibial wear	0 (0)	0 (0)	N/A	0 (0)	N/A	No revisions
Incorrect sizing	0 (0)	0 (0)	N/A	0 (0)	N/A	No revisions
Patellar mal tracking	0 (0)	0 (0)	N/A	0 (0)	N/A	No revisions

^a Comparisons between the frequency of revision indications were conducted using the chi-square test.

^b Refers to revision indications that were statistically significantly different between cementless and cemented implants.

Abbreviations: OA = osteoarthritis, UKR = unicompartmental knee replacement.