

Excellent Functional Outcome and Satisfactory Revision Rates of Two-Staged Bicompartmental Knee Arthroplasty for Disease Progression following Unicompartmental Knee Arthroplasty

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Background

- **Disease progression** is the leading cause of UKA revision (30–35%)^{1, 2}
- **Two-stage bicompartmental UKA** offers a less invasive alternative to TKA conversion
- Evidence for this revision strategy remains limited

Aim of Study

- Assessment **reoperation-free & implant revision-free survival**
- Evaluation of **functional outcome** following **two-staged bicompartmental UKA**

Methods

All additional medial or lateral UKA (2016–2025)

117 with bicompartmental UKA
108 successfully contacted
(follow-up rate 92%)

n=7 FU < 1 year, n=3 no consent

Final cohort n=102 (98 patients)
Ø Follow-up 4 ± 2 years

Implant Characteristics

	Mobile-bearing (Oxford)	Fixed-Bearing
Primary medial (n=73)	99%	1% (Moto Medial)
Additional lateral (n=73)	0	100% (Oxford & Moto Lateral)
Primary lateral (n=29)	17%	83% (Oxford)
Additional medial (n=29)	45%	55% (Vanguard M & Moto Medial)



References

1: Tay ML et al. J Isakos. 2022; 7:132-141.
2: Tay ML et al. Arch Orthop Trauma Surg. 2022; 142:301-314.

Results

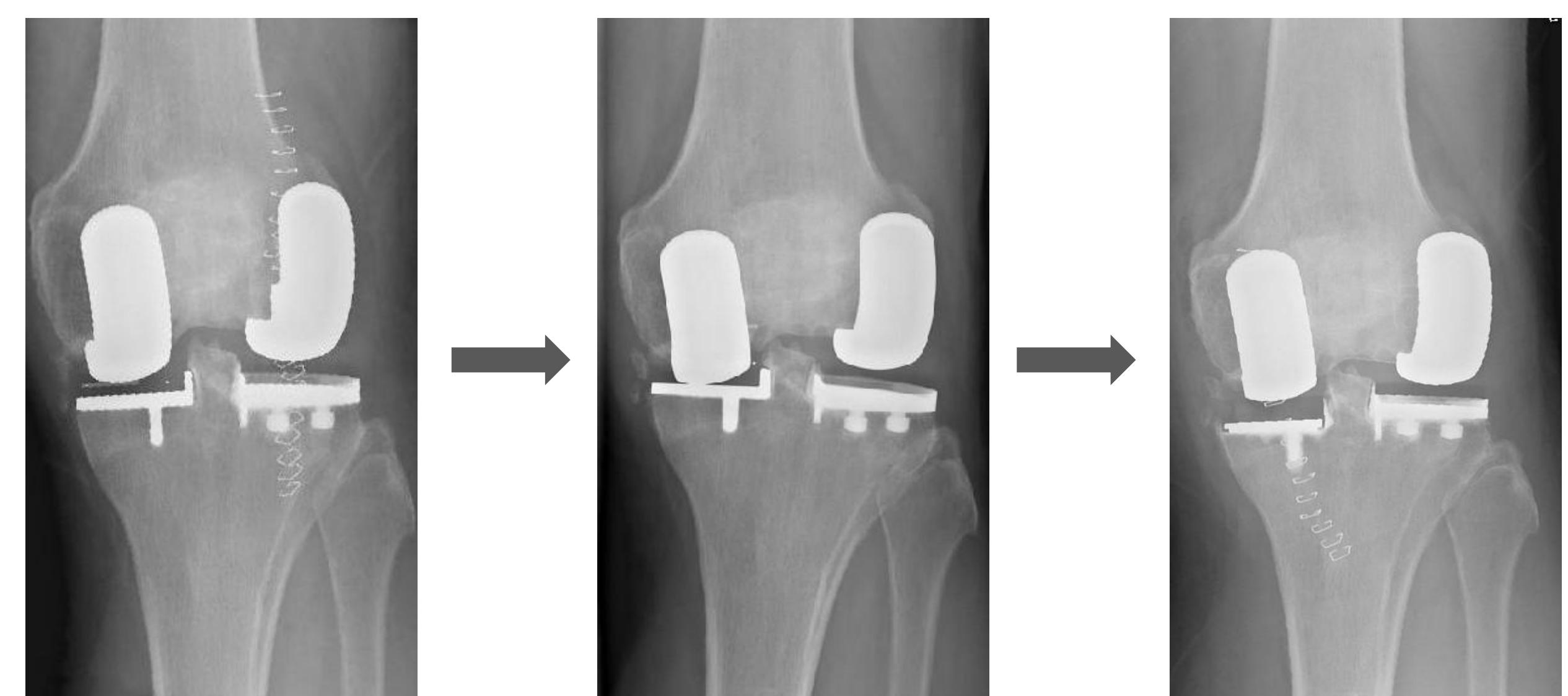
Cumulative Survival Rate at 9 years:

-Implant Revision (n=9)	-Re-operation (n=14)
89.3% (CI 95%; 82.2-96.4)	84.3% (CI 95%; 76.3-92.3)

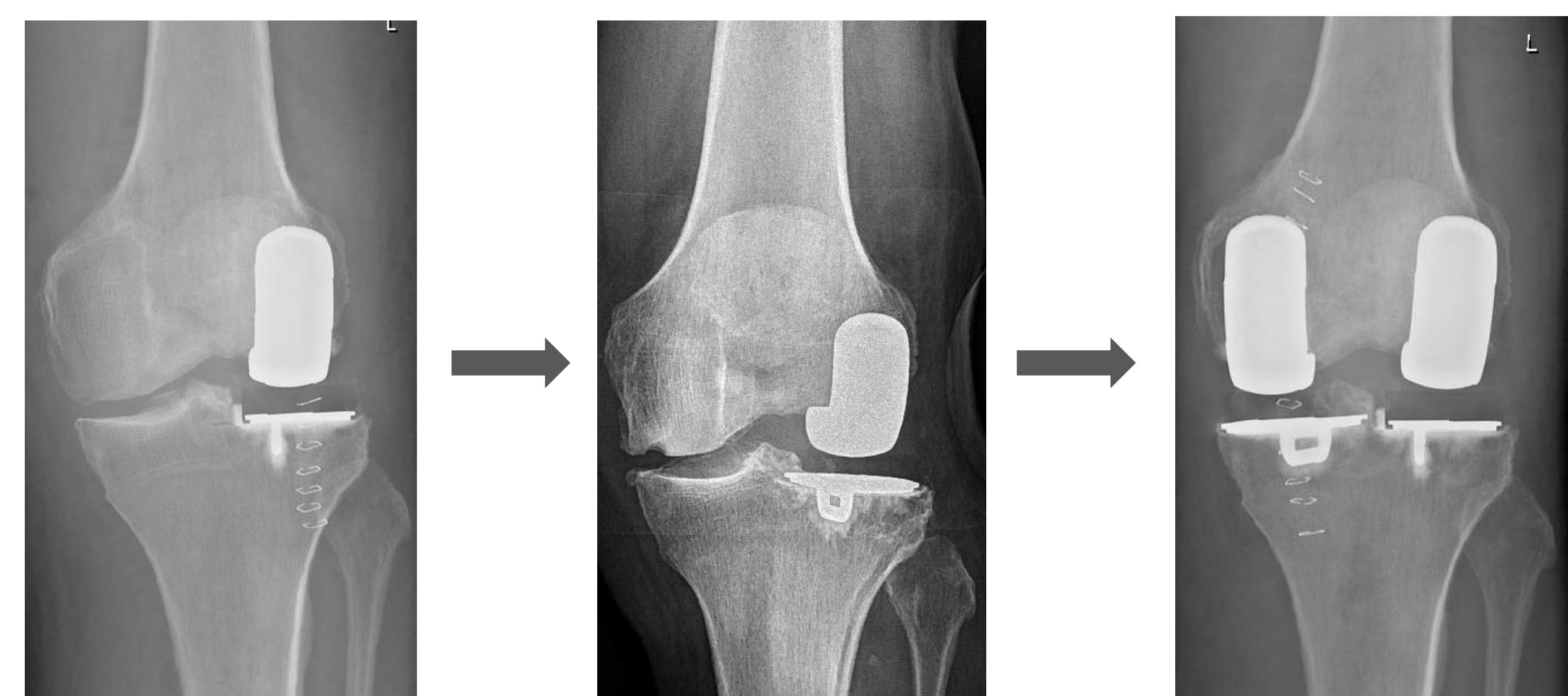
Functional Outcome	
Ø OKS (postop)	40.4 ± 8.0
Ø UCLA (postop)	5.5 ± 1.7

Key Findings

- **Medial mobile-bearing dislocation** was the most common indication for implant revision (44.4%, 4/9)



- **Medial osteonecrosis** after primary lateral UKA accounted for 38% (11/29) and was linked to high HKAA correction (p=0.058)



HKAA correction from 13° valgus to 2° varus

Medial Osteonecrosis 6 months postoperatively

Additional medial fixed-bearing Vanguard M

Conclusion

- Two-staged bicompartmental UKA is a **viable & less-invasive** alternative revision option for disease progression following UKA
- **Excellent** mid-term **functional outcomes**
- **Fixed-bearing implants** for additional medial UKA should be prioritized
- Limitations: Mid-term FU & no TKA control group