Knee Replacement Techniques

SCAN TO READ MORE

Knee replacement surgery has evolved significantly over the past two decades. The alignment philosophy chosen by the surgeon — mechanical, kinematic, or functional — dramatically affects the feel of the result. Implant design, bearing materials, and instrumentation have all advanced in parallel. Understanding these choices helps patients select a surgeon and approach aligned with their goals.

THE TECHNIQUE

01 Mechanical Alignment
Traditional technique aligning implants to a fixed neutral mechanical axis.

02 Kinematic Alignment
Patient-specific positioning matched to individual joint anatomy.

03 Functional Alignment
A hybrid approach balancing anatomy with soft-tissue tension.

04 Technology Integration
Patient-specific guides and 3D planning improve precision across all methods.

AT A GLANCE

IMPLANT
Cobalt Chrome

BEARING
Polyethylene

DR LIEW
Kinematic Alignment

PLANNING
CT-Based 3D

> "The right technique
> makes all the difference."
> — Dr Chien-Wen Liew

FREQUENTLY ASKED QUESTIONS

Q. Which technique does Dr Liew use?
Dr Liew uses kinematic alignment as his primary technique for all total knee replacements, tailored to each patient's anatomy.

Q. Is kinematic alignment suitable for everyone?
The vast majority of patients are suitable. Severe deformity may require modification of the approach, which is planned pre-operatively.

Q. Does the alignment technique affect recovery time?
Recovery timelines are similar across techniques. Kinematic alignment may produce a more natural feel, which can aid rehabilitation motivation.

ABOUT THE SURGEON

Dr Chien-Wen Liew exclusively performs total hip replacements via the direct anterior approach and total knee replacements via kinematic alignment only. He utilises patient-specific technology for both procedures, and practices from Orthopaedics 360 — within the Eastwood Private Hospital Precinct.

Dr Chien-Wen Liew

Hip and Knee Replacement Surgeon

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