Evidence in focus

Study summary


**JOURNEY® II BCS exhibits normal-like knee kinematic patterns**

Dual cam-post design effectively compensates for bicruciate ligament function

### Study design

A retrospective, comparative, single-surgeon analysing the in vivo kinematics of 50 knees through a full weight-bearing range of motion:

- 40 implanted with JOURNEY II BCS (mean age, 69.8 years ± 8.3 years)
- 10 normal asymptomatic knees (mean age, 57.4 years ± 7.2 years)

### Key results

- **0-30°**: JOURNEY II BCS subjects exhibited similar patterns of femoral rollback and axial rotation compared with normal knee subjects
- **30-60°**: JOURNEY II BCS subjects experienced minimal anterior-posterior motions and axial rotation, whereas normal knees continued to rollback and externally rotate
- **60-90°**: JOURNEY II BCS resumed posterior motion
- **After 90°**: axial rotation increased in a normal-like fashion

### Conclusion

- **JOURNEY II BCS exhibits normal-like kinematic patterns and moves as designed under in vivo observation**
- **Similarities in early and late kinematic patterns between the two groups suggest the dual cam-post design and asymmetric articular geometries of the JOURNEY II BCS adequately replicate ACL and PCL function**
- **Cruciate ligament function cannot be truly replicated during mid-flexion, because neither cam-post is engaged**

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