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

Study citation