JOURNEY® II XR® can restore normal laxity and thus has the potential to offer more normal knee function

Overview
Cadaveric study investigating passive knee laxity before and after implantation of different total knee arthroplasty (TKA) designs with and without external loads during three repeated cycles of flexion-extension

- 14 cadaveric knees (mean age, 73 years) were tested to determine the stability of the normal knee
  - All left knees were tested with JOURNEY II XR (n=7)
  - All right knees were tested with JOURNEY II CR (n=7)
  - JOURNEY II BCS was tested in all knees post-XR or CR TKA (n=14)

Results

- Internal/external (IE) rotational laxity
  - XR implant demonstrated similar average IE laxity to the normal knee (24.7 and 23.4°, respectively)
  - CR and BCS implants displayed significantly less average IE laxity compared to the normal knee (16.1 and 16.1 vs 23.4°; p=0.0001)
  - IE laxity width increased with flexion for all tested implants and normal knee
- Varus/valgus (VV) rotational laxity
  - XR implant demonstrated similar average VV laxity to the normal knee (9.4 and 10.2°, respectively)
  - CR and BCS implants displayed significantly less average VV laxity compared to the normal knee (7.1 and 7.5 vs 10.2°; p=0.0001)
  - VV laxity width increased with flexion for all tested implants and normal knee (Figure)
- Anterior/posterior (AP) laxity
  - XR and CR implants demonstrated similar global AP laxity to the native knee (4.0 and 4.7 vs 5.1°)
  - BCS implant displayed significantly more global AP laxity than the normal knee (7.6 vs 5.1°; p=0.0008)

Conclusions
The laxity pattern of JOURNEY II XR is similar to that of the normal knee, demonstrating that JOURNEY II XR is able to restore normal-like knee joint laxity in the cadaveric knee. By restoring normal-like stability, JOURNEY II XR may offer more normal knee function compared to other TKA implant designs.

Citation