

Literature Summary

Title of Article: A Comparison of the Noise Generated from Different Types of Knee Prostheses

Author(s): James W. Pritchett¹

¹*Department of Orthopedic Surgery, Orthopedics International, Seattle, Washington, USA*

Citation: J Knee Surg, 26 (2012) p. 101-104

Product(s): Various TKAs (ACL-PCL Retaining, Medial-Pivot, Posterior Cruciate-Substituting, Mobile Bearing)

Publication Highlights

- This publication is the latest update in the Pritchett's series: patients with ADVANCE® medial-pivot or bicruciate-retaining TKAs preferred their prosthesis over posterior stabilized and PCL-retaining TKAs (Pritchett 2004 and Pritchett 2011).
- This recent publication also shows that the ADVANCE® Medial-Pivot patients have fewer concerns or complaints about noise compared to MB and PS prosthesis.

Publication Summary

Methods

- Randomized, prospective clinical study of 930 TKAs (465 bilateral patients) used in the treatment of osteoarthritis
- 201 Anterior and Posterior Cruciate retaining (ACL-PCL), 215 Posterior Cruciate retaining (PCL), 239 Medial-Pivot (MP), 192 Posterior Cruciate Substituting (PS) and 83 Mobile Bearing (MB)
- Mean FU: 7.6 years (range, 3-15.4 years); Mean time between arthroplasties: 26 months (range, 1-107 months)
- Mean age: 68 years (range, 45-89 years); 298 (64%) patients were female
- Outcome measures: Knee Society Score and Function Score and range of motion
- Patient were asked to give a subjective report of if they experienced noise, their level of concern, frequency of occurrence, and which portion of the knee was involved.

Results

- Mean ROM was 121° for MP and PS, 120° for MB, 119° for ACL-PCL and PCL.
- Noise generation was reported by 12% of patients with MP prosthesis, 4% of patients with ACL-PCL, 31% of patients with PCL, 33% of patients with PS, and 42% of patients with MB.
- The most common activities associated to noise by the patients were descending stairs and deep flexion, particularly squats.
- The most commonly reported source of noise was the patella.
- Patients had fewer concerns or complaints about noise from the knee with ACL-PCL and MP prostheses compared with other designs.
- Patients did not recount any difference in noise following the first 3 years of implantation.

Overall Conclusion

- Patients were occasionally concerned or dissatisfied with the generation of noise.
- "Noise was less common with TKAs that used MP and ACL-PCL knee prostheses than with TKAs that used other prostheses."