The Surgeon and his Experience is the Thing!

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Dr. Merrill Ritter, an outstanding expert on total knee replacement (TKR), has written an interesting paper evaluating results with posterior cruciate retaining (PCR) and posterior-substituting total knee replacement (PS). His center is a high-volume center for total knee replacement, and the study encompasses results in 8,607 total knee replacements. His findings demonstrate an expected slight increase in flexion for the PS TKR in comparison to the PCR TKR (about 3°) with slightly better function in the PCR TKR. However, the results varied from surgeon to surgeon in the group using these different implants, and this was a major variable in the results. Surgeon results varied and were not consistently better with one implant or another. Some surgeons had excellent results with the PCR knee and others less good results with the PCR knee. The same was true for the PS TKR. This led to the conclusion that surgeon preference and experience with a particular implant was the important variable in patient outcome.

Many factors influence the clinical outcome after TKR aside from prosthetic selection. This is particularly true in the high-flexion knee or gender-specific knee where results are not better than with conventional TKR. In the end, it is surgical technique and patient factors which predict the outcome of an arthroplasty far more than prosthetic design in the knee. Soft-tissue balancing in the medial-lateral and antero-posterior planes is key to knee flexion and ultimate function. Surgical experience and attention to technique will determine proper gap balancing which influences patient motion and outcome. PCR knees require careful balancing of the posterior cruciate ligament for knee motion, and a surgeon's ability to balance this may vary. A comfort zone for improved

outcomes exists and will vary from one implant to another for a surgeon.

My philosophy has correlated with Dr. Ritter's findings and was first advocated by Michael Freeman, knee innovator from London. Dr. Freeman taught that a surgeon should find a time-proven prosthesis he knows well and is able to implant consistently with excellent soft-tissue balancing and alignment. The surgeon should not move from implant to implant looking for better outcomes but should excel with a particular design and stay with it. He will be able to obtain better results with it in knees of varying severity including the most deformed. Outcomes, function, pain relief, and range of motion will be better in this setting than attributing poor results to implant design alone.

Dr. Ritter has validated this important aspect of knee surgery in determining end results. The long-term controversy of PCR vs PS is less so today and is of less importance than surgical experience and excellence of technique regardless of prosthetic selection.

Disclosures

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Commentary on article by Merrill A. Ritter, MD et al.: *The surgeon's role in relative success of PCL retaining and PCL-substituting total knee arthroplasty*

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