



## CORR Insights

**CORR Insights®: Increased Risk of Revision, Reoperation, and Implant Constraint in TKA After Multiligament Knee Surgery**

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**Where Are We Now?**

In the current study, Pancio and colleagues performed a retrospective case-control analysis of TKAs done during a period of 19 years in patients with a history of multiligament knee surgery, and found that such patients had lower long-term implant survival, higher use of constrained TKA designs, higher risk of

major complications (including reoperation and infection), and comparable scores for pain and function compared with similar patients undergoing TKA for primary osteoarthritis.

Although there is plenty of research examining patients who undergo TKA after ACL reconstruction [4, 8], few data are available regarding multiligament injuries. TKAs in patients who have undergone multiligament reconstruction are more challenging to perform, as these knees generally have additional scarring, poor soft-tissue integrity, bony and ligamentous deficiencies, retained hardware, or distorted anatomy [2]. Multiligament knee injuries are also associated with chondral injuries and meniscal tears [5, 6], increasing the propensity for early

arthritis. The best surgical management approach for these patients is still up for debate [7, 9]. Surgical options to deal with chondral or meniscus injuries can be considered in conjunction with options for injured ligaments, however, multiple factors including patient age, expected activity levels, altered limb alignment, and degree of joint destruction should be discussed. Accordingly, TKA is sometimes the only plausible option for this difficult clinical scenario.

**Where Do We Need To Go?**

A standardized operative treatment protocol for patients undergoing TKA after previous surgery for multiligament knee injury should be a priority. There is no consensus regarding when to use constrained prosthesis or what types of implants should be used. Additionally, the rehabilitation protocols for this patient population should be modified to include the increased prevalence of stiffness and decreased ROM associated with previous injuries and their surgical management [3]. However, there is no uniformity in the

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guidelines on such aspect with different surgeons following different approaches.

We are seeing an increase in high-velocity trauma injuries including multiligament knee injuries. How can the management of such multiligament knee injuries be streamlined and made uniform so as to avoid TKAs completely? If TKA does come into the picture, how can we refine our surgical techniques, including the use of constrained prosthesis designs for patients with posttraumatic arthritis, ensure longevity of the implant and reduce morbidity?

Pancio and colleagues found poorer implant survival, increased use of constrained designs, and more-frequent complications after TKA when comparing patients with history of multiligament knee surgery to those with primary osteoarthritis. However, they could not establish the reasons behind these differences. Therefore, further comprehensive research into the etiology of outcomes of TKA after multiligament knee surgery is needed. This becomes an even greater concern when one considers that a greater number of younger patients are presenting with TKA after previous knee surgery [1].

## How Do We Get There?

The next step is to define and formulate research studies that can clarify

the reasons for relatively poor outcomes after TKA in patients with a history of multiligament knee surgery. Randomized prospective multicenter trials would provide a detailed analysis of TKA after multiligament knee surgeries. However, given the low incidence of these clinical scenarios, it will be difficult to launch randomized prospective studies by multiple centers. Therefore, nationwide database or retrospective studies with larger cohorts from multiple centers should be considered. Following the results of such studies, new guidelines and recommendations need to be given to maintain high-quality, evidence-based patient care. Orthopaedic surgeons should recognize that such cases need adequate and succinct clinical care, including improved surgical technique and better rehabilitation services, to enhance morbidity-free survival of this patient population.

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