Bony Multi-Ligamentous Knee Injury with Open Reduction Internal Fixation of Large Arcuate and Segond FracturesBony Multi-Ligamentous Knee Injury with ORIF of Large Arcuate and Segond Fractures

Abhishek Ganta¹, Kevin Lehane, Andrew Sheng Bi², Dylan T Lowe, Spencer Matthew Stein ¹NYU Hospital For Joint Diseases, ²NYU Langone Health, Department of Orthopedic Surge Background:

Multiligament knee injuries (MLKIs) are rare injuries that can result devastating outcomes and functional impairment. In regards to management of the posterolateral corner, repair has traditionally been associated with higher rates of failure. However, more recent studies have demonstrated much lower rates of failure, especially in the setting of avulsion type injuries. Repair of the posterolateral corner (PLC) provides the benefit of maintaining the patient's native anatomy and is associated with decreased healthcare cost.

Purpose:

This video overview and case presentation demonstrates treatment of a bony multi-ligamentous knee injury with open reduction internal fixation of the posterolateral corner's large arcuate and Segond fractures.

Methods:

The anatomy, examination, diagnosis, and treatment options for MLKIs are reviewed. A case of a 47-year-old male with an acute MLKI with a bony posterolateral corner injury is presented. This injury occurred while falling off of a ladder at work. After a thorough discussion of risks, benefits and prognosis of both operative and non-operative options, the patient elected to proceed with open reduction internal fixation of large arcuate and Segond fractures to improve his functional status.

Results:

Rotational and varus laxity were restored intraoperatively. Post-operative clinical outcome showed good restoration of range of motion and stability. The patient continues to do well with 1-year follow up and has been able to return to work.

Conclusion:

Treatment of a bony multi-ligamentous knee injury with open reduction internal fixation of large arcuate and Segond fractures is a viable surgical option for symptomatic multi-ligamentous knee injuries. This treatment can offer similar functional results as PLC reconstruction with ability to maintain patient's native anatomy. Appropriate patient selection and adherence to post-operative rehabilitation are crucial for optimal outcomes.