Rebound PCL Case Study

24 year old male, severe varus noncontact injury

Indication

The patient was a 24 year old male injured during a tumbling landing. He sustained a severe varus noncontact injury.

Diagnostics

An MRI scan demonstrated a complete tear of his posterior cruciate ligament (PCL), a grade III complete posterolateral corner injury, a minimally displaced anterior tibial plateau fracture, and a medial meniscus root tear. PCL stress radiographs demonstrated a high grade PCL tear with 16 mm of increased posterior tibial translation.



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Treatment Overview / Treatment Goal

The goal of treatment was to restore his function to a high national level and to initiate knee motion on postoperative day one to ensure that he did not develop arthrofibrosis (knee stiffness). It was desired to operate within the first 2 weeks after injury because the results of acute treatment for multiple ligament injuries have the best outcomes.





Surgical Treatment

The surgical procedure consisted of a double bundle PCL reconstruction, a complete anatomic posterolateral corner knee reconstruction and a medial meniscus root repair.



Post-Surgical Rehabilitation

The patient initiated physical therapy on postoperative day one. Early prone knee flexion, to negate the effects of gravity, was initiated at 0-90° for the first two postoperative weeks and then increased as tolerated. In addition, the patient was non-weight bearing for the first 6 weeks. At between postoperative day 3, the patient was placed into a Rebound PCL brace. After 6 weeks, the patient initiated a progressive weight bearing program.

Reasons To Use The Rebound PCL Brace

Historically, PCL reconstructions tended to stretch out over time due to the deleterious effects of gravity. The use of the Rebound PCL brace negates the negative effects of gravity by applying an anterior translation force at higher knee flexion angles which protects the PCL graft. Early postoperative application of the Rebound PCL brace facilitates an early improvement of knee motion.

Clinical Outcome

The patient had an excellent outcome. He had full restoration of knee motion and complete healing of his PCL and PCL reconstructions. He was able to return back to activities at 9 months and was able to return to a national level of competition at one year postoperatively.



Conclusion

Patients with serious multiple ligament knee injuries can be restored back to high levels of activity with modern anatomic-based reconstructions. The additional use of the Rebound PCL brace facilitates a safe initiation of knee motion in the early postoperative period.



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