Rebound PCL Case Study

27 year old male, laborer, with ACL / PCL and MCL deficient left knee

Christos Kondogiannis
FAOrthA FRACS

Royal Melbourne Hospital
St. Vincent's Private Hospitals

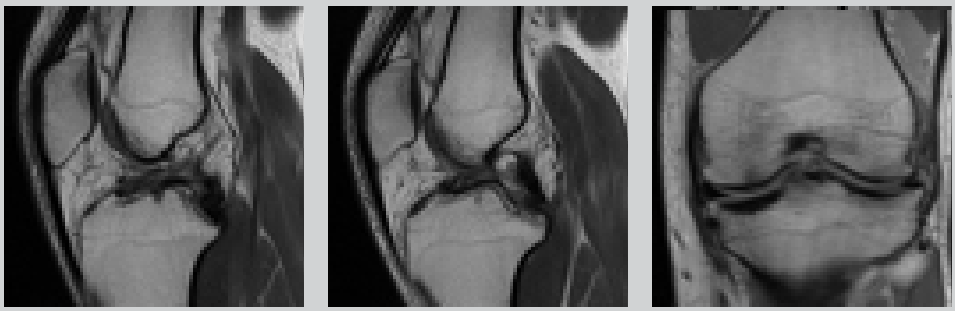
Melbourne, VIC Australia
email address

Indication

Presents 8 weeks after injury at work. Foot caught between pallets with subsequent hyperextension valgus injury. Past history of probable MCL injury. Examination reveals 3+ laxity of PCL, 3+ laxity of ACL and 3+ laxity of MCL (0 & 30 degrees).

Diagnostics

No fractures on plain Xray. Neutral Mechanical axis on alignment x-rays. MRI confirmed probable chronic ACL tear / acute PCL tear and Tibial sided MCL injury. Meniscal tears and chondral damage medially and laterally.

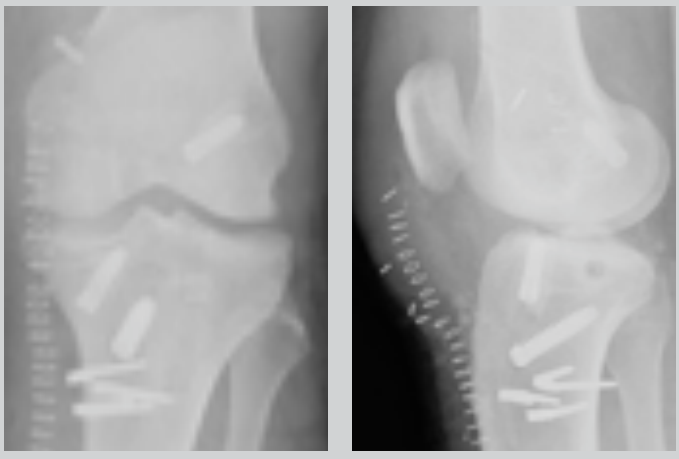


Treatment Overview / Treatment Goal

Initial rehabilitation, protected in PCL brace aiming to achieve functional ROM. Planned multiligament reconstruction to improve baseline laxity and subjective stability.

Surgical Treatment

4 months post injury- Autologous Hamstring PCL Reconstruction / Autologous BPB ACL Reconstruction / Allograft LaPrade MCL Reconstruction.



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Post-Surgical Rehabilitation

ITEM	PHASE 1 (0-4W)	PHASE 2 (4-8W)	PHASE 3 (8-12W)	PHASE 4 (>12W)
Rebound PCL	24 hr (Grey Shear Knob)	24 hr (Grey Shear Knob)	24hr (White Shear Knob)	Wean Brace as tolerated
ROM (Ext / Min Flex / Max Flex)	Locked in Extension	0/0/45 week 4-6 0/0/90 week 6-8	No Limitation	
Weight Bearing	< 25% PWB	50% PWB week 4-8 WBAT > week 8	No Limitation	
Physical Therapy	RICE Isometric Contractions	RICE Closed Chain Proprioception	Progress to Open Chain Exercises	Ongoing Strengthening Proprioception

Reasons To Use The Rebound PCL Brace

Ideal to provide support for PCL Reconstruction during biological incorporation. Protection of coronal plane forces, with graduated increase in flexion range.

Clinical Outcome

The early post-operative period was complicated by swelling and fracture blisters, which took 4 weeks to resolve, fortunately without adverse consequence. MUA to assist flexion was planned, but at 3M post op, 110 degrees of flexion achieved with extension to 0 degrees. At 9 months, flexion to 125 degrees (135 degrees contralateral), 0 degrees extension (5 degrees contralateral). Residual quads weakness steadily improving. Return to work on light / sedentary duties. Knee stable subjectively.

Clinical Laxity: PCL Gd 0-1 Firm / ACL Gd 0-1 Firm / MCL Gd 2 @ 30 and Gd 1 in extension.

Aiming for return to normal duties within next 3 months with improved functional capacity. Occasional use of compression knee support to assist confidence.

Conclusion

Use of the Rebound PCL brace provides added confidence when commencing flexion post autologous PCL reconstruction, minimizing posterior forces on PCL Graft. Adjustable hinge allows for graduated increase in flexion range.

In this case, satisfactory stability achieved with improvement in clinical laxity maintained at 9 months post-surgery.

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