

## Post-operative Rehabilitation Challenge in Simultaneous Anterior Cruciate Ligament and Posterior Cruciate Ligament Reconstruction in Patient with Ipsilateral Transhumeral Amputation

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### INTRODUCTION

Multi-ligament knee injury is defined as injury of at least two main ligaments around the knee joint and is a devastating injury with reported incidence of 0.02%-0.2% of all orthopaedic injuries, and is commonly associated with knee dislocation. Ligamentous reconstruction is a well-established treatment option for these patients, however the difficulty of managing these patients lies in post-operative rehabilitation and it becomes even more challenging in a patient with a history of ipsilateral transhumeral amputation.

### REPORT

We present a case of a 24 years old male, who presented with history of instability and pain over his left knee since 2018 after being involved in a motor vehicle accident. In which he sustained crush injury over his left upper limb and underwent multiple operations which eventually led to left transhumeral amputation. On examination of his knee, noted positive anterior and posterior drawer test and patient was scheduled for an MRI which reveal complete tear of the left anterior cruciate ligament (ACL) and posterior cruciate ligament (PCL).

Patient was planned for simultaneous ACL and PCL reconstruction surgery using allograft, however in view of patient's history of left transhumeral amputation, post-operative rehabilitation challenges were identified and discussed with patient to ensure patient understood the commitment required post-operatively for the surgery to be successful. As the patient had a high commitment drive with good family support, decision to proceed with the operation was agreed upon.

Post-operatively, patient was put on brace with knee locked in extension and gradually started on passive range of motion exercises of the knee

after 2 weeks post operatively with the assistance of patient's family members. Other challenges faced by patient was during partial weight bearing ambulation using crutches as well as during balance training. However, after numerous clinic and rehabilitation appointments, patient was able to achieve a full range of motion over his left knee with no complaints of pain or instability and ambulating without support.



Picture on the left taken while patient was still on knee brace while ongoing rehabilitation. Picture on the right is the latest picture taken as patient full weight bearing ambulation.

### CONCLUSION

A challenge in knee ligamentous reconstruction surgery is the post-operative rehabilitation and it is a less spoken topic during pre-operative decision making. Careful patient selection with good family support as well as efficient rehabilitation and physiotherapy team is required to ensure a successful knee ligamentous surgery.

### REFERENCES:

Walker, A., W. Hing, S. Gough and A. Lorimer (2022). "Such a massive part of rehab is between the ears"; barriers to and facilitators of anterior cruciate ligament reconstruction rehabilitation: a qualitative focus group analysis." *BMC Sports Science, Medicine and Rehabilitation* 14(1): 106.