



Operation Information

Anterior Cruciate Ligament (ACL) Reconstruction

Introduction

The Anterior Cruciate Ligament (ACL) is a 3-4cm long band of fibrous tissue that connects the femur to the tibia. It helps to stabilize the knee joint when performing twisting actions. ACL injuries commonly occur during contact sports, hyperflexion injury, valgus force injury, varus force injury and rotational injury to the knee.

ACL reconstruction is an operation to rebuild the ligament of the knee with a new one. In Hong Kong, Patellar Bone Tendon Bone Autograft (PBTB) and Hamstring Tendon Autograft are popular methods for ACL reconstruction.



Source:

<https://www.clinicaladvisor.com/home/features/getting-back-in-the-game-after-acl-rupture/>

Outcomes

The expected outcome of this operation is to repair the tear ACL. The knee joint will return to its normal stability and functions. This operation also helps to prevent further damage to the affected knee.

Procedures

1. The operation can be performed under general or spinal anaesthesia.
2. Small incisions are made and the arthroscope is inserted to monitor the ligaments and other tissues of the knee.
3. If an autograft is going to be used, a graft (PBTB or hamstring tendon) is harvested to reconstruct the torn ligament.
4. The torn ACL is removed.
5. The graft tissue is positioned in the same place as the old ACL and held in place with screws or staples.
6. The wounds are closed with sutures.

Possible Risks and Complications

1. Wound pain and numbness
2. Wound infection
3. Joint stiffness, knee flexion contracture and reduce range of motion
4. Collection of fluid or blood in the knee joint
5. Residual laxity
6. Graft rupture
7. Donor site pain, patellofemoral joint pain and numbness
8. Wound malunion and keloid formation
9. Fracture of patella, which may require open reduction and internal fixation
10. Nerve or blood vessel damage causing limb sensation and mobility alteration, or massive bleeding

11. Compartment syndrome: a build-up of pressure within the affected limb and can cause pain, nerve damage, blood vessel damage and muscle damage
12. Surgical instruments may be broken off and retained at the surgical site during the operation

** The risks listed above are in general terms and the possibility of complications is not exhaustive. Please understand that even though all operations are carried out with utmost professionalism and care, this does not rule out the possibility of complications arising. In the event of peripheral organ damage or post-operative haemorrhage or leakage, further operations may be required.

Pre-operative Preparations

1. The surgery is usually performed a few weeks after an injury when the swelling has reduced and range of movement is improved through rehabilitation, in order to prevent stiffness and scar formation after surgery. Physiotherapy may be arranged.
2. Good hygiene can prevent surgical wound infection. Therefore, we advise you to clean up yourself on the day of operation.
3. The procedure and possible complications will be explained by the doctor and a consent form must be signed prior to the operation.
4. Please inform the doctor and nurse all your past medical history, previous surgical operations, current medication and any complication with drug or anaesthesia. Please inform doctor if you are taking medications that affect blood coagulation such as Aspirin, Warfarin, Xarelto or Pradaxa, nonsteroidal anti-inflammatory drug (NSAID) such as Ibuprofen, Naproxen and Chinese medication.
5. Cigarette smoking may reduce your ability to heal. We strongly recommend you to quit smoking.
6. Routine pre-operative investigations such as blood tests, ECG and X-ray may be performed.
7. Nurse will supply surgical soap to you for washing the operation site as necessary.
8. Shaving of the incision site may be required.
9. No food or drink six hours before operation.
10. Please change into a surgical gown after removing all belongings including undergarments, dentures, jewellery and contact lenses.
11. Please empty your bladder before the operation.

Post-operative Instructions

General

1. After general anaesthesia, you may:
 - experience discomfort in the throat after tracheal intubation.
 - experience side effects of anaesthesia including feel tired, drowsy, nausea or vomiting.Inform the nurse if symptoms persist or worsen.
2. Please inform the nurse of wound pain. Proper pain relief treatment by injection or oral medication may be prescribed by the doctor.
3. Cryotherapy and elevation can reduce pain and swelling of the affected leg.
4. The hospital stay is typically within one week which may vary with your health condition.

Wound Care

1. Keep the wound dry and clean. Follow doctor's and nurse's advice on wound care.
2. Stitches will be removed or dissolved in 3 weeks.
3. A wound drain may be present to remove fluid or gas from the area of surgery. It will be removed in 1-3 days after operation.

Activities

1. Physiotherapy starts immediately after the operation and continues for 4-6 weeks. In the first 14 days after the surgery, early emphasis is placed on regaining the ability to fully straighten the knee and restore quadriceps control.
2. Most patients can weight bear with the support of crutches a few days after surgery. Braces are

occasionally prescribed if necessary.

3. It is safe to move the knee as strictly follow the instructions from your doctor, but you are encouraged to keep the knee straight and the leg elevated during rest in the 10 days after surgery.

Diet

A normal diet may be resumed as instructed after recovery from anaesthesia.

Advice on Discharge

1. Please comply with the medication regimen as prescribed by your doctor.
2. You may follow the rehabilitation program for 3-6 months as recommended by the doctor.
3. Most patients can walk normally 14 days after the operation.
4. Sports activities may be resumed gradually in 6-12 months following the doctor's instructions. During the rehabilitation period, please avoid contact sports or vigorous activities.
5. The wound is covered with waterproof dressing when you are discharged. Do not remove it unless you are told to do so. Always keep the dressing clean and dry.
6. Immediately consult your doctor or return to hospital for professional attention in the event of severe wound pain related to redness and swelling, massive bleeding or discharge, shivering, high fever over 38°C or 100.4°F, or any other unusual symptoms, etc.
7. Any follow-up consultations should be attended as scheduled.

Possible Additional Procedures / Treatment

1. In the event of infection, arthroscopic lavage, debridement and/or removal of implant/ graft may be required.
2. In the event of stiffness, manipulation may be required under anaesthesia.
3. In the event of fracture of the patella, open reduction and internal fixation may be required.

Alternative Treatment

1. Conservative treatments
Options include muscle training exercises and bracing. You can also adjust your lifestyle by participating in less demanding sports.
2. Other operations
 - Allograft
 - Quadriceps tendon graft
 - Contralateral side PBTB graft (Not popular in Hong Kong)

Should there be any enquiries or concerns, please consult the attending doctor.

Under the professional care of the doctor, you will gradually recover. We wish you all the best during your treatment and recovery.

If you have any questions after reading the entire leaflet, please write them down in the spaces provided in order for the doctor to further follow-up.

Compiled by Union Hospital Operating Theatre (OT) Governance Committee

The above information is for reference only, please enquire your physician for details
Our Hospital reserves the RIGHT to amend any information in this leaflet without prior notification

