Anterior Cruciate Ligament (ACL) Reconstruction

What is it?
A surgical reconstruction of the anterior cruciate ligament is performed arthroscopically using a tissue graft to reproduce the internal stability of the knee. There is currently no gold standard method of grafting recognised by research literature. The most common are:

- Hamstring tendon graft: a 25cm strip from an accessory hamstring tendon on the inner aspect of the lower thigh is removed and folded over for strengthening. It is then fixated with screws within holes drilled in the tibia and femur. It typically involves a quicker recovery.
- Patella tendon graft: the middle third of the tendon attaching the knee cap to the tibia is removed along with parts of bony attachments at each end. This is then threaded through drilled holes in the femur and tibia and anchored. Historically it has been thought to provide better long term stability. There is a slightly higher reported complication rate that can involve: risk of tendonitis, persistent pain at the wound and especially during kneeling activities, and possibility of patella fracture.
- Synthetic graft (LARS reconstruction): an industrial strength polyester woven fibre is grafted arthroscopically without the further invasive harvesting of tissue from other parts of the body. It boasts quicker recovery times as well as less pain, swelling and restriction. It is yet to be validated with evidence from the literature, which has occasionally indicated some complications after the initial rehabilitation period.

What comes after this?
The usual criteria your surgeon will use to clear you before returning to sport or strenuous activity are: full completion of postoperative rehabilitation program, full knee range of motion, satisfactory stability testing, functional quadriceps control and no joint swelling. However, studies have determined a re-injury rate of approximately 6-27% especially in the young returning to high demand sport. Studies have also determined that re-injury is due to altered movement patterns and strength differences between the injured and uninjured sides that were still present up to 2 year after injury (Paterno et al, 2011).

Your physiotherapist will need to play a large role from the early stages. They will be able to guide you through your rehabilitation journey and tailor guidelines to your abilities and needs as your progress. The end stages of rehabilitation are when important decisions on return to sport are made. These are determined by newly validated clinical examination techniques that are high predictors of re-injury risk (Myer et al, 2011). This maximises the chances of a successful return to sport and activity.

References:
Myer et al (2011), new method to identify athletes at high risk of ACL injury using clinic based measurements and freeware computer analysis, BJSM 45:238–244
Paterno et al (2011), effects of Sex on Compensatory Landing Strategies Upon Return to Sport After Anterior Cruciate Ligament Reconstruction., JOSPT 41(8): 553-559

To arrange an appointment:

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