SSC
SPORTS SURGERY CLINIC

Hamstring Tendon Donation for ACL Reconstruction in Juveniles

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What are the advantages of using a parental donor?

There are several advantages for use of a parental donor for ACL reconstruction in children

- Less post-operative discomfort for the child.
- Children's tendons are frequently immature and very small in size. Tendons of a mature adult are larger in diameter and more reliably sized for an ACL graft.
- The child's neuromuscular system remains intact which may be protective against further injury.
- Complete knowledge of where and who the hamstrings have come from.

What is the Operative Technique?

Through a small incision (about 2cm) on the front of your shin bone up to 2 hamstring tendons are harvested. This is done under a light general anaesthetic as a day surgery procedure, just before your child has their procedure. The procedure takes approximately 20 minutes. You will be awake and comfortable in the recovery ward when you child returns from the operating theatre.

What blood tests are required before surgery?

We routinely test all donors for blood group and type (Rhesus - or +). We also for perform routine viral screening for all donors and recipients (i.e. HIV, Hepatitis B, Hepatitis C, CMV, Syphilis) before surgery.

What is the Post-Operative Progress?

When you wake up from the anesthetic the staff at the hospital will assist you getting up and walking. You will be allowed to bear full weight through the operated limb. You may experience some discomfort at the back of the thigh and front of the shin, but this should be well controlled with the medications provided to you. You may return to sedentary work duties within a few days.

Your wound will be covered with dressings that should be left intact until 10-14 days from surgery, or until your wound is checked by Mr. Vioreanu. The stitches used will dissolve naturally over time.

You may notice significant bruising around the back of the thigh which may extend down to the ankle. This will usually take 2 weeks to resolve but is completely normal. The hamstring tendons that are harvested will regenerate over a 6-8 week period. While this healing is occurring you will need to avoid overloading this tendon with sudden stretches or heavy resistance exercises. Examples of this would be sudden hyperextension of the knee, running fast, resisted hamstring curls, lifting heavy weight from the floor. A few 'popping' or tearing sensations may be felt during the healing period. Usually the left limb is used which means you can drive a car the day after the procedure.

Are there any long-term consequences for the donor?

After 6 weeks gradual resumption of all desired activities may occur and strength and fitness will return to normal. In a small percentage of patients (3-5%), some residual aching or weakness may occur.

Is there any risk of "rejection"?

No, when the hamstring is implanted it is essentially "dead". It is not like an organ which requires the cells to be active. The graft is merely a scaffold which the child's body will replace with normal ligament cells over a 2 year period. As the graft is not "alive" the issue of tissue rejection does not occur.