

# FLEXOR TENDON GRAFT

The tendons responsible for bending the fingers are called flexor tendons. There are two tendons in each finger and one in each thumb. The tendons run through a tight sheath and work in a very similar way to brake-cables on a bicycle.

The tendons are commonly cut in accidents. The ends can be joined and stitched in the month after injury. Sometimes, however, the repairs fail or it is not realised that the tendon has been cut. The tendon cannot be simply repaired after a time because (i) the ends have retracted apart and shortened, (ii) the tendons become stuck to the sheath and (iii) the sheath narrows. If this occurs, you cannot bend the finger fully yourself (active flexion). This ability can only be recovered if the tendon is reconstructed.



Reconstruction is complicated and requires two operations. It will not be performed unless the damaged finger can be fully bent into the palm by you or the surgeon (passive flexion).

**Stage I** The damaged tendon is removed and a soft rod of silicone rubber is passed along the length of the sheath. This remains in place for about ten weeks. During this time, a new lining forms around the rod. This will both nourish and allow movement of the tendon graft. This operation involves a long zigzag incision from finger tip into the palm. You will therefore need to work hard after this operation to regain this movement.



**Stage II** A piece of spare tendon is taken as a graft from either the wrist or leg. Only the ends of the previous long scar are opened. The tendon graft is joined to the silastic rod and then drawn through the new lining as the rod is removed. The graft is then attached to the two ends of the old tendon and the tension adjusted to allow the finger to work properly. The repair at the end of the finger is performed either with a stitch through the bone or the tendon is taken through the tip of the finger. In either case, the repair is stitched to the nail.

Your rehabilitation is vital to the success of the surgery. Stage II will be delayed until the wounds are well healed and you have got all this movement back. Finger movement after Stage II is carefully graded over a twelve week period to avoid snapping the repair and is covered on the "Flexor tendon repair" information sheet.

The reconstruction will be highly **inconvenient** for you involving two operations, splinting, many visits to see your surgeon and therapists and at least 22 weeks (10+12) off heavy activities/sport. **Perfection is difficult to achieve.** The **reconstruction can fail** for a number of reasons (see below). This would mean beginning the entire process again. Non-compliance will, however, increase your risk of complications. Sometimes, a further operation is needed to get the best result, for example to free tendon adhesions.

**Wound** Possible problems include swelling, bruising, bleeding, blood collection under the wound(s) (haematoma) and splitting of the wound (dehiscence).

**Scars** These will be present on the finger and forearm/foot.

**Infection** Can occur after 5% of hand operations. Most are superficial and can be treated with antibiotics. If the rod is involved, it may be difficult to control except by removing the rod.

**Rod exposure** Problems with infection or wound healing can lead to exposure of the rod. There is no alternative but to remove it and start again once the infection has settled.

**Stiffness** It is unusual to recover full mobility. Problems such as infection can contribute to some loss of joint movement or tendon gliding.

**Rupture** The tendon graft attachments can snap. This occurs either because of infection or if you deviate from the rehabilitation program by placing too much force on the finger.

**Nerve damage** There is a risk of damage to the nerves in the finger during this difficult surgery. This might cause permanent numbness.

**Regional pain syndrome** About 5% (1 in 20) of people are sensitive to hand surgery and their hand may become swollen, painful and stiff after the operation. This problem cannot be predicted, is variable in severity and is principally treated with physiotherapy.

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