Achilles Tendon Injury

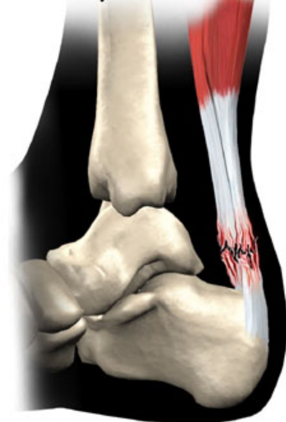
Surgical Treatment of Achilles Tendon Injuries

When considering the surgery of achilles tendon injuries we can divide them into three basic groups.

1. Definitive — in this group surgery is virtually mandatory

2. Relative — where we may or may not elect to perform surgery

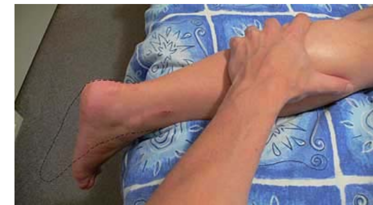
3. Rare —here surgery is only occasionally carried out as a last resort



Acute achilles tendon rupture

Whilst there are some centres in the world that have utilsed conservative treatment, here we treat virtually all of them with surgical repair.
History. The classic history given is a middle-aged person moving off suddenly such as whilst playing squash, netball, tennis etc. The patient is aware of a "bang" or "twang" in the calf associated with immediate pain. Often the patient will state that he thought his opponent had struck him in the calf. The patient walks with a flat foot limp and is unable to rise up on his toes. Swelling of the area ensues.

Examination if performed very early will demonstrate a palpable gap. If presentation is delayed, then swelling will have obscured this sign. Then swelling and bruising will be a feature. The patient is unable to rise onto his toes. The classical sign is the Simmond's (or Thompson's) test. (right) Here the patient lies face down with the feet over the end of the examination couch. Squeezing the normal calf produces plantar flexion at the ankle whereas on the affected side there is no such movement at all. This is an excellent sign and is always present.



Treatment consists of surgical exploration and repair. After the repair a below knee cast is applied in plantar flexion.

Post operatively the patient is mobilised non-weight bearing on crutches. The cast is changed at 3-4 weeks to a more neutral position and a walking heel applied. The patient can then weight bear in the cast for a further 3-4 weeks. After removal of the cast the patient is encouraged to use a heeled shoe or boot until normal plantigrade movement is attained.

The time at which one returns to active sport is debatable ranging from 6-12 months. I prefer the longer rather than the shorter time. Re-ruptures do occur but with the above regime are rare.

Missed achilles tendon rupture

Unfortunately this is not an uncommon problem although hopefully will become rarer if the Simmond's test becomes more widely known and utilised.

The history and examination are basically the same with less swelling.

Treatment is by repair if possible, and if not, surgical reconstruction usually using a strip of fascia from over the gastrocnemius-soleus complex. Post-operative treatment is similar but perhaps a little slower.

Chronic achilles tendonitis

This condition is a relative surgical indication.

Diagnosis is made on the basis of pain and tenderness which may be localised or over a fusiform area of swelling. There may also be discreet nodular swelling.

Investigations which may be helpful in the diagnosis include X-rays, ultrasound scan, CAT scan and M.R.I..

Pathological types

- Chronic paratenon inflammation
- Mucoid degeneration
- Intra-tendinous ruptures
- Surgical treatment involves stripping of paratenon, curettage of nodules or mucoid degeneration and cast immobilisation to allow sound healing.
- Retro calcaneal bursitis
- Tenderness is experienced when palpating anterior to the distal achilles tendon. This usually responds to conservative means but has occasionally needed operation.

"Pumpbump" or "Winter heel"

This presents as a tender, red nodule just lateral to the insertion of the achilles tendon into the calcaneus. This is most common in teenage females and if they will wear correct fitting shoes then surgery is only rarely necessary.

Musculo-tendinous ruptures

Musculo-tendinous ruptures of the gastrocnemius-soleus complex heal well with cast immobilisation and no surgery is indicated.

Sever's disease

Sever's disease(calcaneal apoplysitis) in the 9-12 year old is treated conservatively.