High Volume Injection for Achilles Tendinopathy

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## Tendinopathy

### Pathology

- Chronic tendinopathy consistently shows either absent or minimal inflammation (Ollivierre, 1996)
- Predominant lesion is degenerative: Achilles (Astrom, 1995; Movin, 1997), Rotator Cuff (Hashimoto, 2003), Patellar tendon (Khan, 1998), CEO (Potter, 1995)
- Importantly tendinopathy may not be symptomatic (Maffulli, 2003)

### Findings

- Macroscopically soft disorganised tissue of yellow/brown appearance (Mucoid degeneration) and loss of tightly bundled collagen (Khan, 1999)
- Microscopically there is degeneration and disorganisation of collagen with fibrosis (Maffulli, 2000)
- Neovascularisation demonstrated (Khan, 1999; Maffulli, 2000)
Histopathological changes seen in tendinopathy demonstrating a lack of an inflammatory response

Normal tendon with scattered elongated cells

Slightly pathological tendinous tissue with islands of high cellularity and initial disorganization

Highly degenerated tendon with some chondroid cells; distinct lack of inflammatory infiltrate
Abnormal Neovascularization in the distal third of tendon

Diagnosed by 1 or more of the following findings

1. Tendon thickening with heterogeneous echogenicity
2. Hypoechoic foci representing intrasubstance tears (defined as linear hypoechoic foci associated with discontinuity of tendon fibres)
3. Calcifications and enthesiophytes at the tendon attachment
4. Neovascularization

(Levin, 2005; Zanetti, 2003)
Evidence

- Poor

- ‘The short-term effects of high volume image guided injections in resistant non-insertional Achilles tendinopathy’ (Humphrey, Chan et al 2010)
Equipment
The Procedure
Post Injection

- 1 week eccentrics
- 1 week low impact
- Return to normal sport
Eccentric Exercise
10 Subjects

Average duration of symptoms 21 months (12-60 months)

Ultrasound confirmed tendinopathy

Failed conservative treatment

Outcome

Pre and 3 month post injection:

VISA scores

VAS scores
IN THIS QUESTIONNAIRE, THE TERM PAIN REFERS SPECIFICALLY TO PAIN IN THE ACHILLES TENDON REGION

1. For how many minutes do you have stiffness in the Achilles region on first getting up?

   100 mins
   0 mins
   0 1 2 3 4 5 6 7 8 9 10

   POINTS

2. Once you are warmed up for the day, do you have pain when stretching the Achilles tendon fully over the edge of a step? (keeping knee straight)

   strong severe pain
   no pain
   0 1 2 3 4 5 6 7 8 9 10

   POINTS
Pre and 3 month post Injection VAS Scores

P<0.001
Pre and 3 month post Injection VISA Scores

P<0.001
References