

# Is operative treatment of delayed presentation Achilles Tendon Rupture essential?

## Mid and Long-term follow-up of conservatively treated patients.

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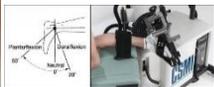
**INTRODUCTION:** Delayed Achilles rupture is commonly treated by surgical repair. But does delayed rupture really necessitate repair? We report our findings from conservatively treated patients via a dedicated rehabilitation programme.

**METHODS:** All delayed presentation TA ruptures between 2008-2014 were identified. All patients had received treatment via the Swansea Morriston Achilles Rupture Treatment (SMART) protocol. Outcome measures were ATRS/ARS (at 1 and 6yr FU), ROM and Muscle Function Dynamometry assessing plantarflexion of the ankle injured and non-injured ankle and MRI comparison of injured and non-injured TA. Statistical analysis by way of 2-tailed T-test.

**RESULTS:** 19 pt assessed (16@6yr FU)

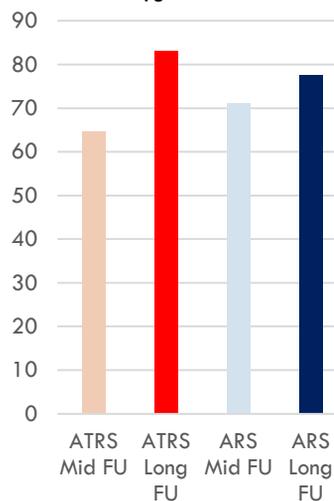
- 16M : 3F (14M : 2F)
- Age: 60 yrs (39-80)
- Delay: 61 days (14-249)
- Gap Size: 10.6mm (0-40mm)
- Mid-term Follow-up: 38m (10-79m)
- Long-term follow-up: 6yr 6m (4yr-10yr3m)
- 1 x failed conservative mx, No re-ruptures, 1 PE

Ankle ROM	Injured		Uninjured		Difference	
	Mean	SD	Mean	SD	t value	P (2-tailed)
Dorsiflexion (°)	18.26	5.22	20.58	6.64	2.823	0.011
Plantarflexion (°)	48.84	8.16	52.16	8.31	2.435	0.026



Muscle Function Dynamometry	Injured		Uninjured		Difference	
	Mean	SD	Mean	SD	t value	P (2-tailed)
Torque (N.m.)	19.5	8.2	25.7	9.1	3.816	0.001

Comparative ATRS/ARS for Mid and Long Term FU



### Management Decision

Surgeon, Physiotherapist, USS

### Conservative Treatment

All other cases

### Operative Management

Patients who full fill the following:

1. Age <55yrs
2. Complete rupture of the body of the tendon
3. Tendon gap >1cm

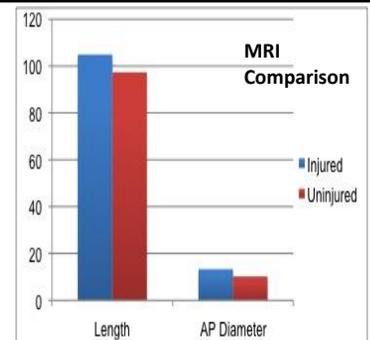
### SMART PROTOCOL

#### Immobilisation

- Two weeks equinus cast
- Walking orthosis with gradual reduction in equinus.

#### Following immobilisation

Physiotherapy along strict rehab guidelines



MRI Comparison	Injured		Uninjured		Difference	
	Mean	SD	Mean	SD	t value	P (2-tailed)
Length (mm)	104.9	32.9	97.3	33.4	1.679	0.111
AP diameter (mm)	13.3	2.2	10.2	3.7	3.022	0.008

**DISCUSSION: ATRS/ARS:** The use of the SMART protocol in delayed TA rupture produces similar results to those reported in the treatment of acute ruptures (ATRS 72.4 at 9m acute Vs 65 at 1yr delayed, ARS 72.3 at 9m acute Vs 71 at 1 yr delayed *Hutchinson et al 2015 BJJ*) and therefore should be considered particularly for the low activity/ low demand patient as an alternative to surgical fixation. Our scores also compare favourably to the existing literature advocating surgical repair; *Anathalleet al (FAS 2018)* reported ATRS of 91.3 @5yrs Vs 83 at 6yrs in this study. **Muscle function Dynamometry:** demonstrated significantly higher torque in the un-injured tendon (p0.001) with a 24% decrease in torque on the injured side. This is in keeping with the existing literature; *Keating and Will (JBJS 2011)* showed a difference of 20-25% between uninjured and injured tendon for patients treated both conservatively and surgically. **Ankle ROM/Tendon Length(MRI):** No significant difference between the 2 groups.

**CONCLUSION:** Conservative treatment via a dedicated rehabilitation programme produces a satisfactory outcome for delayed presentation TA ruptures and should considered for some patients.