

## Paper #48

# Deep Vein Thrombosis after Acute Achilles Tendon Rupture: A Randomized Controlled Trial Comparing Early Controlled Motion of the Ankle with No Motion

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### Summary:

Up to 34% of patients have been shown to sustain a DVT in the treatment period after acute Achilles tendon rupture. The purpose of the study was to investigate if early controlled ankle motion (ECM) could reduce the incidence of DVT compared to immobilization (IM). Almost half of the patients presented with DVT. ECM revealed no benefit to IM in reducing the incidence of DVT.

### Abstract:

### Background

Deep vein thrombosis (DVT) following acute Achilles tendon rupture (ATR) is common (up to 34%) and potentially dangerous. Immobilization is thought to be an important factor in the pathogenesis. It has never been investigated if early controlled ankle motion (ECM) can reduce the incidence of DVT.

### Purpose/aim of the study

To investigate if ECM could reduce the incidence of DVT compared to IM in the treatment of acute Achilles tendon rupture.

### Materials And Methods

The study was performed as a randomized controlled trial with patients allocated in a 1:1 ratio to one of two parallel groups. Patients aged 18 to 70 years were eligible for inclusion. Treatment was non-operative. The ECM group performed movements of the ankle 5 times a day from week 3 to 8 after rupture. The control group was IM for 8 weeks. Follow up was performed with Color Doppler ultrasound for above and below knee DVT at 2 and 8 weeks by two experienced radiologists. DVT was a secondary outcome, why a secondary power calculation was performed before analyzing the data: 124 patients were required to have a 60% chance of detecting, as significant at the 5% level, a decrease in DVT from 34% in the IM group to 17% in the ECM group.

### Findings

### Results

189 patients were assessed for eligibility from February 2014 to December 2016. 130 were randomized, 69 in the

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ECM group and 61 in the IM group. All patients participated in the follow up. In total 60 (46%) patients were diagnosed with DVT; 31/69 (45%) in the ECM group and 29/61 (48%) in the IM group ( $p=0.77$ ).

### **Conclusions**

The incidence of asymptomatic DVT was higher than previously reported as almost half of the patients presented with DVT after acute Achilles tendon rupture. ECM revealed no benefit to IM in reducing the incidence of DVT.