

Paper #190

## Operative versus Nonoperative Treatment for Acute Anterior Cruciate Ligament Tears: A Multicenter Randomized Trial

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### Summary:

In this multicenter randomized controlled trial we compared two treatment modalities for anterior cruciate ligament rupture with a follow up for 2 years in a large group of 167 patients; operatively and nonoperatively with an optional reconstruction if symptomatic instability remains

### Abstract:

### Background

Anterior cruciate ligament injury is a common and serious knee injury. ACL deficiency can lead to symptomatic instability with possibly more intra-articular damage and accelerated degenerative joint disease. These assumptions are not supported by outcomes of clinical studies that report that mid- and long-term outcomes are equal for operatively and non-operatively treated patients with regard to patient related outcome measurements and osteoarthritis. Whether arthroscopic anterior cruciate ligament reconstruction results in better patient reported outcomes than nonoperative treatment followed by an optional reconstruction is unclear. Primary research question is whether is a clinical relevant difference in change in International Knee Documentation Committee" (IKDC) questionnaire over a period of 24 months of an early surgical intervention versus a more conservative management of patients with a complete ACL rupture?

### Methods

Patients aged 18 through 65 years of age who presented in the 6 participating hospitals with an acute anterior cruciate ligament tear were eligible for inclusion. Included patients were randomized either for an arthroscopic reconstruction of the anterior cruciate ligament or a nonoperative treatment for at least 3 months. Primary outcome is the difference in knee function assessed with the International Knee Documentation Committee Score (IKDC ;0-100) between both groups as analyzed with the intention to treat principle. Secondary we performed a per protocol (PPA) analysis.

### Results

A total of 167 patients were randomized and 82 patients were treated primarily nonoperative. Of the non-operatively treated patients 50 % was eventually treated with an anterior cruciate ligament reconstruction. At 3 months non-

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operatively treated patients have a significantly better knee function and at 2 years the operatively treated patients have a significantly better knee function. At both time points this difference is not considered clinical relevant.

In the per protocol analysis we see the same trend in recovery in operatively an nonoperatively treated patients. However, the patients with an eventual reconstruction of the anterior cruciate ligament after primary nonoperatively treatment perform less optimal.

### Conclusions

This randomized controlled trial demonstrates that patients who are primarily treated operatively achieve a comparable clinical outcome as measured with the IKDC score to the patients who are treated non-operatively. Outcomes of patients who are initially treated non-operatively and are operated on after failed non-operative treatment are inferior. The challenge remains early identification of patients who will fail non-operative treatment.

Dutch trial Register number: NTR 2746