

# The effect of prehabilitation on the outcome of anterior cruciate ligament reconstruction

**Submission date**  
12/01/2011

**Recruitment status**  
No longer recruiting

Prospectively registered

Protocol

**Registration date**  
31/01/2011

**Overall study status**  
Completed

Statistical analysis plan

Results

**Last Edited**  
30/07/2013

**Condition category**  
Injury, Occupational Diseases, Poisoning

Individual participant data

**Plain English summary of protocol**  
Not provided at time of registration

## Contact information

**Type(s)**  
Scientific

**Contact name**  
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**Contact details**  
Cappagh National Orthopaedic Hospital  
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Ireland  
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## Additional identifiers

**Protocol serial number**  
N/A

## Study information

### Scientific Title

The effect of prehabilitation on the outcome of anterior cruciate ligament reconstruction: a two centre prospective, single surgeon, randomly allocated study

### Study objectives

To determine whether prehabilitation would result in equal quadriceps strength 3 month post anterior cruciate ligament (ACL) reconstruction.

As of 20/09/2011 the anticipated end date for this trial has been extended from 30/06/2011 to 30/06/2012.

### **Ethics approval required**

Old ethics approval format

### **Ethics approval(s)**

1. Cappagh National Orthopaedic Hospital Research Ethics Committee approved on the 1st December 2009 (ref: JOB.10.2009.28)
2. Sports Surgery Clinic Research and Ethics Committee approved on the 8th February 2010

### **Study design**

Single surgeon multicentre prospective randomised controlled trial

### **Primary study design**

Interventional

### **Study type(s)**

Treatment

### **Health condition(s) or problem(s) studied**

Anterior cruciate ligament tear

### **Interventions**

This interventional trial will recruit 30 patients: 15 in the prehabilitation exercise group, 15 control patients receiving standard pre- and post-operative care. The prehabilitation group will receive 6 weeks pre-operative physiotherapy programme comprising of 2 gym and 2 home sessions per week.

### **Intervention Type**

Other

### **Phase**

Not Applicable

### **Primary outcome(s)**

1. Isokinetic quadriceps strength testing
2. Magnetic resonance imaging cross-sectional area of the quadriceps (MRI CSA)
3. Physical performance test: single leg hop test and in-line lunge
4. Disease specific questionnaire: Modified Cincinnati Knee Score, Tegner Lysholm Knee Score, Tegner Activity Scale
5. Muscle biopsy of quadriceps: looking for down-regulation of muscle atrophy genes and up-regulation in IGF-1 pathways in muscle hypertrophy  
Patients will undergo all the above test at time of recruitment, 6 weeks post exercise and 3 months postoperatively.
6. Time to return to sports activities

**Key secondary outcome(s)**

1. To determine the effect of a pre-operative exercise programme on isokinetic hamstring strength
2. To assess the validity, reliability and responsiveness of:
  - 2.1. Isokinetic dynamometry
  - 2.2. Physical performance tests
  - 2.3. Questionnaires

**Completion date**

30/06/2012

**Eligibility****Key inclusion criteria**

1. Patients with isolated anterior cruciate ligament tear
2. Males aged 18 - 40 years

**Participant type(s)**

Patient

**Healthy volunteers allowed**

No

**Age group**

Adult

**Lower age limit**

18 years

**Sex**

Male

**Key exclusion criteria**

1. Patients with age less than 18 or over 40 years
2. Patients living outside Greater Dublin area (for practical reasons regarding exercise supervision)
3. Patients with associated fractures, meniscal repair and collateral ligament injury
4. Patients with co-morbidities (contra-indication to relatively high physical exertion)

**Date of first enrolment**

13/01/2011

**Date of final enrolment**

30/06/2012

**Locations****Countries of recruitment**

Ireland

**Study participating centre**  
Cappagh National Orthopaedic Hospital  
Dublin  
Ireland  
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## Sponsor information

**Organisation**  
Cappagh National Orthopaedic Hospital (Ireland)

**ROR**  
<https://ror.org/03vc5bf16>

## Funder(s)

**Funder type**  
Other

**Funder Name**  
Investigator initiated and funded (Ireland)

## Results and Publications

Individual participant data (IPD) sharing plan

**IPD sharing plan summary**  
Not provided at time of registration

### Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">Results article</a>	results	01/09/2013		Yes	No