

# 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**  
Mr Shahril Shaarani

**Contact details**  
Cappagh National Orthopaedic Hospital  
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Ireland  
11

## Additional identifiers

**EudraCT/CTIS number**

**IRAS number**

**ClinicalTrials.gov number**

**Secondary identifying numbers**  
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

### **Secondary study design**

Randomised controlled trial

### **Study setting(s)**

Hospital

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

Treatment

### **Participant information sheet**

Not available in web format, please use the contact details below to request a patient information sheet

### **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 measure**

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

### **Secondary outcome measures**

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

### **Overall study start date**

13/01/2011

### **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

### **Age group**

Adult

### **Lower age limit**

18 Years

### **Sex**

Male

### **Target number of participants**

30

**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

11

**Sponsor information****Organisation**

Cappagh National Orthopaedic Hospital (Ireland)

**Sponsor details**

Finglas

Dublin

Ireland

11

**Sponsor type**

Hospital/treatment centre

**Website**

<http://www.cappagh.ie>

**ROR**

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

# Funder(s)

## Funder type

Other

## Funder Name

Investigator initiated and funded (Ireland)

# Results and Publications

## Publication and dissemination plan

Not provided at time of registration

## Intention to publish date

## 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