

2016/2017 Summer Studentship Project Application Form

Send to: Research Office, University of Otago Christchurch, PO Box 4345, Christchurch, by 5pm on **4 July 2016**

Supervisor Information (First named supervisor will be the contact):

First Supervisor's Name and Title: Professor Gary Hooper

Department - UOC &/or CDHB (if applicable): Orthopaedics

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First Supervisors Mailing Address: Department of Orthopaedic Surgery and MSM

Co-Supervisors Name and Title(s): Dr David Kieser

Research Category (Choose one category only – to be used for judging the students' presentations):

Clinical X

Laboratory

Community

Project Title (20 words MAXIMUM):

Does intra-articular tranexamic acid improve the early outcome in knee arthroscopy

Project Description:

Introduction:

Tranexamic acid (TXA) is an antifibrinolytic which is used in Orthopaedic practice for reducing postoperative bleeding. It is now used routinely in arthroplasty and trauma surgery, where it reduces peri-operative blood loss without an increase thromboembolic disease.

Knee arthroscopy is a common day stay procedure with rapid and early recovery. However, rehabilitation may be complicated by a post-operative haemarthrosis which slows recovery, restricts range of movement, increases pain and reduces functional outcome. Reducing this complication is likely to improve the rapid recovery of the patient to near normal function.

The use of TXA in this situation has the potential to reduce haematoma and haemarthrosis formation and thereby improve patient outcomes.

Aim:

To assess the efficacy of intra-articular tranexamic acid (TXA) in reducing symptomatic haemarthrosis after knee arthroscopy and to assess whether this has an effect on the postoperative rehabilitation.

Possible impact (in lay terms):

This study will ascertain the value of intra-articular TXA following knee arthroscopy to reduce post-operative symptomatic haematoma formation and its role in improving the early clinical outcome scores.

Method:

Randomised control trial (blinded to patient and investigator) of 40 patients undergoing elective knee arthroscopy with partial menisectomy (20 control, 20 TXA group). Inclusion criteria: All patients aged 18-75 undergoing primary isolated knee arthroscopy and partial menisectomy. Exclusion criteria: Revision procedure, known bleeding diathesis,

inflammatory arthropathy, any additional operative procedure to the knee (eg ligament reconstruction, major chondroplasty etc)

Preoperative assessment will include: Patient demographics (Age, gender, ethnicity, BMI), symptoms, medical comorbidities, range of movement (ROM), knee circumference, Visual analogue score (VAS), Oxford knee score (OKS), Knee Society Knee Score (KSKS) and Quality of Life (QoL) scores will be assessed.

Intraoperatively the arthroscopic procedure will be unchanged except for injecting 1g TXA into the antero-medial portal in those patients randomised to receive the treatment. The assessor and the patient will be blinded during the course of this assessment to whether TXA was used or not.

Postoperatively patients will be assessed at 1 and 2 hours for haematoma/haemarthrosis formation and again at 24 and 48 hours by a patient directed questionnaire. Pain will be assessed on a VAS and recorded at similar time periods. Knee function will be assessed by the knee scores at 1, 7 and 14 days. In addition knee examination will be performed at 14 days at the time of follow up assessment to record range of motion and clinical assessment of size of any effusion (small, medium, large) by the blinded assessor. Any complications will be noted.

Comparison will then be drawn between the two study groups to discern the value of TXA in preventing symptomatic haemarthrosis and improvement in early post-operative outcomes using standard statistical methods.