

# Induction of operational tolerance in stable liver graft recipients

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<b>Registration date</b> 11/09/2012	<b>Overall study status</b> Stopped	<input type="checkbox"/> Statistical analysis plan <input type="checkbox"/> Results
<b>Last Edited</b> 16/01/2019	<b>Condition category</b> Surgery	<input type="checkbox"/> Individual participant data <input type="checkbox"/> Record updated in last year

## Plain English summary of protocol

### Background and study aims

Continuing immune suppression lifelong following liver transplant has long been held as essential to ensure the best outcome for our patients. However, these immunosuppressive drugs are associated with side effects. These include increased risk of infection, cancer and heart disease. A recent study of UK liver transplants showed that for patients surviving longer than 1 year after transplant the survival rate was half that of the general population. There was no sign that this outcome had improved between 1994 and 2007. These issues have led to a focus on drug weaning strategies, with a view to stopping immune suppression if stable transplant function can be maintained. Early studies have shown this so-called operational tolerance is possible in around 20% of patients, although it is believed this could be a lot higher at late time points following transplant.

### Our aim is to identify:

1. The proportion of stable liver transplant patients that develop operational tolerance with physician-directed reduction or withdrawal of immunosuppression at a late point after transplantation.
2. Whether the development of operational tolerance leads to a reduction in illness and improvement in life expectancy.
3. Whether a two-step strategy of reduction of immune suppression followed by withdrawal is safe and effective.

### Who can participate?

Liver transplant recipients more than 5 years from transplantation.

### What does the study involve?

Participants will be randomly assigned to either the immunosuppression weaning group or the control group. In the immunosuppression weaning group, doses of immunosuppressive drugs will be halved. The control group will continue receiving their current immunosuppression dose. Patients will undergo protocol liver biopsies at time of recruitment, after 1 year and after 3 years.

If after 3 years on half-dose immune suppression the patient's liver function tests are stable and liver biopsy satisfactory they will be offered the opportunity to stop immune suppression altogether. It is understandable that they might feel uncomfortable about stopping immune suppression drugs completely and we therefore stress that this aspect of the study is optional. The study will run for 4 years and clinic follow-up will take the same form it does at present.

What are the possible benefits and risks of participating?

If we are able to successfully stop immune suppression it will mean the participants are not exposed to the potential side effects of the drugs. We expect this to lead to a reduction in illness and longer life expectancy.

Clearly, developing rejection on weaning immune suppression is a concern. Reassuringly, previous studies have demonstrated that those patients who fail to become tolerant and develop rejection are not exposed to a higher risk of loss of their transplanted liver or death. Episodes of rejection appear to be mild in most patients and generally settle without requiring high-dose steroids. If they do develop rejection they will be withdrawn from the study and recommenced on their previous treatment.

Where is the study run from?

Addenbrooke's Hospital Cambridge (lead centre), Queen Elizabeth Hospital Birmingham and King's College Hospital London (UK).

When is the study starting and how long is it expected to run for?

Recruitment will take place over a 12-month period and it is envisaged that the study will start in January 2013 and will end in December 2018.

Who is funding the study?

Cambridge University Hospitals NHS Trust (UK).

Who is the main contact?

Dr Roger McCorry

rogermccorry@hotmail.com

## Contact information

### Type(s)

Scientific

### Contact name

Dr Graeme Alexander

### Contact details

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## Additional identifiers

**EudraCT/CTIS number**

**IRAS number**

**ClinicalTrials.gov number**

**Secondary identifying numbers**

N/A

## **Study information**

### **Scientific Title**

Towards operational tolerance. A randomised prospective controlled trial to compare a planned reduction (and subsequent withdrawal) of immune suppression with no change in immune suppression in selected stable liver graft recipients.

### **Study objectives**

Operational tolerance is defined as the state wherein a liver graft retains function and lacks histological signs of rejection in the absence of immune suppression, but the recipient remains immune competent capable of responding to all other immune challenges, including infection. We aim to identify:

1. The proportion of stable liver transplant recipients that develop operational tolerance with physician directed reduction or withdrawal of immunosuppression at a late point after transplantation.
2. Whether the acquisition of operational tolerance leads to reduction in morbidity or mortality.
3. Whether a two-step strategy of reduction of immune suppression followed by withdrawal is safe and effective.

### **Ethics approval required**

Old ethics approval format

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

Cambridge Central Research Ethics Committee, 01 October 2012

### **Study design**

Randomised controlled multicentre 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**

Liver transplant recipients; immunosuppression; operational tolerance

**Interventions**

In the intervention group immunosuppression shall be weaned, with reduction of drug doses by half for first 3 years of the study.

The control group shall continue full dose immunosuppression.

If after three years patients with reduced immune suppression have stable biochemistry then they will be offered a follow up liver biopsy and if that remains compatible with operational tolerance they will be offered the opportunity to stop immune suppression altogether.

**Intervention Type**

Procedure/Surgery

**Phase**

Not Applicable

**Primary outcome measure**

To determine the proportion of stable liver transplant recipients that develop operational tolerance with physician directed reduction or withdrawal of immunosuppression at a late point after transplantation

**Secondary outcome measures**

1. To determine whether the acquisition of operational tolerance leads to reduction in morbidity or mortality
2. To determine whether a two-step strategy of reduction of immune suppression followed by withdrawal is safe and effective

**Overall study start date**

01/01/2013

**Completion date**

31/12/2018

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

1. Age over 40 and regarded as competent to make informed decisions
2. More than 5 years from transplantation
3. No episodes of steroid resistant acute rejection or acute rejection beyond one year post-transplant
4. Transplantation for non-auto-immune liver disease
5. Stable liver biochemistry with an ALT less than 30 IU/L and serum immunoglobulins
6. Prepared to have a liver biopsy prior to entry as well as 1 and 3 years after study entry
7. An adequate liver biopsy with minimal inflammation restricted to the portal tract, at worst

minimal fibrosis, without bile duct damage or arteriopathy

8. On monotherapy with a calcineurin inhibitor or Sirolimus

9. Prepared to enter a randomised controlled trial

### **Participant type(s)**

Patient

### **Age group**

Adult

### **Sex**

Both

### **Target number of participants**

100

### **Key exclusion criteria**

1. Not competent to make a decision regarding enter into the study

2. Current malignancy

### **Date of first enrolment**

01/01/2013

### **Date of final enrolment**

31/12/2018

## **Locations**

### **Countries of recruitment**

England

United Kingdom

### **Study participating centre**

Department of Hepatology

Cambridge

United Kingdom

CB2 0QQ

## **Sponsor information**

### **Organisation**

Cambridge University Hospitals NHS Foundation Trust (UK)

### **Sponsor details**

Hills Road  
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England  
United Kingdom  
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+44 (0)1223 245151  
research@addenbrookes.nhs.uk

**Sponsor type**

Hospital/treatment centre

**Website**

<http://www.cuh.org.uk/>

**ROR**

<https://ror.org/04v54gj93>

## **Funder(s)**

**Funder type**

Government

**Funder Name**

National Health Service (UK)

## **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