

# Cultured keratinocytes in burn wound care

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<b>Registration date</b> 25/06/2012	<b>Overall study status</b> Completed	<input type="checkbox"/> Protocol
<b>Last Edited</b> 06/12/2016	<b>Condition category</b> Injury, Occupational Diseases, Poisoning	<input type="checkbox"/> Statistical analysis plan
		<input type="checkbox"/> Results
		<input type="checkbox"/> Individual participant data
		<input type="checkbox"/> Record updated in last year

## Plain English summary of protocol

### Background and Study Aims

We are recruiting up to 10 patients with severe burns to compare two different cell based approaches to help heal their wounds in an initial study. Our aim is to compare a treatment using donor skin cells with a treatment using the patients own cells. We want to compare the rates of wound closure using these two approaches, and to demonstrate that both approaches are safe. The study findings will inform future approaches to burn wound care, and may be applicable to chronic wounds also.

### Who can participate

Man and women over the age of 18 who have been injured by chemical or thermal burns may participate in the study. These patients will usually require a skin graft to help heal the burnt areas.

### What does the study involve

Over a period of up to two years, patients with severe burns who require a skin graft as part of their treatment will be eligible for a cell based intervention. Patients will donate a 2x2cm skin biopsy of thickness of about 0.6mm for preparation into a treatment called ReCell. This is a cell suspension derived from the patients own skin cells. These will be sprayed onto a selected area of the burn wound. In addition, a cell suspension manufactured from an accredited donor skin cell bank (Cryospray) will be applied to a separate area of the same burn wound. These two active treatment areas will be compared with a control area which receives standard care (inert dressings). One application of cells, both autologous (patients own) and allogeneic (donor) will be applied to the burn wound, and the areas will be observed at days 2, 5-7, 10 and 16. Small punch biopsies of selected treatment areas will be taken at day 0, 2 and 5-7 to identify cells responsible for healing.

### What are the possible benefits and risks of participating?

There is a possible direct benefit of taking part which is that burn areas treated with cells will show accelerated healing compared to those treated with standard care. Faster wound closure can be associated with reduction in pain, reduced risk of infection and improved aesthetic and functional outcome. There should be benefits to treating future burns patients, who have relatively few effective therapies available to them. Furthermore the findings could help treatment approaches for patients with chronic skin wounds such as diabetic ulcers or venous ulcers, which affect many thousands of people in the UK and worldwide. There is a small risk of

scarring from taking a skin biopsy for the ReCell treatment, but the biopsy is not full thickness, and the wound site will be expected to heal naturally in about 12 days. Participants will provide small biopsies of healed areas these will be taken from sites selected to provide minimum discomfort and aesthetic impact, although both considerations are minor compared to the trauma associated with the initial burn injury.

Where is the study run from?

The study is set up by Queen Mary University, London, and will take place at the St Andrews Centre for Burns and Plastic Surgery, Broomfield Hospital, Chelmsford.

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

Recruitment is expected to start in July 21012. Participants will be treated for up to 17 days but will be enrolled for a period of 24 weeks to allow long term follow up of wound closure. The study will run for up to two years.

Who is funding the study?

Funding is provided by Queen Mary University, London as part of a Technology Strategy Board (TSB) regenerative medicine award. The TSB is a UK government body tasked with fostering UK innovation in priority growth areas.

Who is the main contact?

Mr Simon Myers  
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## Contact information

**Type(s)**

Scientific

**Contact name**

Mr Simon Myers

**Contact details**

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## Additional identifiers

**Protocol serial number**

v3 020911 revised 120412

## Study information

**Scientific Title**

Cultured keratinocytes in burn wound care: a non-randomised study

**Study objectives**

Cultured allogeneic keratinocytes are capable of accelerating wound closure at least as well as autologous keratinocyte suspensions

**Ethics approval required**

Old ethics approval format

**Ethics approval(s)**

Not provided at time of registration

**Study design**

Non-randomised interventional study

**Primary study design**

Interventional

**Study type(s)**

Treatment

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

Severe burns - acute

**Interventions**

This is an intra-patient study (each patient will act as their own control) and each patient will receive all the treatment regimes under investigation i.e. Cryospray, ReCell and standard care.

Standard care - grafting and inert bandages.

Active group 1 - cultured allogeneic keratinocytes (Cryospray) + standard care

Active group 2 - autologous keratinocyte suspension (ReCell) + standard care

**Intervention Type**

Other

**Phase**

Not Applicable

**Primary outcome(s)**

Objective measures of wound healing via punch biopsy analysis (time course of cytokine and growth factor expression)

**Key secondary outcome(s)**

1. Time to complete wound closure (100% re-epithelialisation)
2. Aesthetic outcome of burn site via Derriford Appearance Scale and Patient and Observer Scar Assessment Scale (POSAS) at week 4, 8, 12 and 24

**Completion date**

30/06/2014

# Eligibility

## Key inclusion criteria

1. Patients who are 18 years old at least
2. Patient is in good general health
3. Patient is willing and able to co-operate with the protocol for the duration of the study
4. Patients with a donor graft site due to requiring a split skin graft to treat a large burn
5. Patients able to give written consent

## Participant type(s)

Patient

## Healthy volunteers allowed

No

## Age group

Adult

## Lower age limit

18 years

## Sex

All

## Key exclusion criteria

1. Patients unable to give written consent
2. Terminally ill patients
3. Pregnant women
4. Patients with skin disorders that may affect the growth of cells or subsequent wound healing e.g. patients on high concentrations of steroids, patients with psoriasis or eczema
6. Patient has a history of hypersensitivity to any components of either Cryoskin Spray (e.g. DMSO) or ReCell (trypsin)
7. Patients with eczema; genetic skin conditions; hypertrophic or keloid scars

## Date of first enrolment

01/07/2012

## Date of final enrolment

30/06/2014

# Locations

## Countries of recruitment

United Kingdom

England

## Study participating centre

**Queen Mary University London**  
London  
United Kingdom  
E1 4NS

## **Sponsor information**

### **Organisation**

Queen Mary University London (UK)

### **ROR**

<https://ror.org/026zzn846>

## **Funder(s)**

### **Funder type**

Government

### **Funder Name**

Technology Strategy Board Grant (UK) Project Number 130412

## **Results and Publications**

### **Individual participant data (IPD) sharing plan**

### **IPD sharing plan summary**

Not provided at time of registration