Autologous skin cell suspensions and partial thickness paediatric burns: The BRACS Trial Protocol

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Introduction

- BRANZ 2017\(^1\): Scalds $\rightarrow$ 57%
- QCH 2017: Scalds $\rightarrow$ 46%
- Mixed partial thickness injuries

Introduction
Introduction

Scar Formation

Burn Depth ↔ Time to re-epithelialisation
Introduction

Topical dressings

Biosynthetic membranes

Autologous keratinocytes sheets or suspensions

Skin graft
Biobrane®, RECELL® Autologous skin Cell suspension and Silver dressings (BRACS) Trial
Autologous Skin Cell Suspension Preparation

30 minutes
Biobrane®, RECELL® Autologous skin Cell suspension and Silver dressings (BRACS) Trial
<table>
<thead>
<tr>
<th>Recruitment</th>
<th>EXCLUDED: Did not meet inclusion criteria or Declined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Included</td>
<td>Age ≤16 years</td>
</tr>
<tr>
<td>Randomisation</td>
<td>Standard silver dressings</td>
</tr>
<tr>
<td>Interventions &amp; Measures</td>
<td>COD every 3-5 days</td>
</tr>
<tr>
<td>≥ 95% Wound Re-epithelialisation</td>
<td>Discharge (if inpatient) to outpatient follow-up</td>
</tr>
<tr>
<td>3 &amp; 6 Month Outpatient Review</td>
<td>Scar Assessment</td>
</tr>
<tr>
<td>12 Month Outpatient Review</td>
<td>Scar Assessment</td>
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</tbody>
</table>
Conclusion

• BRACS Trial: 9 participants recruited
• Potential for:
  – Cost effective wound management
  – Informed decision making by clinicians
  – Practice change locally & worldwide
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Introduction
Time to re-epithelialisation is associated with scar formation and burn depth[1]. At the study site, children most commonly present with scald thermal injuries[2]. Management of these often mixed-depth partial thickness burns include silver impregnated dressings, biosynthetic skin substitutes and autologous skin suspensions(Fig 3.) The Biobrane®, RECELL® Autologous skin Cell suspension and Silver dressings (BRACS) trial aims to address the existent clinical equipoise amidst these three modalities. This study will compare the effect of each dressing on re-epithelialisation time in paediatric superficial partial to mid-dermal thickness burns (primary outcome, Fig 1.) and on pain, pruritis, subjective scar severity, scar characteristics, dressing application ease, wound intervention fidelity, and health resource utilisation (secondary outcomes, Fig 2.).

Methodology
• Single-centre, parallel group, randomised trial
• Sample size (n=84)
• Three groups:
  A. Standard silver dressings
  B. Biobrane® with RECELL® Autologous skin cell suspension
  C. Biobrane® only
• Initial dressing application for all groups will be under general anaesthesia.
• Recruitment started in May 2018
• No results available as yet

Real World Implications
Faster burn wound re-epithelialisation, reduces associated scarring risk thus:
• Improved burn survivor health related quality of life
• Enable clinicians to make cost-effective management decisions

Conclusion
The most effective dressing for paediatric superficial partial and mid-dermal burns is yet to be defined. Study findings could potentially change clinical practice locally and worldwide.

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Reference: