



**BAPRAS**

British Association of Plastic  
Reconstructive and Aesthetic Surgeons

## BAPRAS Pump Priming Report Form


Please return to: [bursaries@bapras.org.uk](mailto:bursaries@bapras.org.uk)

<b>Project title:</b>	The WIRE Trial: should Kirschner wires be buried or not buried following adult hand fracture fixation?
<b>Grant holder:</b>	Jeremy Rodrigues
<b>Institution:</b>	University of Oxford
<b>Co-applicants:</b>	Matthew D. Gardiner Sonya Gardiner Fadi Issa Hawys Lloyd-Hughes Theodore Pezas Alex Ramsden Abhilash Jain Justin Wormald
<b>Supervisor (if relevant):</b>	N/A

<b>Date of award:</b>	2016			
<b>Grant awarded:</b>	Clinical (tick box)	X	Lab research (tick box)	
<b>Interim/ final report:</b>	Interim (tick box)		Final (tick box)	
<b>Study timeframe:</b>	Start date	2016	Expected/actual completion date	2022
<b>Lay Summary:</b>	About 2 in every 100 people every year in the UK break bones in their hand. Many of these breaks need surgery to help them heal in a good position. A common way to do this is by using smooth metal wires called "k-wires" placed into the bone to stabilise the break until it heals. These wires are either buried beneath the skin or left sticking out of the skin with dressings. We have shown that there is uncertainty amongst patients and surgeons on which technique is better. Burying wires may reduce risk of infection but leaving them proud may make removing them easier. This study will compare the two techniques to see which is better. The study will tackle issues like "will people be willing to take part?", "will surgeons take part?". It will help make a larger nationwide study to answer the question successful.			

<p><b>Summary of progress:</b></p>	<p>A systematic review has been designed, conducted, completed and published. This demonstrated that there is limited evidence for practice. (Journal of Plastic, Reconstructive &amp; Aesthetic Surgery 2017; 70: 1298-1301)</p> <p>Through the RSTN, a survey of hand surgeons, hand therapists and patients has been conducted. Data were obtained from 797 participants. The decision to bury or not bury K wires was largely not evidence based, and varied (Plast Reconstr Surg Glob Open 2018; 6:e1747)</p> <p>A prospective observational service evaluation study has been designed (Pilot and Feasibility Studies 2021; 7:128).</p> <p>This has completed follow up and is being prepared for publication.</p> <p>The next step will be definitive trial design leading to major national funding applications.</p>
<p><b>Key findings:</b></p>	<p>There is insufficient evidence on which to base practice.</p> <p>Practice varies and may not be optimal in terms of clinical safety, resource utilisation and cost effectiveness</p>
<p><b>Key issues:</b></p>	<p>Covid-19 has caused delays to this project.</p> <p>Through the completion of three major work streams to prepare for a definitive trial, our team has learned the key value of dedicated administrative support for projects like this. We have liaised with TRIGGER team (another BAPRAS award recipient) to develop a coordinated plan to pool such resource to ensure project completion and increase likelihood of competitive national funding success.</p>

<p><b>What is the relevance and value of this research to BAPRAS?</b></p>	<p>This is a major operative procedure in terms of volume and case load for BAPRAS members. The choice to bury K wires adds to operative burden for patients and services at a time when waiting lists and recovery from the pandemic are hot topics requiring action.</p>
---	--

<p><b>Presentations from this work?</b></p>	<p>Multicentre prospective cohort of adult patients undergoing Kirschner wire fixation for hand fractures in the United Kingdom (WIRE SE Study) BSSH Spring Meeting, London, April 2020.</p> <p>Buried versus exposed Kirschner wires following fixation of metacarpal and phalangeal fractures: a national clinician and patient survey Society of Academic Research Surgery, Nottingham, January 2018.</p> <p>WIRE Collaborative. WIRE Trial: Survey Results. RSTN Trials Day, London, May 2017.</p> <p>Buried versus non-buried K-wire fixation of metacarpophalangeal fractures. BSSH Autumn Meeting, Cardiff, October 2016.</p>
<p><b>Publications from this work?</b></p>	<p>Journal of Plastic, Reconstructive &amp; Aesthetic Surgery 2017; 70: 1298-1301</p> <p>Plast Reconstr Surg Glob Open 2018; 6:e1747</p> <p>Pilot and Feasibility Studies 2021; 7:128</p> <p>British Journal of Surgery (2015) 105: 40</p>
<p><b>Future scope of work? e.g additional funding.</b></p>	<p>Target for NIHR HTA researcher led funding application in 2022, based on preparatory and feasibility work completed to date.</p>
<p><b>Any further Comments?</b></p>	<p>As above, we have coordinated plans with TRIGGER to propose a joint, no-cost extension solution to support project completion.</p>
<p><b>Signature of award recipient:</b></p>	
<p><b>Print name:</b></p>	<p>Jeremy Rodrigues</p>
<p><b>Date of submission:</b></p>	<p>16/11/2021</p>