The Study Design for an NIHR RfPB Grant to Study the Effectiveness of Early Pulsed Dye Laser Treatment for Hypertrophic Burns Scars. by Mark Brewin | Salisbury NHS Foundation Trust

Introduction: Hypertrophic scars are abnormal scars that are red, raised and firm. These scars can occur following burn injury and, as survival rates from burns have improved significantly, an increasing number of burn survivors go on to live with expansive, life-changing hypertrophic scars. The aim is to assess the effectiveness of treating hypertrophic burns scars with pulsed dye laser (PDL) at an early stage of scar formation. The objective is to improve QoL for the patient by both improving the appearance of, and reducing the psychological and psycho-social impact from, burn scarring. The study will also evaluate both the cost-effectiveness and the patient-reported experience of the treatment.

Methods: This is a 3 year parallel-arm randomised, controlled trial to compare PDL and standard care against standard care alone. The difference will be measured between baseline and 6 month follow-up. The recruits will be within 3 months of healing from a burn injury with wounds showing a potential for hypertrophic scarring. 150 patients will be recruited in a multi-centre study. The treatment arm will receive 3 PDL treatments at 6 week intervals in addition to standard care, whereas the control arm will receive standard care alone. The primary outcome is the patient-rated part of the POSAS. Psychological and psycho-social impact will be evaluated using CARe (UWE, Bristol) and Quality Added Life Years will be determined using the SF-12 Health Survey. A qualitative survey will identify themes in the patient experience of the treatment process and its effectiveness in ameliorating the impact of scars.

Anticipated impact and dissemination: Results from this study will be disseminated through both publications in journals and presentations at relevant conferences. It is anticipated that the research output will contribute towards NICE guideline and a robust PDL treatment protocol on the treatment of burn scars.