

# Occupational advice to help people return to work following lower limb arthroplasty: the OPAL intervention mapping study

Paul Baker,<sup>1,2\*</sup> Carol Coole,<sup>3</sup> Avril Drummond,<sup>3</sup>  
Sayeed Khan,<sup>4</sup> Catriona McDaid,<sup>2</sup>  
Catherine Hewitt,<sup>2</sup> Lucksy Kottam,<sup>1</sup>  
Sarah Ronaldson,<sup>2</sup> Elizabeth Coleman,<sup>2</sup>  
David A McDonald,<sup>5,6</sup> Fiona Nouri,<sup>3</sup>  
Melanie Narayanasamy,<sup>3</sup> Iain McNamara,<sup>7</sup>  
Judith Fitch,<sup>8</sup> Louise Thomson,<sup>3</sup> Gerry Richardson<sup>9</sup>  
and Amar Rangan<sup>1,2,10,11</sup>

<sup>1</sup>South Tees Hospitals NHS Foundation Trust, Middlesbrough, UK

<sup>2</sup>York Trials Unit, Department of Health Sciences, University of York, York, UK

<sup>3</sup>School of Health Sciences, Faculty of Medicine and Health Sciences, University of Nottingham, Nottingham, UK

<sup>4</sup>Make UK, The Manufacturers' Organisation, London, UK

<sup>5</sup>Whole System Patient Flow Programme, Scottish Government, Edinburgh, UK

<sup>6</sup>Nursing, Midwifery and Allied Health Professions Research Unit, Glasgow Caledonian University, Glasgow, UK

<sup>7</sup>Norfolk and Norwich University Hospital NHS Foundation Trust, Norwich, UK

<sup>8</sup>British Orthopaedic Association Patient Liaison Group, Royal College of Surgeons of England, London, UK

<sup>9</sup>Centre for Health Economics, University of York, York, UK

<sup>10</sup>Faculty of Medical Sciences, University of Oxford, Oxford, UK

<sup>11</sup>Nuffield Department of Orthopaedics, Rheumatology and Musculoskeletal Sciences (NDORMS), University of Oxford, Oxford, UK

\*Corresponding author [Paul.baker1@nhs.net](mailto:Paul.baker1@nhs.net)

**Declared competing interests of authors:** Paul Baker was a member of the National Institute for Health and Care Excellence (NICE) guideline committee (CG157: hip, knee and shoulder replacement clinical guideline) (2018–2020). He is also a member of the NICE Quality Assurance Committee (2019 to present), is a HTA Commissioning panel member (Panel B) (2019 to present) and a Royal College of Surgeons Specialty Lead for Orthopaedics (2019 to present). Avril Drummond is a member of the Health Education England/National Institute for Health Research (NIHR) Integrated Clinical Academic Programme Clinical Lectureship and Senior Clinical Lectureship Review Panel (2018 to present). Catriona McDaid is a member of the NIHR Health Technology Assessment (HTA) and Efficacy and Mechanism Evaluation (EME) Editorial Board (2017 to present). Catherine Hewitt is a member of the HTA Commissioning Board (2015 to present). Louise Thomson was a member of the NICE Public Health Advisory Committee on Workplace Health: long-term sickness absence and capability to work (NICE Guideline number 146) (2018–19).

Amar Rangan is an NIHR grant holder [Partial Rotator Cuff Tear Repair (PRO CURE) trial, NIHR HTA project 128043 (co-investigator), subject to Department of Health and Social Care contracting; UKFROST, NIHR HTA project 13/26/01 (chief investigator); ProFHER) trial, NIHR HTA project 06/404/53 (chief investigator); HUSH trial, NIHR HTA project 127817 (co-investigator); Patch Augmented Rotator Cuff Surgery (PARCS) feasibility study, NIHR HTA project 15/103 (co-investigator); treatment of first time anterior shoulder dislocation, Clinical Practice Research Datalink analysis, NIHR HTA project 14/160/01 (co-investigator); SWIFFT, NIHR HTA project 11/36/37 (co-investigator); DRAFFT Trial, NIHR HTA project 08/116/97 (co-investigator); PRESTO feasibility study, NIHR HTA project 15/154/07 (mentor to chief investigator); and evidence synthesis on the frozen shoulder NIHR HTA project 09/13/02 (co-investigator)] and an Orthopaedic Research UK (London, UK) research grant holder, and research and educational grants were provided to his institution from DePuy Synthes [Raynham, MA, USA; a Johnson & Johnson (New Brunswick, NJ, USA) company].

**Disclaimer:** This report contains transcripts of interviews conducted in the course of the research and contains language that may offend some readers.

Published September 2020

DOI: 10.3310/hta24450

## Plain English summary

The OPAL intervention mapping study

Health Technology Assessment 2020; Vol. 24: No. 45

DOI: 10.3310/hta24450

NIHR Journals Library [www.journalslibrary.nihr.ac.uk](http://www.journalslibrary.nihr.ac.uk)

## Plain English summary

**H**ip and knee replacements are regularly carried out for patients who work. There is a lack of evidence about these patients' needs and how they return to work. Guidance to enable return to work after surgery is limited. There is, therefore, a need for structured occupational advice to help these patients.

The aim of this project was to develop a multidisciplinary occupational advice intervention for this patient population and assess if it could be delivered. The study also aimed to make recommendations about its further assessment in a clinical trial.

The study combined different methods of research (quantitative and qualitative) to identify the population likely to benefit, their current care, and the outcomes important to patients and health-care professionals. All of the information gathered was mapped through a framework (intervention mapping), which included a consensus process with stakeholders to develop the intervention. The intervention delivery was assessed for a small number of patients across orthopaedic departments, employer organisations and primary care networks.

The study involved 154 patients, 110 stakeholders (general practitioners, surgeons, employers and health professionals/nurses) and a survey of current care (152 respondents) to develop the intervention. The intervention included information resources, a personalised return-to-work plan and co-ordination from the health-care team to support the delivery of 33 patient and staff performance objectives. To support delivery, a range of tools (e.g. occupational checklists, patient workbooks and employer information), roles (e.g. return-to-work co-ordinator) and training resources were created. The intervention was assessed in 26 patients and staff, and showed high rates of adherence to the defined performance objectives.

The overall results demonstrated that the occupational advice intervention developed for hip and knee replacement patients is deliverable. The intervention warrants further research to assess its clinical effectiveness and cost-effectiveness as a tool to improve rates and timing of sustained return to work after surgery.



ISSN 1366-5278 (Print)

ISSN 2046-4924 (Online)

Impact factor: 3.370

*Health Technology Assessment* is indexed in MEDLINE, CINAHL, EMBASE, the Cochrane Library and Clarivate Analytics Science Citation Index.

This journal is a member of and subscribes to the principles of the Committee on Publication Ethics (COPE) ([www.publicationethics.org/](http://www.publicationethics.org/)).

Editorial contact: [journals.library@nihr.ac.uk](mailto:journals.library@nihr.ac.uk)

The full HTA archive is freely available to view online at [www.journalslibrary.nihr.ac.uk/hta](http://www.journalslibrary.nihr.ac.uk/hta). Print-on-demand copies can be purchased from the report pages of the NIHR Journals Library website: [www.journalslibrary.nihr.ac.uk](http://www.journalslibrary.nihr.ac.uk)

## Criteria for inclusion in the *Health Technology Assessment* journal

Reports are published in *Health Technology Assessment* (HTA) if (1) they have resulted from work for the HTA programme, and (2) they are of a sufficiently high scientific quality as assessed by the reviewers and editors.

Reviews in *Health Technology Assessment* are termed 'systematic' when the account of the search appraisal and synthesis methods (to minimise biases and random errors) would, in theory, permit the replication of the review by others.

## HTA programme

Health Technology Assessment (HTA) research is undertaken where some evidence already exists to show that a technology can be effective and this needs to be compared to the current standard intervention to see which works best. Research can evaluate any intervention used in the treatment, prevention or diagnosis of disease, provided the study outcomes lead to findings that have the potential to be of direct benefit to NHS patients. Technologies in this context mean any method used to promote health; prevent and treat disease; and improve rehabilitation or long-term care. They are not confined to new drugs and include any intervention used in the treatment, prevention or diagnosis of disease.

The journal is indexed in NHS Evidence via its abstracts included in MEDLINE and its Technology Assessment Reports inform National Institute for Health and Care Excellence (NICE) guidance. HTA research is also an important source of evidence for National Screening Committee (NSC) policy decisions.

## This report

The research reported in this issue of the journal was funded by the HTA programme as project number 15/28/02. The contractual start date was in July 2016. The draft report began editorial review in April 2019 and was accepted for publication in January 2020. The authors have been wholly responsible for all data collection, analysis and interpretation, and for writing up their work. The HTA editors and publisher have tried to ensure the accuracy of the authors' report and would like to thank the reviewers for their constructive comments on the draft document. However, they do not accept liability for damages or losses arising from material published in this report.

This report presents independent research funded by the National Institute for Health Research (NIHR). The views and opinions expressed by authors in this publication are those of the authors and do not necessarily reflect those of the NHS, the NIHR, NETSCC, the HTA programme or the Department of Health and Social Care. If there are verbatim quotations included in this publication the views and opinions expressed by the interviewees are those of the interviewees and do not necessarily reflect those of the authors, those of the NHS, the NIHR, NETSCC, the HTA programme or the Department of Health and Social Care.

© Queen's Printer and Controller of HMSO 2020. This work was produced by Baker *et al.* under the terms of a commissioning contract issued by the Secretary of State for Health and Social Care. This issue may be freely reproduced for the purposes of private research and study and extracts (or indeed, the full report) may be included in professional journals provided that suitable acknowledgement is made and the reproduction is not associated with any form of advertising. Applications for commercial reproduction should be addressed to: NIHR Journals Library, National Institute for Health Research, Evaluation, Trials and Studies Coordinating Centre, Alpha House, University of Southampton Science Park, Southampton SO16 7NS, UK.

Published by the NIHR Journals Library ([www.journalslibrary.nihr.ac.uk](http://www.journalslibrary.nihr.ac.uk)), produced by Prepress Projects Ltd, Perth, Scotland ([www.prepress-projects.co.uk](http://www.prepress-projects.co.uk)).

## Editor-in-Chief of *Health Technology Assessment* and NIHR Journals Library

---

**Professor Ken Stein** Professor of Public Health, University of Exeter Medical School, UK

### NIHR Journals Library Editors

---

**Professor John Powell** Chair of HTA and EME Editorial Board and Editor-in-Chief of HTA and EME journals. Consultant Clinical Adviser, National Institute for Health and Care Excellence (NICE), UK, and Senior Clinical Researcher, Nuffield Department of Primary Care Health Sciences, University of Oxford, UK

**Professor Andrée Le May** Chair of NIHR Journals Library Editorial Group (HS&DR, PGfAR, PHR journals) and Editor-in-Chief of HS&DR, PGfAR, PHR journals

**Professor Matthias Beck** Professor of Management, Cork University Business School, Department of Management and Marketing, University College Cork, Ireland

**Dr Tessa Crilly** Director, Crystal Blue Consulting Ltd, UK

**Dr Eugenia Cronin** Senior Scientific Advisor, Wessex Institute, UK

**Dr Peter Davidson** Consultant Advisor, Wessex Institute, University of Southampton, UK

**Ms Tara Lamont** Senior Scientific Adviser (Evidence Use), Wessex Institute, University of Southampton, UK

**Dr Catriona McDaid** Senior Research Fellow, York Trials Unit, Department of Health Sciences, University of York, UK

**Professor William McGuire** Professor of Child Health, Hull York Medical School, University of York, UK

**Professor Geoffrey Meads** Professor of Wellbeing Research, University of Winchester, UK

**Professor John Norrie** Chair in Medical Statistics, University of Edinburgh, UK

**Professor James Raftery** Professor of Health Technology Assessment, Wessex Institute, Faculty of Medicine, University of Southampton, UK

**Dr Rob Riemsma** Reviews Manager, Kleijnen Systematic Reviews Ltd, UK

**Professor Helen Roberts** Professor of Child Health Research, UCL Great Ormond Street Institute of Child Health, UK

**Professor Jonathan Ross** Professor of Sexual Health and HIV, University Hospital Birmingham, UK

**Professor Helen Snooks** Professor of Health Services Research, Institute of Life Science, College of Medicine, Swansea University, UK

**Professor Ken Stein** Professor of Public Health, University of Exeter Medical School, UK

**Professor Jim Thornton** Professor of Obstetrics and Gynaecology, Faculty of Medicine and Health Sciences, University of Nottingham, UK

**Professor Martin Underwood** Warwick Clinical Trials Unit, Warwick Medical School, University of Warwick, UK

Please visit the website for a list of editors: [www.journalslibrary.nihr.ac.uk/about/editors](http://www.journalslibrary.nihr.ac.uk/about/editors)

**Editorial contact:** [journals.library@nihr.ac.uk](mailto:journals.library@nihr.ac.uk)