

**Title:** Healthcare professionals' perceptions of the arthroplasty patient experience: Planning phase in the development of a patient-reported outcome measure (PROM).

**Purpose:** The aim of this study was to explore healthcare professionals' perceptions and perspectives of surgery and early recovery for patients undergoing lower limb arthroplasty. This study has also served as a starting point for development of a patient-reported outcome measure for use in early recovery.

**Design:** Thematic analysis with semi-structured qualitative interviews.

**Methods:** Following ethical approval, interviews were performed with recovery room nurses (n=3), ward nurses (n=2), surgeons (n=5), anaesthesiologists (n=5), physiotherapists (n=5) and occupational therapists (n=2). Data were analysed using a thematic analysis method. NVivo qualitative data analysis software was used.

**Finding:** Three main themes evolved from the interviews: immediate patient recovery issues, discharge criteria, and priorities during hospitalisation from healthcare providers' perspectives.

**Conclusions:** The early postoperative recovery period can be a challenging time for healthcare providers and patients alike. However, identifying key areas of importance can provide insight and guide focus in clinical practice thus improving patient recovery.

**Keywords:** Orthopedics, Patient Care Team, Nursing Research, Perioperative Period.

Worldwide, arthritis is increasing in incidence every year. It is the 4<sup>th</sup> most common cause of disability in the United States of America (USA) [1]. One-third of people over the age of 65 present with symptoms of arthritis in the United Kingdom (UK) [2]. In 2017, the World Health Organisation (WHO) recognised arthritis as one of the world's ten most disabling conditions [3]. Hip and knee arthroplasty are established procedures for symptomatic arthritis that has not responded to medical management [4]. The main goals of these surgeries are to restore movement and function, improve quality of life and decrease pain [5]. With the increasing incidence, as peri-anesthesia professionals, the number of patients seen undergoing these procedures is on the rise. The latest figures report that around 160,000 total hip arthroplasties (THA) and total knee arthroplasties (TKA) are performed in the UK annually [4] and approximately one million per year in the USA [6, 7].

Despite the extent of surgical procedures for arthritis, there exists a lack of research in the early recovery period (the first few days and weeks) following surgery [8] and no gold standard exists in terms of a care pathway or outcome measure to evaluate recovery [9, 10]. In an attempt to provide answers to some of these important questions, the James Lind Alliance (JLA) was formed. This collective patient and clinician research initiative from the UK's National Institute of Health Research (NIHR), has devised a 'Top Ten' priority list for arthroplasty patients and their care providers. The JLA found that the number one research priority for the lower limb arthroplasty population is identification and measurement of patient and clinical outcomes following both THA and TKA [11]. In research it is important, not only, to attempt to answer unanswered questions but, in particular, those questions which are important to both patients and clinicians alike. In addition, their top ten research priorities comprised many immediate perioperative concerns including pain management, modifiable factors and timing of interventions and follow-up.

Optimising patient recovery following surgery holds benefits for everyone, including patients, healthcare providers and hospital trusts. Enhanced recovery protocols (ERPs), first proposed in 1997 by Kehlet et al. aimed at reducing the surgical stress response, and have now evolved to address many of the factors involved in a patient's short-term recovery from surgery.

These ERPs utilize multimodal techniques, from pre-operative education to surgical site local anaesthetic wound infiltration. They have been found to reduce perioperative pain and opiate consumption and are also associated with significant financial savings to the hospital system through reduced length of stays (LOS) and a reduction in the associated costs of extended in-patient hospitalization. Short-term benefits of their use have been reported to result in reduced long-term patient morbidity and mortality, as well as improved functional outcomes. The introduction of early postoperative physiotherapy on the day of surgery has also been reported to decrease LOS. ERPs are a multi-factorial process and the individual success of their component parts are still not fully understood [12]. In spite of these improvements, 40% of arthroplasty patients experience severe acute postoperative pain preventing their recovery in the early recovery period [13]. Pain is also a common cause of delayed discharge and of readmission [14].

Reduced LOS is not necessarily an indication of a positive outcome. It can be achieved by the use of increased opiate medication which can bring additional challenges for the patient and healthcare provider. In addition, LOS does not represent whether patients have positive or negative experiences of health services.

Patient-reported outcome measures (PROMs) are questionnaires used to measure long-term health improvement in patients and have been utilised in patients undergoing hip and knee arthroplasty [15]. They have been in routine use within the National Health Service (NHS)

since 2009. NHS patients receiving varicose vein and hernia surgeries also have their long term outcomes recorded with PROMs [15]. Most often PROM data is collected in the mid to long term recovery periods of six months and longer. However, they are rarely used in the early recovery period. As mentioned above, improving early recovery is believed to have long term implications. At the present time, there are no fully validated tools to assess early postoperative recovery during the first week following lower limb arthroplasty. A brief, easy-to-complete, reliable patient-reported tool could be of great use. It could not only aid in assessment of recovery but could also be used to evaluate the efficacy of perioperative interventions such as drugs or surgical technique and provide a foundation for evidence-based care.

As a precursor to this study, a systematic review of measures used to evaluate recovery following lower limb arthroplasty was carried out [9]. 23 articles relating to the development, assessment and validation of 15 tools were found. Instruments demonstrated varying levels of quality based on recognised criteria: appropriateness, acceptability, precision, reliability, validity and responsiveness to change over time [16]. None of the tools found were specific to both the orthopaedic arthroplasty population and early recovery time periods. It was found that the available tools were not sufficiently sensitive to evaluate quality of recovery in the early perioperative period. Sensitivity to change, or responsiveness, in outcome measures, refers to the ability to detect the often subtle changes that can be of importance clinically and to the patient [16]. The findings of this systematic review led to the current qualitative work with the goal of developing an early recovery PROM.

PROM development is a multi-phased iterative process [17]. The Food and Drug Administration (FDA) have developed a guidance document for best practice development of outcome measures. This elaborates the five stages in a PROMs development:

- 95 • Hypothesize Conceptual Framework
- 96 • Adjust Conceptual Framework and Draft Instrument
- 97 • Confirm Conceptual Framework and Assess Other Measurement Properties
- 98 • Collect, Analyze, and Interpret Data
- 99 • Modify Instrument

100 This study falls within the initial phase of hypothesizing the framework for the PROM. This  
 101 includes defining the study group, literature review and expert consultation. The expert  
 102 interviews provide the developers with potential topics, layout or structure of the measure.  
 103 The next steps in the study will involve in-depth interviews with the patients' themselves to  
 104 fully explore the patient-reported issues directly.

## 105 **Objectives**

106 The aim of this study was to explore the healthcare professionals' perceptions of surgery and  
 107 early recovery, particularly the first days and weeks after surgery, for patients undergoing  
 108 lower limb arthroplasty. These professional interviews formed the planning phase of the  
 109 study. As potential users of the tool, their experience with the early recovery period will be  
 110 used to enhance the PROMs structure and possible layout.

## 111 **Materials and Methods**

112 **Design:** The study employed a qualitative thematic analysis design. Semi-structured  
 113 interviews were utilised to explore healthcare professionals' experience and perspective of  
 114 early recovery for patients undergoing THA or TKA.

115 **Setting and sample:** The study was conducted at a 160-bed specialist Orthopaedic hospital  
 116 within the NHS, England, UK. The hospital performs elective orthopaedic surgeries. All  
 117 participants were recruited from the hospital. All participants were purposively sampled [18]  
 118 healthcare professionals who care for THA or TKA patients. Participants found out about the

119 study through word of mouth. Inclusion criteria for the study: The participant may enter the  
 120 study if ALL of the following apply:

- 121 • Participant is willing and able to give informed consent for participation in the study.
- 122 • Male or female.
- 123 • Able to communicate in English
- 124 • An employee of the hospital
- 125 • Be in one of the healthcare provider groups
- 126 • Provide care for lower limb joint replacement surgery patients

127  
 128 Exclusion criteria for the study: The participant will be excluded from either phase of the  
 129 study if ANY of the following apply:

- 130 • Aged under 18
- 131 • Lacking capacity to consent
- 132 • Unable to comprehend or provide informed consent.

133 A multidisciplinary group of healthcare professionals who provide care across the perioperative  
 134 continuum were interviewed. The individuals participating represented a vast range in terms of  
 135 experience to allow for the maximum possible generation of ideas. They included consultant  
 136 surgeons and anaesthetists, nurses, physiotherapists and occupational therapists. 22 participants  
 137 were recruited to the study (with years of experience caring for orthopaedic patients ranging  
 138 from 1-35 years) (Table 1: participant characteristics).

139 **Ethical consideration:** Ethics approval was obtained (Reference 16/NW/0236) from the  
 140 Health Research Authority (HRA) research ethics committee (REC) North West - Liverpool  
 141 East Research Ethics Committee. If interested in possible participation, eligible participants  
 142 were approached by a member of the research team, given information about the study and  
 143 time to consider whether they wished to take part in the study. Time was also given for any  
 144 questions or concerns. Written informed consent was then obtained.

145 **Data collection:** Following ethical approval and the informed consent, interviews were  
 146 performed with healthcare providers. These aimed to identify factors seen to be pertinent to  
 147 patients in their early surgical recovery. Interviews were semi-structured in nature with

prompts and open-ended questions. These encouraged exploration of the healthcare providers' experience, role and how they viewed their patients' early surgical recovery (Figure 1: Interview prompts). Interviews were audio recorded. The duration was around 30 minutes or under for each interview. On completion of each interview, field notes were recorded to document particular details about the process. These notes included reflection on participant responses, the physical environment and the researcher's personal reflections. The interviews were then anonymously transcribed. Interviews were transcribed from the audio recordings by a member of the research team within the university. Any identifying contextual names were removed.

**Analysis:** Data were analysed using a thematic analysis method [19] and using NVivo software (NVivo qualitative data analysis Software; QSR International Pty Ltd. Version 11, 2015). Anonymised transcripts were used. At the time of transcription, all identifying details were removed. Analyses were performed on an ongoing basis and as part of an iterative process as the interviews were being completed. The sample size was guided by data saturation [20]. That is the time at which subsequent interviews did not produce any new themes. Interviews were coded based on the participants' words and context (Figure 2: coding sheet). Topics that are important to professionals in recovery were recorded. Themes evolved from recurring words and ideas from the participants [21]. Independent analyses of the interviews were performed by the first reviewer, a member of the research team. Initial coding of the first few interviews was performed independently by two reviewers to ensure thorough coverage of the work and discussed. The coding sheet was developed and refined as the analysis progressed. Any unresolved concerns were taken to a third researcher, an expert in qualitative research, for resolution.

**Rigour:** Validity and reliability are important issues to address in both quantitative and qualitative research [22]. As such, acknowledging the potential for interviewer bias in this

area of research is necessary. To minimise the risk of bias, the interviewer examined their own motivation prior to commencing the project. During the study, extensive interviewer field notes and reflection on methods and practice were utilised. As mentioned above, confirmatory analysis with the both the first and second reviewers was performed to assist in strengthening the reliability of the work. Member checking was performed on an ongoing basis to confirm or discuss emerging themes [23]. The reporting of this study was carried out in accordance with recognised guidelines and standards for qualitative research [24].

**Research Team:** The research team consists of a registered nurse/doctoral student, a qualitative researcher, an Orthopaedic trainee/doctoral student, two Orthopaedic surgeons/Professors of Orthopaedic surgery and a psychometrician (health measurement scientist)/Professor of Health Sciences research. The registered nurse on the team has over twenty years of experience in nursing, research and Orthopaedic surgery. The qualitative researcher and Orthopaedic trainee/doctoral student on the team both have over ten years of experience in Orthopaedic surgery, outcome measurement and pharmacology. The two Orthopaedic surgeons have over twenty years of experience in Orthopaedic surgery, patient outcome measurement and research. The psychometrician on the team has over twenty years' experience in statistics, research, patient outcomes, psychological measurement techniques and development.

All members of the team have been involved in the research concept, writing of the protocol, ethics application and analysis.



## Results

### Participants and demographics:

A total of 22 participants were included in the study: 12 women (55%) and 10 men (45%) (Table 1: participant characteristics). The sample consisted of nurses (N=5), surgeons (N=5), anaesthetists (N=5), physiotherapists (N=5) and occupational therapists (N=2). Ethnicities of the group were predominantly White British 14 (63.64%) but also included Arab 1 (4.54%), African 1 (4.54%), Indian 1 (4.54%), Other White 4 (18.18%) and Irish 1 (4.54%). All have been working in the care of the arthroplasty patient for an average of 16.39 years (SD=9.23). All participants work in the same Orthopaedic hospital setting. Specifically, within the nursing participants, 4 were of white British and 1 of African ethnicity. Their length of experience in Orthopaedics ranged from 1 year to 24 years. The surgeon group consisted of 3 white British, 1 other white (Australian) and 1 Arab. Their lengths of experience varied between 8 and 21 years. The anaesthetists were represented by 2 white British, 2 other white (Russian and South African) and 1 Indian. They ranged between 15 and 22 years of practice. The physiotherapy group consisted of 3 white British, 1 Irish and 1 other White (Portuguese). Their length of experience ranged from 5-33 years. The occupational therapists were both white British and had 12 and 35 years' experience respectively. The surgeon and anaesthetist group were all male. The other three groups were all female.

Three main themes evolved from the interviews: immediate recovery issues (N=22), discharge criteria (N=22), and priorities during hospitalisation from healthcare providers' perspective (N=22).

### Immediate patient recovery issues:

216 Within this broad overall theme, sub-themes emerged: pain and medications;  
217 nausea/vomiting; bladder/bathroom; anxiety and mental health; mobility/range of motion;  
218 expectations, motivation and goals; discharge and home situation.

219 All participants recognised pain as the primary postoperative issue for patients. ‘The main  
220 issue is pain’ (Participant 4, surgeon). They expressed in detail how it affects the overall  
221 recovery and wellbeing of the patient in the early recovery period. It can limit postoperative  
222 mobilisation and physiotherapy and can lead to complications and increased length of stay for  
223 some patients, which can in turn affect patient satisfaction and their long term recovery. It  
224 was felt that patients undergoing TKA seemed ‘to suffer a little bit more’ than THA  
225 (Participant 3, Nurse). Another felt that ‘generally they are the same across the board but  
226 obviously it varies in extent depending on the type and duration of surgery’ (Participant 8,  
227 anaesthetist). Pain management was seen as something that can be ‘extremely variable and  
228 can be difficult to manage particularly in people who are on a lot of strong analgesia before  
229 they come in’ (Participant 10, surgeon). Medications were also viewed as being challenging  
230 for patients. Prior medication use, side effects and getting the balance right between being  
231 over medicated and being in pain were expressed. ‘More so I would say that we would seem  
232 to be over giving them stuff that kind of some individuals maybe don’t need as much  
233 analgesia as some of the others so it knocks them for six’ (Participant 3, nurse). Medication  
234 delivery and pain management were reported to be ‘very dependent upon the expertise of  
235 people who are around at the time’ (Participant 10, surgeon). As a direct result of medication  
236 use, at times, patients had been seen to ‘get more constipated, dehydrated and they feel worse  
237 in the whole process’ (Participant 10, surgeon).

238 Nausea and vomiting and issues around using the bathroom were also seen as significant  
239 issues in the immediate postoperative phase.

240 Anxiety was reported in relation to many of the other issues discussed. Some providers  
241 reported that patients demonstrated a sense of relief that the surgery was over, but concern  
242 and some worry over just how their recovery would progress. If a patient had prior  
243 experience with surgery, this could either alleviate some of the anxiety or worsen it  
244 depending on experience. ‘They worry about how their pain is going to be maintained and  
245 controlled and will they be able to have the comforts they desire’ (Participant 7, nurse). A  
246 patient’s mental health and appropriate allocation of care for it was considered as a concern  
247 in the early recovery period (Participant 2, nurse).

248 Participants described how patients face challenges with regaining postoperative mobility and  
249 range of motion. It was felt that patients are mostly ‘functional goal oriented’ (Participant 20,  
250 physiotherapist) and keen to know what they ‘can and can’t do’ (Participant 14,  
251 physiotherapist) following surgery. ‘Often we get the knees affected by block. You don’t see  
252 patients not mobile because they are in pain’ (Participant 2, nurse). Being ‘able to do stairs’  
253 (Participant 16, physiotherapist) is a commonly reported goal.

254 Expectations, motivation and goals were found to be of importance by participants for the  
255 patient as they embarked on recovery. These were observed to affect many different aspects  
256 in the early recovery period. ‘People have lives, you know. People want to go back to  
257 dancing. They want, you know--you have got youngsters wanting to rock climb. They’ve got  
258 their jobs. They have got their mortgage to look after. They have a life and we need to be  
259 proactive in saying this is how you manage life with a joint replacement – yes’ (Participant 2,  
260 nurse).

261 The timing and concept of discharge home from hospital was a cause for both concern and  
262 relief for patients. Healthcare providers reported that while some patients were keen for a  
263 speedy discharge, to recover in their home environment, others were content to stay in  
264 hospital for an extended period of time. The issue of patient dissatisfaction with delay in

discharge due to lack of timely drugs arriving from the pharmacy was considered. It was noted that work was being done to improve the length of time it took for medication to reach the patient from the pharmacy.

A patients' home situation, including the level of support and family members at home, were also found to be relevant. Patients were reported to have concerns over 'how am I going to cope at home if they live on their own' (Participant 17, physiotherapist) or how they would manage if they are the primary 'carer for others' (Participant 21, occupational therapist). One professional felt that as healthcare professionals it is important to maintain a holistic view of the recovery period. 'We get over obsessed about pain and not look at the other things that patients might have a better stay though' (Participant 9, anaesthetist).

#### **Discharge criteria:**

As the interviews and ongoing analysis evolved, participants addressed specific criteria in relation to what they wanted to see before the patient would be discharged home. This comprised of physiotherapy satisfaction, physician satisfaction, patient satisfaction, patient safety and ability to resume tasks at home.

All participants reported that successful assessment by the physiotherapist was one of the most important criteria for discharge. 'The physio has said they can go home and the doctor is happy with them' were seen as definitive markers of a patient's readiness for discharge (Participant 3, nurse). Patient satisfaction was seen to be closely linked with discharge.

'Patient expectation is very key with regard to discharge planning' (Participant 21, occupational therapist). 'It's the thing that people care about and whether they feel like they have been supported and facilitated' (Participant 13, surgeon). It was also noted that having shared understanding of the anticipated discharge was important. 'Our expectations are the same, that you know that we are very clear' (Participant 3, nurse). 'Safety and mobility are the key things in terms of discharge for patients' (Participant 20, physiotherapist). 'We can

290 teach them safe techniques and if you teach them correctly it empowers them' (Participant 2,  
 291 nurse). 'So the main things, very much back to the basics of what we need to do as humans  
 292 on a daily basis is what we look at. We scratch the surface sometimes in terms of younger  
 293 patients that are wanting to return to work, but on the whole, with such a short length of stay,  
 294 it is very much kind of washing, dressing, domestic mobility, transfers and that's pretty much  
 295 what we look at. Obviously, if they are needing support we can look at onward referrals to  
 296 care services or for rehab beds' (Participant 22, occupational therapist).

297 **Priorities during hospitalisation from healthcare providers' perspective:**

298 This theme displayed some interesting sub-themes from the healthcare professionals'  
 299 perspectives: pain; nausea/vomiting; range of motion/ability to mobilise; eating/drinking;  
 300 home environment/support networks; patient safety; patient expectations/education;  
 301 anaesthetic; postoperative environment/care and satisfaction/feeling of well-being.  
 302 'The main issue is pain relief. Second I would put nausea and vomiting, Third I would put is  
 303 mobility, eating and drinking and, although I am not a surgeon, most patients ask me when  
 304 will I be able to go home' (Participant 8, anaesthetist). 'They get nauseated from the  
 305 morphine and things and this can be a bit of a knock on effect' (Participant 5, nurse).  
 306 One participant saw patients who had 'adapted to strong pain relief so managing that is  
 307 something that is very dependent upon the expertise of people who are around at the time and  
 308 how well that is managed. Sometimes if you bring them an ice pack and put it over the  
 309 wound that is just as effective if not more so than a big slug of an opiate analgesia that will  
 310 make you feel horrible' (Participant 10, surgeon).  
 311 Again being able to effectively negotiate the stairs was seen as essential. 'If they need to do  
 312 stairs, some people don't have stairs and say I never come across them and don't do them, but  
 313 yes of course that's important. Sit to stand; you have to be able to get out of a chair. It's the  
 314 whole overall picture' (Participant 18, physiotherapist). 'When you are in hospital you have

315 quite a lot of time on your hands' (Participant 5, nurse). Utilising this time was seen as  
316 important.

317 The home setting and being able to resume activities of daily living upon return home were  
318 also seen as a priority. 'Where they are, what is their home environment, what support  
319 networks do they actually have, the accessibility to shopping, what community support have  
320 they already got in place. Their medical history, their activity levels now, are they already  
321 able to get out shopping and be able to drive again? Being able to do the activities of daily  
322 living—yes—I think that's really important in assessing the patients' (Participant 2, nurse).

323 Other priority issues included variability amongst the type of anaesthetic and anaesthetist. 'In  
324 the post-operative phase the thing you really notice is which anaesthetist you have'  
325 (Participant 4, surgeon). The difference in individual technique and type of anaesthetic given,  
326 general or spinal, were reported to have major impact on patients and their immediate  
327 recovery.

328 Many professionals described the importance of repetition and reinforcement of information  
329 given to patients and families throughout the perioperative period. 'What we do know is that  
330 patients only normally take in about 10% of the information you give them each time you see  
331 them so it is about giving them repetitive information and giving them information in  
332 different forms, not just verbally, but papers or websites and things like that to go to. It's just  
333 about reinforcing; it's very important about reinforcing the same message. I mean that's  
334 where a lot of the difficulty comes, where people start saying slightly different things'  
335 (Participant 15, surgeon).

## 336 **Discussion**

337 Pain has long been seen as a postoperative issue [25]. Many participants in the study  
338 recognised it as the most significant factor in recovery, particularly following knee  
339 replacement. The concept of patients with TKA experiencing more severe pain has been

reported in the literature [26, 27]. In relation to pain management, nurses described their concern for patients receiving the correct medications. Some surgeons noted that it was important to acknowledge individual requirements as one standardised programme does not work for all.

Anxiety as discussed by the participants, has been identified in the early postoperative period, particularly in first few days [28]. This was noted to affect many different aspects of a patients' recovery journey including pain and mobility.

The anaesthetist was seen by other team members to be an important component on the multidisciplinary team. They were also reported to factor, sometimes strongly, in individual patient recovery. In discussion, participants felt, anecdotally, that this was possibly due to a combination of factors. These included regularly caring for this specific patient population, skill as an anaesthetist and bringing a certain art to the science itself. This is in agreement with prior research looking at postoperative recovery challenges [29].

Patient satisfaction is thought to be linked to a higher quality of recovery postoperatively [26]. It has also been shown that how the patient feels can be directly related to their level of satisfaction for the care received [30]. Patient satisfaction and improved outcomes do seem to be related in arthroplasty patients.

Interestingly, similarities were seen among the disciplines in terms of discharge criteria and priorities in care. Work performed by Broos and Fourneau [31] demonstrated the importance of a patients home situation in their recovery and indeed outcomes of surgery following discharge home from hospital or rehabilitation centre. Those with strong networks and families were found to have improved recoveries. Satisfaction in the care and relationship with hospital professionals was reported to improve not only a patients' outcome but how able they felt to deal with things following discharge home [32]. Pain has also been recognised as a cause for delay in discharge and readmission in arthroplasty patients[14].

Participants felt that patients needed reinforcement of their changing requirements to prepare for discharge and the days following. Repetition and printed instructions with specific information including medications, wound care and physical changes assisted with this. This coincides with previous work following arthroplasty surgery [33]. Preoperative education has long been considered to be beneficial in the recovery process and timely discharge of patients following arthroplasty surgery [34], a sentiment which was echoed in these findings. Improvement with function and mobility are some of the key reasons for arthroplasty surgery. Having key skills such as managing the stairs and having confidence in the ability to do so were recognised. The physical recovery paired with self-efficacy that participants observed has been reported in the literature [35].

This study has shown key areas of focus for healthcare professionals in the early postoperative phase: immediate recovery issues, discharge criteria and priorities during hospitalisation from healthcare providers' perspective. A patient's immediate physical symptoms in this peri-anaesthetic phase become the healthcare providers' priority. When these immediate concerns are stabilised and under control, attention then turns to the imminent discharge and ensuring a safe transition into the home area.

### **Study limitations**

The demographic distribution of participants was somewhat mixed. However, it is important to acknowledge that cultural differences may exist between other groups. As this study was carried out in the UK and in an NHS hospital, it may only be applicable in the NHS. The lack of open-ended questions is another limitation. In addition all participants in the study were recruited from and employed by the same institution in the UK. This may be a limitation in terms of external validity.

### **Conclusion and relevance to clinical practice**



Understanding the issues that healthcare providers witness give insight to how best care for the patient. With current trends in healthcare moving towards enhanced early recovery, this work shows key issues for the hip and knee patient directly from the front line. This study has also served as exploratory work in the development of a questionnaire which may be used to assess interventions in the lower limb arthroplasty population. To be able to measure improvement following arthroplasty on patient-reported issues could be of great benefit in clinical trials involving medication, care pathways and implant selection. It could also potentially work to optimise routine care. Patient-identified issues can give vital insights into a patients' perspective through the perioperative experience. It can allow provision of appropriate, safe, timely care and interventions.

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### **Contributions**

Study design: All authors; Data collection and analysis: LHS and LK; Manuscript preparation: LHS.

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### **Conflict of interest**

No conflicts of interests.

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