ORIGINAL STUDY — REVIEW

acta orthopaedica belgica, 2024, 90, 115-122

doi.org/10.52628/90.1.12623

Patients' perspective of fast-track total joint arthroplasty: a systematic review

J. C. VAN EGMOND[1], L. A. DE WERT[1], A. SIEMONS-BEER[2], T. GOSENS[1]

[1]Department of Orthopedic surgery, Elisabeth-TweeSteden Ziekenhuis, Tilburg, The Netherlands; [2]Medical library, Elisabeth-TweeSteden Ziekenhuis, Tilburg, The Netherlands.

Correspondence at: J.C. van Egmond, Elisabeth-TweeSteden Ziekenhuis, Department of Orthopedic surgery, Doctor Deelenlaan 5, 5042 AD, Tilburg, The Netherlands, Phone: +316.232 700 73, Email: vanegmond.jc@gmail.com

The introduction of fast-track protocols decreased length of hospital stay and improved rehabilitation and outcomes in total joint arthroplasty. Despite improved clinical results published in many papers, the patient perspective of these protocols is less investigated. Purpose of this study was to explore the patient perspective of fast-track protocols in arthroplasty. A systematic search for articles of patient experiences in total hip, knee, and shoulder arthroplasty was conducted using EMBASE, MEDLINE, Cochrane, and Web-of-Science for articles published from inception to February 14, 2023. In total 12 studies were included involving 672 patients. Most patients were satisfied with short length of hospital stay and preferred rehabilitation at home with relatives for support. Various experiences were reported regarding pain and postoperative out of hospital physical therapy. Frequently, feelings of insecurity were reported because of lack of personalized information. Based on current qualitative literature, patients are satisfied with short length of hospital stay in fast-track total joint arthroplasty. Improvements in personalized information and physical therapy protocols is needed.

Keywords total joint arthroplasty, patient perspective, fast-track, systematic review.

INTRODUCTION

During the last decades fast-track protocols have been implemented to optimize rehabilitation after primary total hip, knee, and shoulder arthroplasty. As a result, length of hospital stay has been decreased and even hip, knee, and shoulder arthroplasty are feasible in an outpatient setting[1-3]. Various advantages of fast-track rehabilitation have been published including less thromboembolic events[4,5], reduced mobilization under anesthesia for stiffness of the knee[6], lower pain scores with better functional outcome[7,8], and lower risk of postoperative delirium in elderly patients[9,10]. Moreover, fast-track protocols reduce hospital costs[11].

Despite positive clinical outcomes published in many papers, the experience from a patient perspective has been less investigated. This was stressed by the article of Amanatullah et al. 2021 which stated that current quality measures may not fully assess the aspects of care that are important to patients[12].

We believe that the patient perspective is, besides good functional outcomes of the arthroplasty, an important criterion to define the success of fast-track. Therefore, a systematic review has been performed to explore the patient experiences after fast-track hip, knee, and shoulder arthroplasty and to determine possible improvements of fast-track protocols.

MATERIALS AND METHODS

The study protocol was registered in the International Prospective Register of Systematic Reviews (PROSPERO, http://www.crd.york.ac.uk/prospero), prior to the start of the systematic review, with registration number CRD42023432312.

This systematic review was performed based on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) checklist and the PRISMA-S extension to the PRISMA Statement for Reporting Literature Searches in Systematic Reviews[13,14]. A systematic search was developed in EMBASE via Ovid and then translated to other databases. The search was carried out on February 14, 2023 in the databases EMBASE via Ovid, MEDLINE via Ovid, Web of Science Core Collection (Clarivate), and the Cochrane Central Register of Controlled Trials via Wiley. Detailed search strings are presented in appendix 1.

The following elements were used: 1) enhanced recovery after surgery, 2) patient experience, and 3) arthroplasty.

The searches in EMBASE, MEDLINE, and Web of Science were limited to exclude conference papers and animal-only articles. The results were deduplicated using the Bramer method[15]. No study registries were searched, but Cochrane Central retrieves the contents of ClinicalTrials.gov and the World Health Organization's International Clinical Trials Registry Platform.

Inclusion and exclusion criteria were defined a priori. Studies describing patient experiences of fast-track total joint arthroplasty (hip, knee, shoulder) were included. Manuscripts were required to report patient experience after fast-track arthroplasty. Studies reporting only patient satisfaction were excluded. Non-English written articles were excluded.

Potential eligible articles were reviewed independently by two investigators (JE and LW) according to pre-agreed criteria. Discrepancies were resolved by consensus or by consulting of a third reviewer (TG). Finally, citation tracking was performed by manually screening the reference lists of the included studies by one reviewer (JE). No authors were contacted to provide full-text articles, since all included articles were obtained in full-text. The following data were extracted from the included studies: number of patients, arthroplasties, and patient experiences.

Risk of bias assessment was performed by two investigators (JE and LW) to assess the methodological quality of the included studies using the JBI critical appraisal checklist for qualitative research[16].

Quantitative analysis was not possible due to the presence of conceptual heterogeneity among the included studies and mostly qualitative data. A narrative synthesis was therefore performed.

RESULTS

The initial search resulted in 746 articles. After removal of duplicate studies (n=319), 427 were screened based on title and abstract, resulting in 47 eligible studies for full-text review. Finally, 12 articles were included for analysis[17-28]. The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow diagram for systematic reviews is presented in figure 1. In total the 12 articles included 24 total shoulder arthroplasties (TSA), 336 total hip arthroplasties (THA), and 312 total knee arthroplasties (TKA) as presented in table 1.

Early mobilization is a key component in fast-track protocols. Several patients had doubts if it was safe to mobilize early after surgery. However, all patients were able to mobilize shortly after their surgery[17,20].

In the study of Hardy et al. patients preferred the epidural-sedation anesthesia over the spinal anesthesia

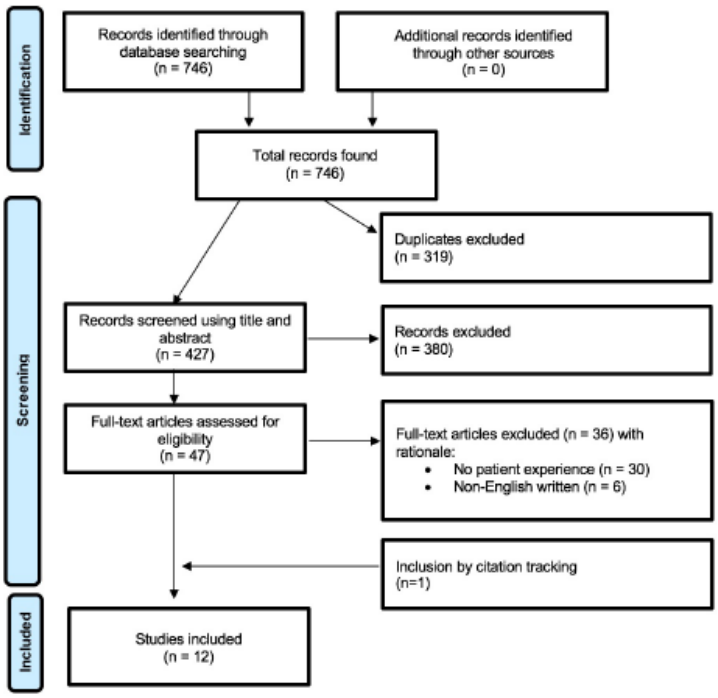

Figure 1. — PRISMA flowchart.

Table I. — Detailed description of included studies

Author, Year	Surgery	Patients (n)	Country	Methodology
Berg et al., 2019 ***(17)***	THA, TKA	13 THA 11 TKA	Sweden	Semi-structured interviews
Cointat et al., 2021 ***(18)***	TSA[§]	24 TSA	France	Interviews
Hardy et al., 2021 ***(19)***	THA, TKA	36 THA 12 TKA	Canada	Qualitative and quantitative analysis by questionnaire
Høvik et al.,2018 ***(20)***	TKA	13 TKA	Norway	Semi-structured focus group interviews
Hunt et al., 2008 ***(21)***	THA	35 THA	United Kingdom	Semi-structured interviews
Jansson et al., 2020 ***(22)***	THA, TKA	9 THA 11 TKA	Finland	Semi-structured interviews
McDonald et al., 2022 ***(23)***	THA, TKA	4 THA 12 TKA	Australia	Semi-structured interviews
Sjøveian et al., 2017 ***(24)***	THA, TKA	6 THA 6 TKA	Norway	Interviews
Specht et al., 2015 ***(25)***	THA, TKA	215 THA 230 TKA	Denmark	Quantitative analysis by questionnaire
Specht et al., 2016 ***(26)***	THA, TKA	4 THA 4 TKA	Denmark	Semi-structured interviews
Specht et al., 2018 ***(27)***	THA, TKA	4 THA 4 TKA	Denmark	Semi-structured interviews
van Egmond et al., 2015 ***(28)***	THA, TKA	10 THA 9 TKA	The Netherlands	Semi-structured focus group interviews

Abbreviations: TKA total knee arthroplasty, THA total hip arthroplasty, TSA total shoulder arthroplasty. [§] 30% hemiarthroplasty and 70% total anatomical or reverse shoulder arthroplasty.

because this was better tolerated with fewer side effects[19]. Moreover, patients have been able to recover faster because of less motor blockade[19].

Patients reported a great variation of experienced pain and concomitant use of medication regardless of type of arthroplasty (THA or TKA), however TKA patients experience more pain than THA[17,20,24,27,28]. Good pain relief was achieved with oral medication and a perineural catheter for three days after shoulder arthroplasty[18].

Patients preferred the opioid sparing pain treatment, since opioids have bothersome side effects such as nausea and vomiting[19,26]. Patients expressed difficulties in dosing and weaning of pain medication[22,26,27].

Most patients accepted discharge the day after surgery since they were properly informed preoperatively[17,19,22,23,25,27,28]. Patient expectations and beliefs are important for the success of short hospital stay[23]. However, not all patients were satisfied with early discharge because of doubts or of worries if everything is good or did not feel secure[17,19,21,23]. Moreover, in the study of Cointat et al. 33% of TSA patients eligible for the study refused same day discharge mostly because of fear of pain[18]. After surgery 75% recommended same-day discharge, reasons for not recommending were pain and apprehension of discharge[18].

Patients described that the extensive preoperative education and information prepared them for early discharge, so preoperative worries were minimized when coming home[20,27]. Although, some patients would have liked to have some sort of follow-up after discharge, since some patients had a feeling of left alone after discharge[27].

No 90-day complications were reported in the study of Cointat et al.[18] In the study of McDonald et al. four patients developed complications in which patients feel that these might have been detected earlier with closer monitoring[23]. In the study of van Egmond et al. two patients had a prolonged hospital stay due to persistent wound leakage[28].

Several patients reported troubles with sleeping during the first weeks after THA and TKA surgery due to sleep positions and pain[24,28].

Patients mentioned that support from a partner, relatives or friends was of great importance during the first weeks at home[17,23,24,27]. Some patients who were living alone used home care services[28]. Despite patients have support at home, they have the feeling of being alone[20].

Patients mentioned that they want to be at home because of good night sleep, lack of interest in the hospital food, and the anxiety-inducing atmosphere in the hospital[19,20,23,26,27]. Satisfaction for the first weeks at home was high in most patients after TKA and THA[25]. Various functional devices have been reported to be self-reliant[24,28]. Some patients mentioned that the anticoagulation medication by subcutaneous injections were difficult and preferred oral medication[28].

The need for postoperative physical therapy was mixed, for some patients it was crucial to be motivated, others preferred to continue the rehabilitation program themselves[17]. Some patients in the study of Hardy et al. recommended even more physical therapy sessions[19]. In both the studies of Høvik et al. and van Egmond et al. local physiotherapy treatment strategies were inconsistent and did not correspond with advices given by the surgeons and physiotherapists in the hospital[20,28]. Performing the exercises at home requires some self-discipline, since patients are responsibility of their recovery after discharge[27]. When treated by a physical therapist patient have less feeling of left alone[27].

Patients reported a feeling of uncertainty regarding the rehabilitation progress at home and concomitant questions if what they experienced was normal, in which more information could be helpful[17]. This was also stressed in the study of Hardy et al. were patients reported that it is important that someone answers their questions and tamper their fears and anxieties[19]. Patients appreciate the possibility to contact the hospital for additional information regarding the wound or a swollen leg, this provided in feeling confident[20,22,28].

Patients recommended personalized information is needed regarding for example pain medication and exercises[22,24]. The need for information and in what level of detail differs between patients[26]. Moreover, when information is incorrect of ambiguous this can give feelings of uncertainty[26]. The opinions for usage of digital information by a computer or applications were divided since some patients were inexperienced with digital information[22].

Most studies scored good on almost all of the ten points of the JBI critical appraisal tool for qualitative research. However, nearly all studies scored less on both points "Is the influence of the researcher on the research, and vice- versa, addressed?" and "Is there a statement locating the researcher culturally or theoretically?". Since the researcher plays an important role in the research process of qualitative studies, this might influence the results of the included studies.

DISCUSSION

In this systematic review we provided a critical analysis of patient experiences of fast-track hip, knee, and shoulder total joint arthroplasty based on the available qualitative studies published.

The most important finding of this present systematic review is that despite most patients are satisfied with short length of hospital stay, improvements in personalized information is needed to make patients more convinced and secure.

To our best knowledge the study of van Egmond et al. 2015 was the first paper qualitatively investigating patient experience of the reduced length of hospital stay and the first period after fast-track arthroplasty[28]. In this study a high satisfaction regarding short hospital stay was found. However, single living patients would like to stay longer in the hospital. Similar findings were described in the qualitative study of Specht et al. 2016[26]. Recently, Hardy et al. 2021 described that fast-track could be further enhanced by optimizing the information provided to the patient, the rehabilitation program, and the coherence between care teams[19].

The findings of our systematic review are in concordance with the systematic review of Jones et al. 2014 who found that fast-track protocols are not compromising patient satisfaction or quality of life after elective hip or knee surgery[29]. Patient satisfaction is a frequently reported outcome in many papers. However, patient satisfaction was not investigated in this present systematic review, because this single outcome measure does not describe the in-depth problems which patients might experience after fast-track arthroplasty. In general, papers which report satisfaction outcomes generally found high satisfaction rates regarding fast-track and reduced length of hospital stay.

In none of the included studies patient expectations were asked. A recent publication of Hafkamp et al. showed that fulfilment of expectations seems to be consistently associated with patient satisfaction[30]. This might not only be appropriate for functional outcome but also for hospitalization duration.

The systematic review of Sibbern et al. 2017 described that patients needed more consistency in the information, improve symptoms management, and needed to be more secure regarding their recovery after enhance recovery programs[31]. Some patients

feel unready or reluctant to be discharged to home shortly after surgery, even though they are physically capable[32,33]. Mostly these doubts can be treated with good information, confidence levels and the presence of family or friends at home had a strong influence on feelings of safety[24,32]. This is an important point to be aware of.

As previous described, fast-track protocols needed more consistency in information provided to the patient[31], this has also been found in a recent analysis of Jansson et al. regarding healthcare professionals experiences of fast-track[34]. The authors concluded that new communication technologies are needed and there might be a role for telerehabilitation as well[35].

Strikingly, most studies combine the outcome assessment of THA and TKA patients, however we presume these patients are two different groups which could not be analyzed as one. The postoperative period after hip- or knee arthroplasty is clearly different and patients facing different problems as is described in the article of van Egmond et al.[28].

Postoperative out of hospital physical therapy needed further improvement on both the need for physical therapy and the sort of therapy. Since patients mentioned that treatment strategies were inconsistent and did not correspond with advices given by the surgeons and physiotherapists in the hospital[20,28]. This was also concluded in other studies, and might be due to a lack of standardized treatment protocols[36,37].

An unexpected and important finding was that patients liked to discuss their experiences in a focus group and described it was it was useful to exchange experiences with others, like a "debriefing"[20,22]. Moreover, patients described the feeling of vulnerability which might be something that patients need to be prepared for preoperatively[20].

In this systematic review we focused on the postoperative trajectory and patient experiences after hospital discharge, however as clearly described in the article of Berg et al. the preoperative phase is as important as well[17]. The preoperative phase might be further optimized with personalized information to comply with the patients' needs.

Strength of this study is the systematic search of qualitative research for patient experiences specifically in fast-track arthroplasty. Moreover, our risk of bias assessment critically evaluated the included studies, which has not been performed in previous published systematic reviews.

There are some limitations to this study, which need to be addressed.

First, in this systematic review patient experiences of rehabilitation after knee-, hip-, and shoulder arthroplasty were included. Recovery after these surgeries is different for each joint and patients facing various problems depending on the type of arthroplasty. Where for example patients with TKA are more painful than THA patients[28], this might interfere analysis of experiences. However, we tried to describe the results separately per arthroplasty.

Second, nevertheless our inclusion criteria were very strictly, studies form many countries were included. Consequently, different fast-track protocols have been used with different set-up, infrastructure, cultures, and patient beliefs. Therefore, analyzing these groups as one group is not valid. However, this review provides an overview of patient perspectives regarding fast-track protocols in general.

Finally, in most included studies patient groups were rather small due to the qualitative study methods. Moreover, qualitative studies can be biased. Combining the outcomes of all studies in a systematic review creates more generalizable results. The study of Specht et al. 2016 and 2018 contains the same patient group, but in the study of 2016, patients were interviewed at discharge and in 2018 at 2 and 12 weeks after discharge, therefore both studies were included[26,27].

CONCLUSION

Fast-track protocols in arthroplasty improves outcomes and reduce length of hospital stay which has been appreciated by most patients. Based on current qualitative literature, improvements in personalized information and physical therapy protocols is needed.

Authors contribution: JE designed the study, supported data collection and data analysis he wrote and critically reviewed the manuscript. LW supported data analysis and critically reviewed the manuscript. AS supported formulating and executing the search strategy and critically reviewed the manuscript. TG designed the study and critically reviewed the manuscript. All authors approved the final version of the manuscript.

Conflict of interest: Each author certifies that there are no funding or commercial associations (consultancies, stock ownership, equity interest, patent/licensing arrangements, etc.) that might pose a conflict of interest in connection with the submitted article related to the author or any immediate family members.

Funding: this research received no external funding

REFERENCES

1. Vajapey SP, Contreras ES, Neviaser AS, Bishop JY, Cvetanovich GL. Outpatient Total Shoulder Arthroplasty: A Systematic Review Evaluating Outcomes and Cost-Effectiveness. JBJS Rev. 2021;9(5).
2. Verdier N, Boutaud B, Ragot P, Leroy P, Saffarini M, Nover L, et al. Same-day discharge to home is feasible and safe in up to 75% of unselected total hip and knee arthroplasty. Int Orthop. 2022;46(5):1019-27.
3. Hartog YM, Mathijssen NM, Vehmeijer SB. Total hip arthroplasty in an outpatient setting in 27 selected patients. Acta Orthop. 2015;86(6):667-70.
4. Husted H, Otte KS, Kristensen BB, Orsnes T, Wong C, Kehlet H. Low risk of thromboembolic complications after fast-track hip and knee arthroplasty. Acta Orthop. 2010;81(5):599-605.
5. Jorgensen CC, Kehlet H, group LFCfF-tHaKrc. Early thromboembolic events </=1week after fast-track total hip and knee arthroplasty. Thromb Res. 2016;138:37-42.
6. Husted H, Jorgensen CC, Gromov K, Troelsen A, Collaborative Group of the Lundbeck Foundation Center for Fast-Track H, Knee R. Low manipulation prevalence following fast-track total knee arthroplasty. Acta Orthop. 2015;86(1):86-91.
7. Larsen K, Sorensen OG, Hansen TB, Thomsen PB, Soballe K. Accelerated perioperative care and rehabilitation intervention for hip and knee replacement is effective: a randomized clinical trial involving 87 patients with 3 months of follow-up. Acta Orthop. 2008;79(2):149-59.
8. Fransen BL, Hoozemans MJM, Argelo KDS, Keijser LCM, Burger BJ. Fast-track total knee arthroplasty improved clinical and functional outcome in the first 7 days after surgery: a randomized controlled pilot study with 5-year follow-up. Arch Orthop Trauma Surg. 2018;138(9):1305-16.
9. Petersen PB, Jorgensen CC, Kehlet H, Lundbeck Foundation Centre for Fast-track H, Knee Replacement Collaborative G. Delirium after fast-track hip and knee arthroplasty - a cohort study of 6331 elderly patients. Acta Anaesthesiol Scand. 2017;61(7):767-72.
10. Krenk L, Rasmussen LS, Hansen TB, Bogo S, Soballe K, Kehlet H. Delirium after fast-track hip and knee arthroplasty. Br J Anaesth. 2012;108(4):607-11.
11. Andreasen SE, Holm HB, Jorgensen M, Gromov K, Kjaersgaard-Andersen P, Husted H. Time-driven Activity-based Cost of Fast-Track Total Hip and Knee Arthroplasty. J Arthroplasty. 2017;32(6):1747-55.
12. Amanatullah DF, Eppler SL, Shah RF, Mertz K, Roe AK, Murasko M, et al. A Qualitative Study of Patient Themes for the Quality of the Total Joint Arthroplasty Experience. Orthopedics. 2021;44(2):117-22.
13. Moher D, Shamseer L, Clarke M, Ghersi D, Liberati A, Petticrew M, et al. Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015 statement. Syst Rev. 2015;4(1):1.
14. Rethlefsen ML, Kirtley S, Waffenschmidt S, Ayala AP, Moher D, Page MJ, et al. PRISMA-S: an extension to the PRISMA Statement for Reporting Literature Searches in Systematic Reviews. Syst Rev. 2021;10(1):39.
15. Bramer WM, Giustini D, de Jonge GB, Holland L, Bekhuis T. De-duplication of database search results for systematic reviews in EndNote. J Med Libr Assoc. 2016;104(3):240-3.
16. Lockwood C, Munn Z, Porritt K. Qualitative research synthesis: methodological guidance for systematic reviewers utilizing meta-aggregation. Int J Evid Based Healthc. 2015;13(3):179-87.
17. Berg U, Berg M, Rolfson O, Erichsen-Andersson A. Fast-track program of elective joint replacement in hip and knee-patients' experiences of the clinical pathway and care process. J Orthop Surg Res. 2019;14(1):186.
18. Cointat C, Gauci MO, Azar M, Tran L, Trojani C, Boileau P. Outpatient shoulder prostheses: Feasibility, acceptance and safety. Orthop Traumatol Surg Res. 2021;107(4):102913.
19. Hardy A, Gervais-Hupe J, Desmeules F, Hudon A, Perreault K, Vendittoli PA. Comparing ERAS-outpatient versus standard-inpatient hip and knee replacements: a mixed methods study exploring the experience of patients who underwent both. BMC Musculoskelet Disord. 2021;22(1):978.
20. Høvik LH, Aglen B, Husby VS. Patient experience with early discharge after total knee arthroplasty: a focus group study. Scand J Caring Sci. 2018;32(2):833-42.
21. Hunt GR, Hall GM, Murthy BV, O'Brien S, Beverland D, Lynch MC, et al. Early discharge following hip arthroplasty: patients' acceptance masks doubts and concerns. Health Expect. 2009;12(2):130-7.
22. Jansson MM, Harjumaa M, Puhto AP, Pikkarainen M. Patients' satisfaction and experiences during elective primary fast-track total hip and knee arthroplasty journey: A qualitative study. J Clin Nurs. 2020;29(3-4):567-82.
23. McDonald CE, Paynter C, Francis JJ, Rodda D, Bajwa S, Jackson D, et al. Exploring patient acceptability of a short-stay care pathway in hospital post arthroplasty: A theory-informed qualitative study. Health Expect. 2022;25(4):2002-14.
24. Sjoveian AKH, Leegaard M. Hip and knee arthroplasty - patient's experiences of pain and rehabilitation after discharge from hospital. Int J Orthop Trauma Nurs. 2017;27:28-35.
25. Specht K, Kjaersgaard-Andersen P, Kehlet H, Wedderkopp N, Pedersen BD. High patient satisfaction in 445 patients who underwent fast-track hip or knee replacement. Acta Orthop. 2015;86(6):702-7.
26. Specht K, Kjaersgaard-Andersen P, Pedersen BD. Patient experience in fast-track hip and knee arthroplasty--a qualitative study. J Clin Nurs. 2016;25(5-6):836-45.
27. Specht K, Agerskov H, Kjaersgaard-Andersen P, Jester R, Pedersen BD. Patients' experiences during the first 12 weeks after discharge in fast-track hip and knee arthroplasty - a qualitative study. Int J Orthop Trauma Nurs. 2018;31:13-9.
28. van Egmond JC, Verburg H, Vehmeijer SB, Mathijssen NM. Early follow-up after primary total knee and total hip arthroplasty with rapid recovery : Focus groups. Acta Orthop Belg. 2015;81(3):447-53.
29. Jones EL, Wainwright TW, Foster JD, Smith JR, Middleton RG, Francis NK. A systematic review of patient reported outcomes and patient experience in enhanced recovery after orthopaedic surgery. Ann R Coll Surg Engl. 2014;96(2):89-94.
30. Hafkamp FJ, Gosens T, de Vries J, den Oudsten BL. Do dissatisfied patients have unrealistic expectations? A systematic review and best-evidence synthesis in knee and hip arthroplasty patients. EFORT Open Rev. 2020;5(4):226-40.
31. Sibbern T, Bull Sellevold V, Steindal SA, Dale C, Watt-Watson J, Dihle A. Patients' experiences of enhanced recovery after surgery: a systematic review of qualitative studies. J Clin Nurs. 2017;26(9-10):1172-88.
32. Heine J, Koch S, Goldie P. Patients' experiences of readiness for discharge following a total hip replacement. Aust J Physiother. 2004;50(4):227-33.
33. Meneghini RM, Ziemba-Davis M. Patient Perceptions Regarding Outpatient Hip and Knee Arthroplasties. Journal of Arthroplasty 2017;32(9):2701-5.
34. Jansson MM, Harjumaa M, Puhto AP, Pikkarainen M. Healthcare professionals' perceived problems in fast-track hip and knee arthroplasty: results of a qualitative interview study. J Orthop Surg Res. 2019;14(1):294.
35. Moore MR, Galetta MS, Schwarzkopf R, Slover JD, Force Writing C. Patient Satisfaction and Interest in Telemedicine Visits Following Total Knee and Hip Replacement Surgery. Telemed J E Health. 2022;28(9):1309-16.

36. Van Egmond JC, Verburg H, Mathijssen NM. The first 6 weeks of recovery after total knee arthroplasty with fast track. Acta Orthop. 2015;86(6):708-13.

37. Klapwijk LC, Mathijssen NM, Van Egmond JC, Verbeek BM, Vehmeijer SB. The first 6 weeks of recovery after primary total hip arthroplasty with fast track. Acta Orthop. 2017;88(2):140-4.

Appendix I – Search strings used in different databases

EMBASE

((enhanced recovery after surgery/ OR fast track.ab,ti OR enhanced recovery.ab,ti OR ERAS.ab,ti OR rapid recovery.ab,ti OR enhanced post-operative recovery.ab,ti OR enhanced postoperative recovery.ab,ti) AND (patient satisfaction/ OR satisfaction.ab,ti OR experience*.ab,ti) AND (exp knee arthroplasty/ OR exp knee replacement/ OR exp knee prosthesis/ OR unicompartmental knee prosthesis/ OR knee replacement*.ab,ti OR knee joint replacement*.ab,ti OR knee arthroplast*.ab,ti OR knee joint arthroplast*.ab,ti OR knee prosthesis.ab,ti OR knee joint prosthesis.ab,ti OR unicompartmental knee prosthesis/ OR unicompartmental knee arthroplast*.ab,ti OR unicompartmental knee joint arthroplast*.ab,ti OR unicompartmental knee replacement*.ab,ti OR unicompartmental knee joint replacement*.ab,ti OR unicondylar knee replacement*.ab,ti OR unicondylar knee joint replacement*.ab,ti OR unicompartimental knee prosthesis.ab,ti OR unicompartimental knee joint prosthesis.ab,ti OR ((exp hemiarthroplasty/ OR hemiarthroplast*.ab,ti OR hemi-arthroplast*.ab,ti) AND (exp knee/ OR knee.ab,ti)) OR exp hip arthroplasty/ or exp hip replacement/ OR exp hip prosthesis/ OR hip replacement*.ab,ti OR hip joint replacement*.ab,ti OR hip arthroplast*.ab,ti OR hip joint arthroplast*.ab,ti OR hip prosthesis.ab,ti OR hip joint prosthesis.ab,ti OR exp shoulder arthroplasty/ or exp shoulder replacement/ OR exp shoulder prosthesis/ OR shoulder replacement*.ab,ti OR shoulder joint replacement*.ab,ti OR shoulder arthroplast*.ab,ti OR shoulder joint arthroplast*.ab,ti OR shoulder prosthesis.ab,ti OR shoulder joint prosthesis.ab,ti)) limit to (human and (embase or medline or "preprints (unpublished, non-peer reviewed)"))

MEDLINE

((Enhanced Recovery After Surgery/ OR fast track.ab,ti OR enhanced recovery.ab,ti OR ERAS.ab,ti OR rapid recovery.ab,ti OR enhanced post operative recovery.ab,ti OR enhanced postoperative recovery.ab,ti) AND (exp Patient Satisfaction/ OR satisfaction.ab,ti OR experience*.ab,ti) AND (Arthroplasty, Replacement, Knee/ OR Knee Prosthesis/ OR knee replacement*.ab,ti OR knee joint replacement*.ab,ti OR knee arthroplast*.ab,ti OR knee joint arthroplast*.ab,ti OR knee prosthesis.ab,ti OR knee joint prosthesis.ab,ti OR unicompartmental knee arthroplast*.ab,ti OR unicompartmental knee joint arthroplast*.ab,ti OR unicompartmental knee replacement*.ab,ti OR unicompartmental knee joint replacement*.ab,ti OR unicondylar knee replacement*.ab,ti OR unicondylar knee joint replacement*.ab,ti OR unicompartimental knee prosthesis.ab,ti OR unicompartimental knee joint prosthesis.ab,ti OR ((hemiarthroplasty/ OR hemiarthroplast*.ab,ti OR hemi-arthroplast*.ab,ti) AND knee.ab,ti) OR Arthroplasty, Replacement, Hip/ OR Hip Prosthesis/ OR hip replacement*.ab,ti OR hip joint replacement*.ab,ti OR hip arthroplast*.ab,ti OR hip joint arthroplast*.ab,ti OR hip prosthesis.ab,ti OR hip joint prosthesis.ab,ti OR Arthroplasty, Replacement, Shoulder/ OR Shoulder Prosthesis/ OR shoulder replacement*.ab,ti OR shoulder joint replacement*.ab,ti OR shoulder arthroplast*.ab,ti OR shoulder joint arthroplast*.ab,ti OR shoulder prosthesis.ab,ti OR shoulder joint prosthesis.ab,ti))

Limit to humans

Web-of-Science

TS=(((“fast track” OR “enhanced recovery” OR ERAS OR “rapid recovery”) AND (satisfaction OR experience*) AND ((“knee replacement*” OR “knee arthroplast*” OR “knee prosthesis” OR “hip replacement*” OR “hip arthroplast*” OR “hip prosthesis” OR “shoulder replacement*” OR “shoulder arthroplast*” OR “shoulder prosthesis” OR “knee joint replacement*” OR “knee joint arthroplast*” OR “knee joint prosthesis” OR “hip joint replacement*” OR “hip joint arthroplast*” OR “hip joint prosthesis” OR “shoulder joint replacement*” OR “shoulder joint arthroplast*” OR “shoulder joint prosthesis” OR “unicompartmental knee prosthesis” OR “unicompartmental knee arthroplast*” OR “unicompartmental knee joint arthroplast*” OR “unicompartmental knee replacement*” OR “unicompartmental

knee joint replacement*" OR "unicondylar knee replacement*" OR "unicondylar knee joint replacement*" OR "unicompartimental knee prosthesis OR" "unicompartimental knee joint prosthesis") OR ((hemiarthroplast* OR hemi-arthroplast*) AND knee))))

NOT Document Types: Proceeding Paper or Meeting Abstract

Cochrane

(("fast track") OR ("enhanced recovery") OR ERAS OR ("rapid recovery") OR ("enhanced post-operative recovery") OR ("enhanced postoperative recovery")):ab,ti,kw AND (satisfaction OR experience*):ab,ti,kw AND ((knee OR knees OR hip OR hips OR shoulder OR shoulders):ab,ti,kw NEAR/3 (arthroplast* OR replacement* OR prosthesis OR hemiarthroplast* OR hemi-arthroplast*):ab,ti,kw)