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Synthesis of the Best Evidence for Perioperative Pain Administration in Patients Having Total Hip Prostheses

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A**bstract:** *Objective:* A methodical compendium of the best evidence on the management of pain in the Perioperative phase in patients undergoing total hip arthroplasty to offer evidence-based support for practice in the clinic. *Methods:* In the 6S pyramid model, we looked for guidelines, clinical decisions, expert consensus, evidence summaries, recommended practices, and systematic reviews of perioperative pain management in total hip arthroplasty patients in domestic and international guideline websites, websites of professional associations, and both English and Chinese data banks from December 16, 2014, to December 16, 2024, to obtain detailed statistics on perioperative patient pain monitoring and management in total hip joint arthroplasty patients, and to check the results of these results from the following sources. Literature quality assessment, evidence extraction, and summarization were done independently by 2 researchers. Literature quality assessment, evidence extraction, and summarization were done independently by 2 researchers. *Results:* A total of 20 papers were included, including 2 clinical decisions, 8 guidelines, 6 expert consensus, 3 Meta-analyses, and 1 randomized controlled trial. Forty pieces of evidence were summarized in six areas: preoperative preparation, principles of analgesic regimen development, choice of anesthesia, pharmacological analgesic modalities, nonpharmacological analgesic modalities, and post-discharge pain management. *Conclusion:* Perioperative pain management for THA patients is necessary, and healthcare professionals can refer to the summarized evidence to improve patients' perioperative pain, increase their postoperative exercise compliance, and accelerate the postoperative recovery process.

Keywords: Total hip replacement; Perioperative pain; Pain management; Summary of evidence

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1. Introduction

Total Hip Arthroplasty (THA) is an effective treatment for end-stage hip diseases [1,2]. With the intensification of population aging, the demand for THA has shown a continuous upward trend [3,4]. Although THA yields

favorable surgical outcomes, perioperative pain remains a major challenge for patients and a critical factor affecting prognosis [5]. As the anesthetic effects gradually wear off postoperatively, patients often experience pain at the surgical incision site. Studies indicate that 27%-38% of patients suffer from persistent pain after surgery, which interferes with daily activities, leads to sleep disturbances, and reduces quality of life [6,7]. Moreover, to alleviate the pressure on healthcare systems and medical institutions caused by the increasing volume of THA procedures, China is promoting same-day THA surgery. However, currently, only a few hospitals can safely perform such procedures under effective analgesia [8]. Therefore, strengthening perioperative pain management for THA is crucial. Although some evidence on pain management exists, it spans a wide range of conditions and remains fragmented and unfocused for THA patients. Most published studies address only a single aspect of pain management (e.g., non-pharmacological therapies) and are outdated, failing to incorporate recent evidence from the past few years. Thus, this study systematically consolidates evidence on perioperative pain management for THA over the past decade based on existing research, aiming to provide a reference for healthcare professionals in developing perioperative pain management protocols for THA patients. This study has been registered with the Fudan University Center for Evidence-Based Nursing (Registration No.: ES20246663).

2. Data and methods

2.1. Formulating the evidence-based question

The evidence-based question was established based on PIPOST [9]:

(1) P (Population): Target population for evidence application – THA patients;
(2) I (Intervention): Intervention methods – perioperative pain management measures;
(3) P (Professional): Evidence users – healthcare professionals or patients;
(4) O (Outcome): Outcome measures – degree of pain relief;
(5) S (Setting): Settings for evidence application – hospitals, rehabilitation centers, etc.;
(6) T (Type of Evidence): Types of evidence – clinical decisions, guidelines, expert consensus, evidence summaries, systematic reviews, etc.

2.2. Literature search strategy

Based on the "6S" pyramid model, a systematic search was conducted across the following databases and websites: UpToDate, BMJ, WHO, International Guideline Collaboration Network, Canadian Ontario Registered Nurses Association website, Scottish Intercollegiate Guidelines Network, New Zealand Guidelines Group, National Guideline Clearinghouse (USA), Medlive Guidelines Network, Australia JBI Evidence-Based Healthcare Database, UK National Institute for Health and Care Excellence (NICE) Guidelines Network, Cochrane Library, EMbase, CNKI, Wanfang Database, VIP Database, Chinese Biomedical Literature Database (CBM), CINAHL, PubMed, Web of Science, American Academy of Orthopaedic Surgeons (AAOS), American Association of Hip and Knee Surgeons (AAHKS), International Association for the Study of Pain (IASP), and Chinese Orthopaedic Association (COA).

The Chinese search terms included: "total hip arthroplasty, hip arthroplasty, hip prosthesis implantation, hip fracture, femoral neck fracture," "pain, pain management, pain intervention," and "guidelines, expert consensus, clinical decision-making, evidence summary, systematic review, Meta-analysis." The English search terms were: "total hip arthroplast / total hip replacement / hip fracture / femoral neck fracture," "pain/ache / pain management

/ pain intervention," and "guideline / consensus / best practice / systematic review / meta-analysis / evidence summary / randomized controlled trial." Since guidelines are typically updated every five years [10], the search timeframe was set from December 16, 2014, to December 16, 2024.

2.3. Literature inclusion and exclusion criteria

Inclusion criteria:

(1) Population: Patients undergoing total hip arthroplasty (THA);

(2) Content: Studies related to pain management in THA;

(3) Study types: Clinical decision-making, guidelines, expert consensus, evidence summaries, systematic reviews, etc.

Exclusion criteria:

(1) Literature for which full text was unavailable;

(2) Non-Chinese or non-English literature;

(3) Literature rated as Grade C in quality assessment [11].

2.4. Literature quality assessment

(1) Clinical decisions & evidence summaries: Evaluated using the CASE (Critical Appraisal Skills Programme for Evidence Summaries) tool [12].

(2) Guidelines: Assessed using the AGREE II (Appraisal of Guidelines for Research & Evaluation II) instrument [13]. Based on standardized domain percentages, guidelines were classified as Grade A (strong recommendation), Grade B (weak recommendation), or Grade C (not recommended). Intraclass correlation coefficient (ICC) was used to assess inter-rater reliability between two researchers.

(3) Expert consensus: Evaluated using the JBI (Joanna Briggs Institute) Critical Appraisal Checklist for Text and Opinion Papers (2016) [14].

(4) Systematic reviews: Assessed using the JBI Critical Appraisal Checklist for Systematic Reviews (2016) [15].

(5) Randomized controlled trials (RCTs): Evaluated using the Cochrane Risk of Bias Tool [16]. Two researchers independently conducted the quality assessments. Discrepancies were resolved through discussion or adjudication by a third researcher.

2.5. Evidence extraction and synthesis

Two researchers thoroughly reviewed the included literature, extracted relevant evidence, and synthesized the findings. The JBI Evidence Hierarchy (2014) [17] was used to initially classify evidence into Levels 1–5, followed by final grading using the GRADE (Grading of Recommendations, Assessment, Development, and Evaluations) system to adjust for evidence quality. The JBI FAME (Feasibility, Appropriateness, Meaningfulness, and Effectiveness) framework was applied to determine Grade A (strong) or Grade B (weak) recommendations.

3. Results

3.1. Basic characteristics of included literature

A total of 5522 articles were retrieved, and 20 articles [18–37] were included after screening. The basic characteristics of the included literature are shown in **Table 1**.

Table 1. Basic characteristics of included literature (n = 20)

Included literature	Year	Source	Type	Topic focus
Edward R Mariano	2024	UpToDate	Clinical Decision	Acute pain management in adults
Enneking et al.	2024	UpToDate	Clinical Decision	Anesthesia for orthopedic trauma surgery
NICE	2020	NICE	Guideline	Joint replacement: hip, knee and shoulder
Hannon et al.	2022	AAOS	Guideline	Corticosteroids in Total Joint Arthroplasty
Anger et al.	2021	IASP	Guideline	PROSPECT guideline for total hip arthroplasty: a systematic review and procedure-specific postoperative pain management recommendations
Fillingham et al.	2020	AAOS	Guideline	Acetaminophen in Total Joint Arthroplasty
Hannon et al.	2020	AAOS	Guideline	Opioids in Total Joint Arthroplasty
Hannon et al.	2022	AAOS	Guideline	Ketamine in Total Joint Arthroplasty
Fillingham et al.	2020	AAOS	Guideline	Nonsteroidal Anti-Inflammatory Drugs in Total Joint Arthroplasty
Hannon et al.	2022	AAOS	Guideline	Periarticular Injection in Total Joint Arthroplasty
Shen Bin et al.	2016	Yimaitong	Expert Consensus	Accelerated Rehabilitation of Hip and Knee Arthroplasty in China - Expert Consensus on Perioperative Pain and Sleep Management
Zhou Zongke et al.	2016	Yimaitong	Expert Consensus	Accelerated Rehabilitation of Hip and Knee Arthroplasty in China - Expert Consensus on Perioperative Management Strategies
Chinese Geriatrics Association	2021	Yimaitong	Expert Consensus	Expert consensus on ERAS in hip/knee replacement perioperative care
Yao Xinmiao et al.	2017	Yimaitong	Expert Consensus	Chinese medicine orthopedics and traumatology clinical diagnosis and treatment guideline-expert consensus on perioperative rehabilitation of artificial hip replacement
Lei Guanghua et al.	2024	Yimaitong	Expert Consensus	Chinese expert consensus on clinical practice of daytime hip arthroplasty
Tian Hongtao et al.	2023	Yimaitong	Expert Consensus	Expert consensus on perioperative management of day surgery for hip and knee replacement in China
Hu et al.	2022	Web of Science	Meta-analysis	Efficacy of quadratus lumborum block for post-THA analgesia
Yang Min et al.	2022	VIP	Meta-analysis	Meta -analysis of postoperative outcomes of patients undergoing hip arthroplasty with transcutaneous electrical acupoint stimulation
Li et al.	2022	Web of Science	Meta-analysis	Non-pharmaceutical treatments to relieve pain or reduce opioid analgesic intake and improve quality of life after total hip replacement: a meta analysis
Steiness et al.	2024	Web of Science	RCT	Non-opioid analgesic combinations following total hip arthroplasty (RECIPE): a randomised, placebo-controlled, blinded, multicentre trial

3.2. Evaluation results of literature quality

3.2.1. Quality evaluation of included clinical decisions

This study ultimately included two clinical decision papers [18,19]. Except for item 4, "Is the search transparent and comprehensive?" and item 5, "Is the grading of evidence clear?", which were evaluated as "No", all other evaluation items were rated as "Yes". The literature quality is high and was approved for inclusion.

3.2.2. Quality evaluation of included guidelines

In this study, a total of 8 guidelines [20–27] were finally included. The ICC of the two researchers was > 0.750, indicating good agreement, and thus they were included. The quality evaluation results are shown in **Table 2**.

Table 2. Quality evaluation results of included guidelines

Guideline	Standardized percentage (%) of scores in each field						≥ 60% Domains (n)	≤ 30% Domains (n)	Grade	ICC
	Scope & Purpose (%)	Stakeholder Involvement (%)	Rigor (%)	Clarity (%)	Applicability (%)	Editorial Independence (%)				
NICE	75.00	83.33	63.54	97.22	75.00	50.00	4	0	A	0.968
Hannon et al.	55.56	36.11	38.54	91.67	22.92	100.00	2	1	B	0.946
Anger et al.	75.00	61.11	61.46	91.67	37.50	100.00	5	0	B	0.759
Fillingham et al.	66.67	58.33	64.58	86.11	43.75	87.50	4	0	B	0.845
Hannon et al.	69.44	72.22	61.46	97.22	66.67	100.00	6	0	A	0.850
Hannon et al.	69.44	72.22	35.42	91.67	27.08	87.50	4	1	B	0.973
Fillingham et al.	72.22	77.78	45.83	88.89	47.92	70.83	4	0	B	0.805
Hannon et al.	80.56	83.33	34.38	77.78	35.42	83.33	4	0	B	0.955

3.2.3. Quality evaluation of included expert consensus

A total of 6 expert consensus papers [28–33] were included in this study. Except for one paper [28] where items 4 and 5 were evaluated as "No" and item 6 as "Unclear", three papers [30,32,33] where item 6 was evaluated as "Unclear", one paper [29] where item 6 was evaluated as "No", and one paper [31] where items 2 and 6 were evaluated as "No", all other evaluation items were rated as "Yes". After the discussion, all papers were included.

3.2.4. Quality evaluation of included meta-analyses

This study included 3 meta-analyses [34–36]. Two meta-analyses [34,35] received "Yes" for all evaluation items. One meta-analysis [36] received "No" for item 1, "Is the proposed evidence-based question clear and specific?" and item 9, "Has the possibility of publication bias been assessed?", but "Yes" for all other items. The overall quality of the literature is high, and all were included.

3.2.5. Quality evaluation of included randomized controlled trials

This study included one randomized controlled trial [37], and all evaluation results for each item were "low risk," indicating high quality of the literature, which was therefore included.

3.3. Evidence summary and classification

Finally, 40 pieces of best evidence were summarized from six aspects: preoperative preparation, principles of

analgesic plan development, selection of anesthesia methods, pharmacologic analgesia, non-pharmacologic analgesia, and pain management after discharge. See **Table 3** for details.

Table 3. Summary of best evidence for perioperative pain management in THA patients

Evidence theme	Evidence content	Evidence level	Recommendation grade
Preoperative Preparation			
1. Patient Assessment	Assess the patient's age, physical and mental condition, medical history, fear/anxiety levels, substance use disorders, pain treatment history, and long-term medication use [18]. Older patients should have stabilized physiological status before surgery [19].	1a	A
2. Pain Assessment	Evaluate joint pain severity and pain tolerance based on medical history and prior medication use [28].	2a	A
3. Pain Assessment Tools	Routinely use the Numeric Rating Scale (NRS) and Visual Analog Scale (VAS). The Defense and Veterans Pain Rating Scale (DVPRS) may also be used. For children and nonverbal adults, use the Faces Pain Scale [18].	1a	A
4. Health Education	Educate patients and families about analgesic plans [18], surgical procedures, potential pain, and preventive measures [28].	1a	A
5. Preoperative Counseling	Preoperative discussions can alleviate patient anxiety and establish a good physician-patient relationship [18].	1a	A
Principles of Analgesia Planning			
6. Perioperative Analgesia	Optimal perioperative analgesia should balance pain control with functional goals while avoiding preventable complications [18].	1c	A
7. Initial Analgesia Strategy	Begin with non-pharmacological therapies, non-opioid analgesics, and appropriate local/regional techniques to avoid excessive perioperative opioid use [18].	1a	A
8. Multimodal Analgesia	Use preoperative multimodal analgesia with reduced opioids [18,19] and postoperative low-opioid multimodal strategies [19].	1a	A
9. Patient Education Materials	Provide written materials (~6th-grade reading level) explaining perioperative multimodal analgesia [18].	1c	B
10. Multimodal Components	Typically includes oral/injectable drugs + nerve blocks + peri-incisional injections, possibly combined with neuraxial anesthesia and patient-controlled analgesia (PCA). Avoid duplicate drug classes [28].	2b	A
11. Preventive & Personalized	Use preventive and individualized analgesia [18].	1a	A
12. Efficacy Monitoring	Regularly assess and adjust preventive analgesia [28].	5b	A
13. Side Effect Monitoring	Monitor pain and treatment side effects, adjusting analgesia as needed [18].	1b	A
Anesthesia Selection			
14. Pre-Anesthesia Evaluation	Establish a dedicated anesthesia clinic for THA outpatients. On surgery day, anesthesiologists should reassess based on prior evaluation [33].	5b	A
15. Regional/General Anesthesia	For primary THA, use regional or general anesthesia with local infiltration analgesia (LIA). Avoid combining nerve blocks with regional/general anesthesia [20].	1c	A
16. Neuraxial Anesthesia	Recommend neuraxial anesthesia for THA unless contraindicated [18,19].	1c	A
17. Local Anesthetic Injection	For primary THA, inject local anesthetics (e.g., ropivacaine) around the joint, possibly with corticosteroids (e.g., betamethasone) and low-dose epinephrine (100–300 μg) [27,30].	1b	A
18. Nerve Block Selection	For THA, lumbar plexus block is preferred [28,30].	5b	B
19. Targeted Nerve Coverage	Post-THA nerve blocks should cover sensory nerves of the anterior hip capsule and acetabulum (e.g., femoral and obturator nerve branches) [19].	1b	A

Table 3 (Continued)

Evidence theme	Evidence content	Evidence level	Recommendation grade
20. Positioning Caution	During nerve blocks or epidural analgesia, position patients carefully to avoid hip subluxation [19].	1a	A
Pharmacological Analgesia			
21. Preoperative Medications	Use acetaminophen or selective COX-2 inhibitors [28-30]. For insomnia/anxiety, consider sedatives or anxiolytics [28,29].	5b	A
22. Preemptive Analgesia	Outpatient THA patients should take oral COX-2 inhibitors 2 hours preoperatively [33].	5b	B
23. Intraoperative Steroids	Intravenous dexamethasone reduces pain but may elevate blood glucose—use cautiously in diabetics [18, 21].	1a	B
24. Postoperative NSAIDs	Post-anesthesia, administer selective COX-2 inhibitors or NSAIDs IV/IM based on pain levels [22,28,30].	2a	A
25. NSAID Caution	Avoid traditional NSAIDs in patients with peptic ulcers, long-term steroid/aspirin use; prefer COX-2 inhibitors [28].	5b	B
26. PCA & Anxiolytics	Postoperatively, consider PCA [29–31] and anxiolytics [28].	5b	A
27. Outpatient PCA Avoidance	Avoid IV/epidural PCA for outpatient THA [33].	2b	A
28. Opioid Management	For severe pain, adjust analgesics or add weak opioids (preferably oral). Monitor closely to avoid dependence [18,28–30].	5b	A
29. Ketamine Use	Low-dose IV ketamine may reduce pain but has side effects; use selectively [18,25].	1c	B
30. Topical Agents	Options include NSAID gels/patches and opioid patches [28].	5b	B
31. Pain Reassessment	Regularly assess resting/movement pain and adjust analgesics to tolerable levels [29].	5b	B
32. Gabapentinoids	Avoid routine use of gabapentinoids for pain relief [18,22].	1b	A
33. Postoperative Monitoring	Monitor pain relief, functional status, and side effects; adjust analgesia accordingly [18].	1a	A
Non-Pharmacological Analgesia			
34. Preoperative Acupressure	Preoperative auricular acupressure or distal acupuncture may improve pain tolerance [30].	5b	B
35. Intraoperative Acupuncture	Intraoperative distal acupuncture may be combined [30].	5b	B
36. Postoperative Cryotherapy	Apply cold therapy, limb elevation, and lymphatic drainage postoperatively [30].	5b	B
37. Acupuncture Points	Postoperative auricular points: Shenmen, Subcortex, Hip, Ashi. Body acupuncture points: BL23, GB29, GB30, GB34, BL40, ST34, ST36, BL57, BL60, Ashi [31].	1c	B
38. Transcutaneous Stimulation	Transcutaneous electrical acupoint stimulation may reduce postoperative pain [35].	2c	B
Post-Discharge Pain Management			
39. Oral Medications	Primary use of selective COX-2 inhibitors or NSAIDs [28].	1a	A
40. Opioid Tapering	Opioid use post-discharge should involve shared decision-making among prescribers, patients, and caregivers, with clear tapering instructions [18].	1a	A

4. Discussion

4.1. Good preoperative preparation is a necessary condition for successful surgery

Patient evaluation is the primary principle of perioperative pain management. Conducting a comprehensive evaluation of patients before surgery not only helps to understand their overall condition but also facilitates the smooth operation of the surgery. Pain evaluation, in particular, assists medical staff in understanding the degree and tolerance of patients' joint pain, thereby enabling the development of more effective analgesic plans. It is important to note that validated pain assessment tools should be used. Currently, the commonly used tools include the Numeric Rating Scale (NRS) and the Visual Analog Scale (VAS). Since THA patients often require evaluation of the severity of pain and its impact on functional status, the Defense and Veterans Pain Rating Scale (DVPRS) can be employed [18]. Additionally, for children and adults who cannot communicate verbally, the Faces Pain Scale can be used, and it is recommended to consistently use the same assessment tool during the perioperative period [18]. However, these assessment tools rely on self-reporting by patients and may be influenced by cultural backgrounds and individual differences, so their limitations should be considered in practical applications. Furthermore, THA patients often experience anxiety and nervousness. Preoperative conversations and educating patients and their families about the surgical process and postoperative recovery plan can alleviate these negative emotions and facilitate the establishment of a good doctor-patient relationship [18,28].

4.2. Rational analgesic regimens and effective anesthesia methods are key to managing perioperative pain in THA

Optimal perioperative analgesic regimens should ensure effective pain relief, achieve functional goals, and avoid various complications. Among them, multimodal analgesia, as a comprehensive analgesic approach, not only reduces over-reliance on single-class drugs, especially opioids, but also shortens the onset time of drugs and prolongs the duration of analgesia [18,28]. It has become the primary analgesic method for THA surgery, requiring multidisciplinary collaboration and strict management processes during implementation, with attention to avoiding repeated use of similar drugs. Preventive analgesia can prevent nociceptive sensitization caused by noxious stimuli at various stages of the perioperative period. Reasonable preventive analgesia can significantly reduce postoperative pain and decrease the amount of opioid medication used [38]. However, due to individual differences in patients' responses to pain and analgesic drugs, it is necessary to evaluate the efficacy of preventive analgesic drugs on time and adjust medications accordingly.

Regarding the choice of anesthesia methods, it is recommended to establish a dedicated anesthesia assessment clinic for THA day surgery. On the day of surgery, the anesthesiologist should refer to the clinic evaluation results and re-evaluate the patient's condition. This dual assessment approach can identify potential risk factors and develop safer anesthesia plans for outpatient surgical patients. Secondly, when selecting anesthesia methods, it is necessary to consider both patient and surgical factors comprehensively. Regional anesthesia or general anesthesia combined with local infiltration analgesia (LIA) is often used [20], which can significantly improve the analgesic effect. For patients without contraindications and special conditions, spinal anesthesia is recommended [18,19]. Local anesthetics can also be injected around the joint to reduce postoperative pain [27,30]. When performing nerve blocks or epidural analgesia postoperatively, operators should carefully position the patient to prevent hip subluxation [19].

4.3. Drug and non-drug analgesia are key components of perioperative pain management

Perioperative drug analgesia for THA typically involves the use of selective COX-2 inhibitors or NSAIDs [28-30]. Additionally, multiple intravenous injections of dexamethasone during surgery can reduce pain, but may

increase postoperative blood sugar levels, so diabetic patients should use it with caution. Currently, there is a lack of research on the specific effects of dexamethasone on joint replacement patients with diabetes, and further exploration is needed on the safety, dosage, and frequency of glucocorticoid administration for this patient population [21]. For patients with a history of peptic ulcer or long-term use of glucocorticoids or aspirin, traditional NSAIDs should be used with caution, and selective COX-2 inhibitors are recommended [28]. Postoperatively, patient-controlled analgesia can be selected as needed [28–30]. However, it should be noted that self-controlled analgesia pumps are not recommended for patients undergoing daytime hip replacement surgery [33], as these devices require longer monitoring and care, which is incompatible with the fast turnaround characteristics of daytime surgery. External medications can also be selected as needed [28]. Postoperatively, patients' pain relief, functional status, and analgesic side effects should be monitored, and analgesia plans should be adjusted accordingly [18].

Non-drug analgesic interventions during the perioperative period [30–31,35] include acupuncture, auricular acupressure, transcutaneous electrical nerve stimulation, postoperative ice packs, and limb elevation. However, these measures have only been initially proven to reduce post-THA pain, and there is a lack of strong evidence to support their use, which limits their application to some extent. Future research is needed to develop more rigorous and standardized non-drug pain interventions for THA patients during the perioperative period.

4.4. Post-discharge pain management for THA: Oral medication as the mainstay, emphasizing regular follow-up and personalized guidance

Due to the short hospital stay for THA patients, most patients recover at home after discharge. Oral medication is more convenient and patient compliance is higher. Therefore, oral medication is the primary method for post-discharge analgesia, mainly selective COX-2 inhibitors or NSAIDs [28]. The decision to use opioid medication is made jointly by the prescribing doctor, patient, and caregiver, adjusted according to the patient's condition, with clear guidance on reduction and discontinuation [18]. Additionally, primary hospitals lack dedicated rehabilitation nurses, and patients often lack professional rehabilitation guidance after discharge. As recovery progresses, the level and nature of postoperative pain may change, requiring regular assessment and adjustment of analgesic regimens by medical staff. Therefore, regular follow-up and providing personalized analgesia and rehabilitation guidance are crucial. Furthermore, exploring more non-pharmacological interventions to develop more efficient, safe, and economical outpatient pain management strategies can improve THA patients' rehabilitation effectiveness and quality of life.

4.5. Innovations and limitations of this study

This study focuses on a specific topic, summarizing relevant content from various guidelines, covering perioperative pain management, incorporating the latest evidence, and adding content related to daytime THA patients. However, as daytime THA is still in its infancy stage in China [39], there are few related studies and published papers, and the available evidence is limited. Future research should consider China's socio-medical conditions, studying the necessary conditions, clinical efficacy, and economic benefits of daytime THA to provide guidance for domestic practices.

5. Conclusion

This study summarizes the relevant evidence for perioperative pain management in THA patients, providing a

basis for medical staff to formulate relevant plans. When applying these findings, medical staff should consider domestic clinical situations, the actual medical environment, patient wishes and preferences, and fully evaluate the feasibility and suitability of each evidence item to carry out evidence-based transformation and application.

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Disclosure statement

The authors declare no conflict of interest.

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