*[Note to authors: Additional guidance provided below in blue. Please resolve and delete blue text prior to submission. For further information, refer to* [*the JBI Manual for Evidence Synthesis*](https://jbi-global-wiki.refined.site/space/MANUAL/355862497/10.+Scoping+reviews) *and the* [*Manuscript style and preparation guidelines*](https://journals.lww.com/jbisrir/Pages/IFAs_Manuscript_style_preparation_guidelines.aspx)*. Please also refer to the* [*pre-submission checklist*](#N1004B) *at the end of this template.]*

**Review title**

#Concept# #Population# #Context#:a scoping review protocol

The return to physical activity for children and adolescents post-legg calve perthes and slipped capital femoral epiphysis: a scoping review protocol

*[maximum 25 words;* *ensure the title reflects the core elements of the inclusion criteria; do not phrase as questions or conclusions*]

# Abstract<level 1 heading>

*[maximum 250 words]*

### Objective: *[State an overarching review objective structured using the key components of the inclusion criteria (approximately one or two sentences)]*

The goal of this study is to consolidate the current literature examining the return to physical activity for children and adolescents post radiographic recovery from slipped capital femoral epiphysis (SCFE) and Legg-Calve-Perthes Disease (LCPD).

### Introduction: *[Briefly describe the rationale for the review in light of what is already known on the topic (approximately two to three sentences).]*

Recent evidence has shown that a vast majority of orthopaedic surgeons believe school-aged patients should return to physical activity (PA) after their hip conditions have healed. However, there is a lack of consensus or evidence-based guidelines to inform surgeon and therapist recommendations regarding the return to PA type, intensity, duration or any persistent PA restrictions. As most Canadian and global children and youth fail to meet the recommended 60 minutes of daily moderate vigorous PA (MVPA), it is suspected that children and youth who have recovered from these hip pathologies are at greater risk of failing to meet MVPA guidelines since their PA was restricted during active hip disease states. There exists a paucity of literature surveilling MVPA and PA habits of children and youth once they have recovered. Engaging in the recommended daily MVPA is associated with many physical health, mental health and social health benefits; thus, there is a critical need to closely examine PA patterns of those recovered from LCPD and SCFE to inform clinical recommendations.

**Inclusion criteria:** *[Summarize the inclusion criteria and highlight any relevant exclusions in paragraph format. Present the information in one to three sentences –* ***NOT*** *under individual subheadings.]*

### Methods: *[List the key information sources to be searched and any limits placed on the scope of the search (eg, language; publication date). Briefly describe the approach to study selection data extraction (without naming the tools to be used) and analysis of the evidence and presentation of the results.]*

**Review registration:** Open Science Framework *[add OSF number or equivalent]*

### Keywords: *[List a maximum of 5 keywords in alphabetical order, separated by a semi-colon and a space. Note: these are for the purposes of meta-data and indexing, and not related to the search strategy. Keywords are not part of the abstract.]*

### *JBI Evid Synth ????;??(?):??-?? [publisher use only]*

**Abstract word count:** *[report the total abstract word count (maximum 250 words)]*

**Total manuscript word count:** *[report the total manuscript word count excluding the abstract, references and appendices (maximum 2500 words).]*

# Introduction<level 1 heading>

*[Approximately 1000 words]*

*[Describe the rationale for the review in light of what is already known on the topic, including information that supports and justifies the selection of inclusion criteria. Some indication that there is evidence available that will meet your inclusion criteria should be provided. Key terms should be defined and any operational definitions pertinent to the conduct of the review clearly articulated. Some indication that there are existing scoping reviews, systematic reviews, research syntheses, and/or primary research papers available on the topic, supporting the rationale to conduct the scoping review should be provided. The reason and importance for undertaking the scoping review should be clearly stated together with what the scoping review is intended to inform.]*

[Background on disease prevalence, maybe some shared characteristics]

Legg-Calve-Perthes Disease (LCPD), Slipped Capital Femoral Epiphysis (SCFE), and Developmental Dysplasia of the Hip (DDH) are three of the most common pediatric hip conditions treated by orthopedic surgeons.

[LCPD description and criteria for healing]

LCPD affects approximately 10.8 in every 100,000 children. It is characterized by avascular necrosis of the capital femoral epiphysis of the femoral head. While exact causes are not well understood, repetitive damage to the developing femoral head is thought to contribute. Treatment of LCPD is centered around containment of the femoral epiphysis and preventing deformity of the femoral head. [Some description of healing/what constitutes “healed” here]

[SCFE]

SCFE is thought to have an incidence between 0.33 to 24.58 per 100,000 children. It is characterized by displacement of the femoral head from the femoral neck at the proximal epiphyseal growth plate. Treatment is typically operative and focuses on prevention of further displacement of the epiphysis and prevention of osteonecrosis. [Some description of healing/what constitutes “healed” here]

[DDH]

DDH describes a set of hip conditions ranging from instability to a full hip dislocation. In the UK and US the incidence of DDH is thought to be around 10 per 1000 live births, with particularly high variance between racial groups. Treatment focuses on establishing an ideal environment for growth of the femoral head and acetabulum, with abduction splinting being common in patients with DDH identified earlier in life, and open reductions being more common later in life. [Some description of healing/what constitutes “healed” here]

[Benefits of exercise/ consequence of not exercising]

Canada’s 24-Hour Movement Guidelines for physical activity in children aged 5-17 years includes 60-min of moderate to vigorous physical activity daily. Health benefits of complying with these guidelines are well-founded, especially in previously sedentary people. Adequate physical activity plays a role in both primary and secondary prevention cardiovascular disease, type-2 diabetes, and all-cause mortality, and management of other chronic illnesses. Physical fitness in children is also associated with reduced risk of depression, anxiety, and ADHD.

[PA restriction in patients with hip conditions]

Restriction of physical activity is commonly prescribed during the active stages of many hip pathologies. Once these patients have healed, orthopedic surgeons normally lift these restrictions. However, with little literature available on the dose, type, and intensity of exercise that would be appropriate for these patients, there is considerable variability in the recommendations given to patients. When surveyed, there has even been controversy among orthopedic surgeons as to whether they believe PA may compromise the hip joint and possibly lead to osteoarthritis.

[Tying everything together]

There is hence a need for a scoping literature review to consolidate and summarize literature around a return to PA for hip patients and identify gaps in research.

A preliminary search of PROSPERO, MEDLINE, the Cochrane Database of Systematic Reviews, and *JBI Evidence Synthesis* was conducted and no current or in-progress scoping reviews or systematic reviews on the topic were identified.

*[If there are any existing systematic reviews or scoping reviews, it should be specified how the proposed review will differ.]*

*[Conclude with an overarching review objective that captures and aligns with the core elements/mnemonic (i.e. PCC) of the inclusion criteria.]*

# Review question(s) <level 1 heading>

What #concept# in #participants# in #context#?

1. What evidence is there to support concerns about a return to physical activity compromising the hip joint after healing in children with hip pathologies?
2. What types and what durations of physical activity are best suited for children with hip pathologies after healing?
3. What considerations should be made when discussing a return to physical activity in pediatric patients with hip conditions?

*[Add additional review sub-questions if they expand on the information presented above, or provide further detail on specific elements of the review, such as particular attributes of context, population or concept for your review.]*

# Inclusion criteria<level 1 heading>

## Participants<level 2 heading>

This scoping review will consider studies that include human patients aged below 18 years with LCPD, SCFE, or DDH that are otherwise typically developing. Studies focusing on athletes with these hip conditions will also be included.

## Concept<level 2 heading>

This review will consider studies that explore PA in children after they have undergone and healed from treatment for their hip condition. Treatment in this case will include both surgical and non-surgical treatment and management of the condition… [Maybe some descriptions of how we are defining “healed for different conditions]

*[This may include details that pertain to elements that would be detailed in a standard systematic review, such as the “interventions” and/ or “phenomena of interest” and/or “outcomes”.]*

## Context<level 2 heading>

This review will consider studies regardless of country of origin. Non-English articles will not be included in the review.

*[Consider cultural/sub-cultural factors, geographic location, specific racial or gender-based interests or details about the specific setting.]*

## Types of sources<level 2 heading>

*[Edit set text as appropriate:]*

This scoping review will consider quantitative, qualitative, and mixed methods study designs for inclusion. In addition to primary literature, this review will consider scoping, systematic, and narrative reviews, as well as case reports, meta-analyses, editorials, commentary pieces.

# Methods<level 1 heading>

The proposed scoping review will be conducted in accordance with the JBI methodology for scoping reviews #insert a superscript citation to the relevant chapter of the *JBI Manual for Evidence Synthesis* chapter and add this to the reference list <eg, Peters MDJ, Godfrey C, McInerney P, Munn Z, Tricco AC, Khalil H. Scoping reviews. In: Aromataris E, Lockwood C, Porritt K, Pilla B, Jordan Z, editors. JBI Manual for Evidence Synthesis [internet]. JBI; 2024 [cited YYYY MMM DD]. Available from: https://synthesismanual.jbi.global.>#, and in line with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) #insert superscript citation to Tricco AC, Lillie E, Zarin W, O’Brien KK, Colquhoun H, Levac D, et al. PRISMA extension for scoping reviews (PRISMA-ScR): checklist and explanation. The PRISMA-ScR Statement. Ann Intern Med. 2018;169(7):467-73>#. This protocol has been registered in [include OSF number or equivalent].

## Search strategy<level 2 heading>

*[Edit set text as appropriate:]*

The search strategy will aim to locate both published and unpublished primary studies, reviews, and text and opinion papers #modify as appropriate#. An initial limited search of #MEDLINE (PubMed) and CINAHL (EBSCOhost) #modify as appropriate# was undertaken to identify articles on the topic. The text words contained in the titles and abstracts of relevant articles, and the index terms used to describe the articles, were used to develop a full search strategy for #report the name of the relevant database and platform (eg, CINAHL (EBSCOhost))# (see Appendix #I, II, III#). The search strategy, including all identified keywords and index terms, will be adapted for each included information source. *[Modify as appropriate:]* The reference lists of articles#selected for full text review# #included in the review#will be screened for additional papers.

Articles published in #insert language(s)# will be included *[If language limitations, justify]*. Articles published from #database inception/or insert date# to the present will be included as #justify date range#.

*[List all information sources (eg, electronic databases, contact with study authors etc.)]* The databases to be searched include #insert databases with platforms as appropriate (eg, CINAHL (EBSCOhost))#. Sources of unpublished studies and gray literature to be searched include #insert text#*.*

## Study/Source of evidence selection<level 2 heading>

*[Edit set text as appropriate:]*

Following the search, all identified records will be collated and uploaded into #insert the name of the bibliographic software or citation management system eg, EndNote #insert version# (Clarivate Analytics, PA, USA).# *[Provide name in-text only – do not add a reference to this in the Reference list.]* and duplicates removed. Following a pilot test, titles and abstracts will then be screened by 2 independent reviewers for assessment against the inclusion criteria for the review. Potentially relevant papers will be retrieved in full and their citation details imported into the JBI System for the Unified Management, Assessment and Review of Information (JBI SUMARI; JBI, Adelaide, Australia). *[insert superscript citation to JBI SUMARI paper and add it to the reference list, eg, <Munn Z, Aromataris E, Tufanaru C, Stern C, Porritt K, Farrow J. The development of software to support multiple systematic review types: the Joanna Briggs Institute System for the Unified Management, Assessment and Review of Information (JBI SUMARI). Int J Evid Based Healthc. 2019;17(1):36-43.>]* The full text of selected citations will be assessed in detail against the inclusion criteria by 2 independent reviewers. Reasons for exclusion of full-text papers that do not meet the inclusion criteria will be recorded and reported in the scoping review. Any disagreements that arise between the reviewers at each stage of the selection process will be resolved through discussion or with a third reviewer. The results of the search will be reported in full in the final scoping review and presented in a PRISMA flow diagram #insert superscript citation to Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Goffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ. 2021;372:n71>#.

## Data extraction<level 2 heading>

*[Edit set text as appropriate:]*

Data will be extracted from papers included in the scoping review by 2 independent reviewers using a data extraction tool developed by the reviewers. The data extracted will include specific details about the #population#, #concept#, #context#, #methods# and #key findings# relevant to the review question. *[Provide a superscript citation to the data extraction tool used and add it to the reference list or append the data extraction tool if an existing tool has been modified or a new tool developed.]* A draft extraction tool is provided (see Appendix #I, II, III#). *[Modify if other processes will be used for your review.]* The draft data extraction tool will be modified and revised as necessary during the process of extracting data from each included paper. Modifications will be detailed in the full scoping review. Any disagreements that arise between the reviewers will be resolved through discussion or with a third reviewer. Authors of papers will be contacted up to [#] times to request missing or additional data, where required.

## Data analysis and presentation<level 2 heading>

# *[Guidance for authors: The evidence presented should directly respond to the review objective and question(s). The data is commonly presented graphically or in diagrammatic or tabular form. Preparation of the review protocol is the opportunity for authors to pilot and determine how to best present their data or map and provide detailed description for the reader. Insert information on data presentation/mapping techniques, if any. A narrative summary will accompany the tabulated and/or charted results and will describe how the results relate to the reviews objective and question/s.]*

# References<level 1 heading>

*[Maximum 30 references]*

*[List a maximum of 30 references using the Vancouver style in the order they appear. The first six authors have been listed followed by et al. The journal names have been abbreviated and the year, volume, issue and first and last page numbers have been included. References* ***DO NOT*** *include the month of publication (eg, Jan), DOIs or PMID numbers. For further guidance and examples, please refer to the* [*Manuscript Style and Preparation Guidelines*](http://edmgr.ovid.com/jbisrir/accounts/ifauth.htm)

Example of a journal reference: Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ. 2021;372:n71.

Example of an online reference: Peters MDJ, Godfrey C, McInerney P, Munn Z, Tricco AC, Khalil H. Chapter 11: Scoping reviews. In: Aromataris E, Lockwood C, Porritt K, Pilla B, Jordan Z, editors. JBI Manual for Evidence Synthesis [internet]. JBI; 2024 [cited YYYY MMM DD]. Available from: [https://synthesismanual.jbi.global](https://synthesismanual.jbi.global/).]

# Appendix I: Search strategy<level 1 heading>

*[Present a full search strategy for one electronic database including planned limits, such that it can be reviewed and repeated. The search strategy should detail the following information: the name of the information source and the platform/service provider used to search the particular database, eg, CINAHL (via Ovid); all the search terms to be used (both keywords/text words and index terms should be included) and how they are to be combined using Boolean logic; the use of truncation and wildcards; all planned limits (date, language, etc.); and the number of records retrieved by the search.]*

## #Insert name of database (insert name of the platform/service provider), eg, MEDLINE (Ovid)#. <level 2 heading>

Search conducted on#month, day, year#*.*

*[Example]*

|  |  |  |
| --- | --- | --- |
| **Search** | **Query** | **Records retrieved** |
| #1 | Stillbirth\*[tw] OR Stillborn\*[tw] OR Still-birth\*[tw] OR Still-born\*[tw] OR Fetal death\*[tw] OR Foetal death\*[tw] OR Fetus death\*[tw] OR Foetus death\*[tw] OR Intrauterine death\*[tw] OR Utero death\*[tw] OR Perinatal death\*[tw] OR Antepartum death\*[tw] OR Antenatal death\*[tw] OR Intrapartum death\*[tw] OR Prenatal death\*[tw] OR "Stillbirth"[Mesh] OR "fetal death"[Mesh] OR "Perinatal Mortality"[Mesh] | 43,049 |
| #2 | Psychosocial[tiab] OR Psycholog\*[tiab] OR Psychotherap\*[tiab] OR Psychopath\*[tiab] OR Social[tiab] OR Griev\*[tiab] OR Grief[tiab] OR Anxiety[tiab] OR Emotion\*[tiab] OR Wellbeing[tiab] OR Well-being[tiab] OR Mourn\*[tiab] OR Depressi\*[tiab] OR Bereave\*[tiab] OR Guilt[tiab] OR Cope\*[tiab] OR Coping[tiab] OR Stress\*[tiab] OR "Counseling"[Mesh] OR "Aftercare"[Mesh] OR "Social Support"[Mesh] OR "Adaptation, Psychological"[Mesh] OR "parents/psychology\*"[Mesh] OR "mothers/psychology\*"[Mesh] OR "Women/psychology"[Mesh] OR "Parent-Child Relations"[Mesh] OR Professional-Patient Relations\*[Mesh] OR "Fathers/psychology"[Mesh] OR "Depression"[Mesh] OR "Depressive Disorder, Major"[Mesh] OR "Emotions"[Mesh] OR "Anxiety"[Mesh] | 2,284,162 |
| #3 | #1 AND #2 | 3609 |
| Limited to #date, language limits etc.# | |  |

# Appendix II: Draft data extraction instrument<level 1 heading>

*[Only append the JBI or non-JBI data extraction instrument if the standardized tool has been modified in any way, otherwise simply cite the tool used in the text. Any modifications made to the instrument should also be described in the text.]*

# Pre-submission checklist

Before you submit your manuscript, please ensure you have complied with the following requirements (more guidance can be found in the [Manuscript style and preparation guidelines](https://journals.lww.com/jbisrir/Pages/IFAs_Manuscript_style_preparation_guidelines.aspx)):

* Utilized JBI methodology, and reported any deviations from the JBI approach.
* Followed all guidance within this template, identified by blue text.
* Used [JBI SUMARI](https://www.jbisumari.org/) or the appropriate corresponding template in your manuscript
* Created a cover letter and title page (information regarding the review registration number [eg, osf.io], acknowledgments, funding and conflict of interest to be included in the title page).
* Removed author names and affiliations from the body of the manuscript.
* All authors have completed a copyright transfer agreement (Note: manuscripts are not processed until these forms have been submitted).
* Included maximum of five (5) keywords and that they are presented in alphabetical order, separated by semicolons.
* Checked your manuscript complies with word counts and they are reported where required.
* Included no more than approximately six (6) [tables and/or figures](https://journals.lww.com/jbisrir/Pages/IFAs_Manuscript_style_preparation_guidelines.aspx). Tables and figures should be uploaded as separate documents (except the Summary of Findings) and in-text placement indicated (eg, <insert table 1 here>. Ensure your table or figure has a title that succinctly describes the table or figure in an appropriate manner. The number of tables should be kept below approximately six (6).
* Obtained any [copyright permissions](https://journals.lww.com/jbisrir/Pages/IFAs_Copyright_Permissions.aspx) for third-party content (including tables and figures where required)
* Used Vancouver style for references (maximum 30) and that all citations appear in sequential order. Journal names are to be abbreviated using the National Library of Medicine’s Journals in [NCBI databases](http://www.ncbi.nlm.nih.gov/nlmcatalog/journals%20).
* Included a full search strategy in the appendices, complete with search date and number of hits returned.
* Included the platforms for any databases to be searched (eg, MEDLINE [PubMed]).