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The effect of local anaesthetic and adrenaline injection on pain relief after a total hip replacement

Submission date
09/02/2026

Recruitment status
No longer recruiting

Registration date
14/04/2026

Overall study status
Completed

Last Edited
14/04/2026

Condition category
Musculoskeletal Diseases

[ ] Prospectively registered
[ ] Protocol
[ ] Statistical analysis plan
[ ] Results
[ ] Individual participant data
[X] Record updated in last year

Plain English summary of protocol

Background and study aims
Pain relief medications after a hip replacement can come in different modalities. A particular technique used by surgeons is the use of an injection used during the surgery around the hip joint. This injection is a combination of local anaesthetic with adrenaline. It's use is well-established in total knee replacement. However, it’s role in total hip arthroplasty is not fully understood. This leads to discrepancies in practice between surgeons. To date there have been low quality, small, randomised control trials with conflicting results. Additionally, there has been no established protocol described in these studies for the delivery of the peri-articular injection.

This study will aim to determine the effects of the injection on post relief after a total hip replacement. The injection will be given according to an agreed protocol amongst the surgeons. Pain control will be measured by asking patients questions from the International Paion Outcomes questionnaire. This will be recorded at 2 different time-points; 24 hours and 48 hours after the operation. Additionally, opioid consumption throughout the patients stay in hospital will also be assessed (measuring Morphine Milligram Equivalents) to determine additionally pain relief requirements.

Who can participate?
Patient over 18 years old with osteoarthritis who have been scheduled for total hip arthroplasty. Patients under 18 years old, patients with cognitive impairment, previous diagnosis of a pain syndrome, patient’s undergoing bilateral total hip arthroplasty or revision total hip arthroplasty will not be able to take part.

What does the study involve?
Patients undergoing total hip arthroplasty under spinal anaesthetic will be randomised into 2 groups; A & B. Group A will receive a periarticular injection which will be administered to the agreed protocol. Group B will not receive the periarticular injection. Patients will be consented on the morning of their surgery and will be provided with a patient information leaflet. Only

surgeons who perform posterior approach total hip arthroplasty will be included to minimise confounding factors between patients. Additionally, patients will all be given the standard post-operative analgesia and physio regime.

What are the possible benefits and risks of participating?
The use of local anaesthetic can have rare side effects such as nausea, vomiting, dizziness, headache.

Where is the study run from?
The study is being carried out at the National Orthopaedic Hospital Cappagh in Dublin (Ireland)

When is the study starting and how long is it expected to run for?
Octovber 2025 to April 2026.

Who is funding the study?
The study is funded by Consultant Innovation Funding from the Health Service Executive (Ireland)

Who is the main contact?
Mr James Cashman, Consultant Orthopaedic Surgeon at the National Orthopaedic Hospital Cappagh, james.cashman@gmail.com

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Study information

Scientific Title
PANTHER trial: Efficacy of peri-articular injection in total hip replacement for pain relief. a single-centre, double-blinded randomised controlled trial

Acronym
PANTHER

Study objectives

Ethics approval required
Ethics approval required

Ethics approval(s)
approved 24/09/2025, National Orthopaedic Hospital Cappagh Research Ethics Committee (National Orthopaedic Hospital Cappagh, Cappagh Rd, Finglas, Dublin, D11EV29, Ireland; +353 1 814 0400; mary.byrne@nohc.ie), ref: NOHC-2025-ETH-MB-CEO-383

Primary study design
Interventional

Allocation
Randomized controlled trial

Masking
Blinded (masking used)

Control
Placebo

Assignment
Parallel

Purpose
Treatment

Study type(s)

Health condition(s) or problem(s) studied
Pain relief for patients undergoing a total hip replacement for osteoarthritis.

Interventions

Patients undergoing total hip arthroplasty under spinal anaesthetic were recruited for the study and prospectively randomised into groups; A & B. Treatment allocations were randomised using sealed opaque envelopes. Group A will receive the periarticular injection which will be administered to the agreed protocol by the surgeon during the procedure. The protocol for administrating the periarticular injection is as follows; 50ml anterior to the acetabular cup, 50ml to the psoas compartment and 50ml to the subcutaneous tissues. Group B will not receive the periarticular injection. Patients will be consented on the morning of their surgery and will be provided with a patient information leaflet. Only surgeons who perform posterior approach total hip arthroplasty will be included to minimise confounding factors between patients. Additionally, both groups of patients will all be given the standard post-operative analgesia and physio regime. Both groups of patients will be followed-up until discharge from hospital.

Intervention Type
Drug

Phase
Not Applicable

Drug/device/biological/vaccine name(s)
Chirocaine 5mg/ml solution for injection/concentrate for solution for infusion. Chirocaine 7.5mg /ml solution for injection/concentrate for solution for infusion. 0.9% w/v Sodium Chloride Injection BP. Adrenaline (Epinephrine) 1:1,000 Solution for Injection.

Primary outcome(s)
1. International Pain Outcomes questionnaire measured using numeric pain rating scale (0-10, 0-100%) and binary Yes/No answers at 24 hours and 48 hours post-operatively

2. Opioid Consumption measured using milligrams morphine equivalents from patient records at time of discharge

Key secondary outcome(s))
1. Length of stay measured using number of days as in-patient from patient records at time of discharge

2. Time to physio discharge measured using number of days from patient records at time of physio discharge

3. Blood loss measured using millilitres of blood loss from patient records at time of operation

Completion date
01/05/2026

Eligibility

Key inclusion criteria
Patient over 18 years old with osteoarthritis who have been scheduled for total hip arthroplasty

Healthy volunteers allowed
No

Age group

Mixed

Lower age limit
18 years

Upper age limit
100 years

Sex
All

Total final enrolment
0

Key exclusion criteria
1. Patients <18 years old
2. Patients with cognitive impairment
3. Previous diagnosis of a pain syndrome
4. Patient’s undergoing bilateral total hip arthroplasty or revision total hip arthroplasty

Date of first enrolment
01/10/2025

Date of final enrolment
01/04/2026

Locations

Countries of recruitment
Ireland

Study participating centre
National Orthopaedic Hospital Cappagh
National Orthopaedic Hospital Cappagh, Cappagh Rd, Finglas, D11 EV29
Ireland

Sponsor information

Organisation
Health Service Executive

ROR
https://ror.org/04zke5364

Funder(s)

Funder type

Funder Name
Health Service Executive

Alternative Name(s)
Ireland's Health Services, Feidhmeannacht na Seirbhíse Sláinte, HSE

Funding Body Type
Government organisation

Funding Body Subtype
National government

Location
Ireland

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Not expected to be made available

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Other files	Consent form		09/02/2026	No	No
Participant information sheet			09/02/2026	No	Yes