

The short- and long-term effects of perioperative gabapentin use on functional, rehabilitation and pain outcomes following total knee arthroplasty: a randomised, double-blind, placebo-controlled trial

Submission date 03/10/2005	Recruitment status No longer recruiting	<input checked="" type="checkbox"/> Prospectively registered <input type="checkbox"/> Protocol
Registration date 25/10/2005	Overall study status Completed	<input type="checkbox"/> Statistical analysis plan <input type="checkbox"/> Results
Last Edited 13/06/2014	Condition category Signs and Symptoms	<input type="checkbox"/> Individual participant data <input type="checkbox"/> Record updated in last year

Plain English summary of protocol

Not provided at time of registration

Contact information

Type(s)

Scientific

Contact name

Dr Joseph Kay

Contact details

Department of Anesthesia M3-200
Sunnybrook Health Sciences Centre
2075 Bayview Ave.
Toronto
Canada
M4N 3M5
+1 416 480 4798
joseph.kay@utoronto.ca

Additional identifiers

Protocol serial number

N/A

Study information

Scientific Title

Study objectives

Perioperative gabapentin is effective in improving in-patient rehabilitation in the acute postoperative period at 6 weeks and possibly 3 months after Total Knee Arthroplasty (TKA) and reduces pain scores associated with rehabilitation.

Ethics approval required

Old ethics approval format

Ethics approval(s)

Ethics approval was received from the local medical ethics committee before trial recruitment began

Study design

Randomised controlled trial

Primary study design

Interventional

Study type(s)

Treatment

Health condition(s) or problem(s) studied

Rehabilitation medicine and perioperative pain control

Interventions

Patients will either receive perioperative gabapentin (n = 92) for five perioperative days or placebo pills (n = 92) for the intervention period within a multimodal analgesic regimen.

Therefore, patients will be given either placebo or gabapentin 600 mg two hours prior to surgery and then either placebo or gabapentin 200 mg twice daily starting 8 hours after their Pre-Operative Dose (POD).

Intervention Type

Drug

Phase

Not Applicable

Drug/device/biological/vaccine name(s)

Gabapentin

Primary outcome(s)

1. Does perioperative gabapentin administration positively influence early rehabilitation and recovery of physical function? If so, are these effects maintained at 6 weeks and 3 months post surgery?

2. Does perioperative gabapentin administration reduce postoperative movement evoked pain associated with rehabilitation? If so, are these effects also maintained at 6 weeks and 3 months post surgery?

Key secondary outcome(s)

1. A comparison of the means of morphine consumption between the two groups will be an outcome measures
2. Numeric Rating Scale (NRS) for pain will be used (0 = no pain, 10 = worst possible pain). Data will be collected as described previously
3. Presence of nausea, vomiting, pruritus, and dizziness will be monitored at the same time intervals, and all except the latter treated as per the Acute Pain Service Nausea and Vomiting algorithm
4. Sedation, as per the scale described above, at the same time intervals
5. A comparison of the Hospital Anxiety and Depression Scale (HADS) from baseline, POD 4, 6 weeks and 3 months
6. Health-related Quality of Life Scores from the Western Ontario McMaster Universities Osteoarthritis (WOMAC) index

Completion date

08/01/2008

Eligibility

Key inclusion criteria

Upon obtaining informed consent, patients with American Society of Anesthesiologists physical status I and II, of both genders, scheduled for total knee arthroplasty will be recruited for this double-blinded, prospective, randomised, and placebo-controlled study. Patients must also be 18-75 years of age.

Participant type(s)

Patient

Healthy volunteers allowed

No

Age group

Adult

Lower age limit

18 years

Sex

All

Key exclusion criteria

1. Patients not providing informed consent
2. Patients less than 18 years of age and greater than 75 years of age
3. Known allergy to any of the medications being used
4. History of drug or alcohol abuse
5. Patients with chronic pain on slow-release preparations of opioid

6. Patients with Rheumatoid Arthritis
7. Patients with psychiatric disorders
8. Patients unable or unwilling to use Patient Controlled Analgesia (PCA)
9. Diabetic patients or those with impaired renal function (Creatinine >106)
10. Obese patients (i.e., body mass index [BMI] >40)
11. Postoperatively, patients will be excluded if they have had additional operative procedures requiring a change in the usual rehabilitation protocol of care

Date of first enrolment

02/01/2007

Date of final enrolment

08/01/2008

Locations

Countries of recruitment

Canada

Study participating centre

Department of Anesthesia M3-200

Toronto

Canada

M4N 3M5

Sponsor information

Organisation

Sunnybrook Health Sciences Centre (Canada)

ROR

<https://ror.org/03wefcv03>

Funder(s)

Funder type

Not defined

Funder Name

Not provided at time of registration

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary

Not provided at time of registration

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Participant information sheet	Participant information sheet	11/11/2025	11/11/2025	No	Yes