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Pain management using ibuprofen after major gut surgery (PROTECT-AEGIS)

Submission date 20/11/2024	**Recruitment status** Recruiting	[X] Prospectively registered [X] Protocol [_] Statistical analysis plan [_] Results [_] Individual participant data [X] Record updated in last year
Registration date 27/05/2025	**Overall study status** Ongoing	
Last Edited 18/03/2026	**Condition category** Surgery	

Plain English summary of protocol

Background and study aims
Each year, 50,000 patients undergo major gut surgery in the NHS. Pain after major surgery is to be expected, but it can be managed through careful use of analgesia. This often leads to longer stays in hospital. Ibuprofen is a very safe and effective pain medicine which you can buy in high street shops. Ibuprofen may help prevent pain after gut surgery, but currently only one in five patients are offered this because some research studies suggest complications of gut surgery (gastric ulcers, poor gut healing and kidney damage) may be more frequent when patients take drugs similar to ibuprofen. Newer research did not have the same results, but doctors remain uncertain about what to do. As a result, patients miss out on the extra pain relief that ibuprofen can provide. We are performing a small feasibility trial, designed to see if patients would be prepared to take part if the surgeon and anaesthetist agree. If we can show that patients and doctors are comfortable taking part in this trial, we will then perform a much larger clinical trial to prove the value of ibuprofen pain relief one way or the other.

Who can participate?
Patients aged 18 years and over undergoing major elective gut surgery with bowel anastomosis

What does the study involve?
After the participant's operation, they will receive one of two study treatments, either ibuprofen and standard pain control or only standard pain control. Standard pain control usually involves morphine-like medicines and local anaesthetic which can be placed straight into the surgical wound, or given through an epidural. Paracetamol is also widely used. This decision will be made at random and neither the participant nor their doctor will be able to decide which study treatment they receive. If participants are in the ibuprofen group, they will be given ibuprofen along with standard pain control and all their usual medications for five days after surgery. In the standard care group, participants will receive the standard pain management for their hospital without ibuprofen. If participants are in the ibuprofen arm, they will also receive medication to prevent stomach ulcers. All of their other treatments will be the same regardless of which study treatment they get. Their doctors at the hospital will be aware that they are in this study and will be closely monitored throughout their hospital stay. If necessary, adjustments to their treatment will be made to ensure they are safe. The GP will also be informed of their participation in the study so they are aware the patient might have received ibuprofen during

their hospital stay. Participants will also be asked some questions about their health before and after their operation, which will be online or by telephone if at home, and face to face if they are still in hospital. We will record information about any pain they experience on the first five days after surgery, which will take about two minutes each day. If participants have a carer or proxy, they would be welcome to help answer these questions. The last time we contact participants will be 30 days after their operation.

What are the possible benefits and risks of participating?
Ibuprofen will be used within its license and only patients known to be at low risk of the potential side effects of NSAIDs will be enrolled.

Where is the study run from?
Queen Mary University of London (UK)

When is the study starting and how long is it expected to run for?
November 2024 to June 2027

Who is funding the study?
National Institute for Health and Care Research (NIHR) (UK)

Who is the main contact?
Dr Caroline Thomas, caroline.thomas27@nhs.net

Contact information

Type(s)
Scientific

Contact name
Dr Tom Abbott

Contact details
Royal London Hospital
London
United Kingdom
E1 1FR
+44 (0)203 594 0348
t.abbott@qmul.ac.uk

Type(s)
Scientific

Contact name
Dr Caroline Thomas

Contact details
St James's University Hospital
Leeds
United Kingdom

LS9 7TF
-
caroline.thomas27@nhs.net

Additional identifiers

Integrated Research Application System (IRAS)
1011239

Central Portfolio Management System (CPMS)
67094

Study information

Scientific Title
Analgesia with ibuprofen for patients undergoing elective major gastro-intestinal surgery

Acronym
PROTECT-AEGIS

Study objectives
Is it feasible to deliver a randomised controlled trial of oral ibuprofen added to standard analgesic care in patients undergoing elective major gut surgery, compared to standard analgesia without a Non-Steroidal Anti-Inflammatory Drug? The findings in this feasibility trial will not be used in managing the patient's care.

There are four main patient and hospital level objectives with the overarching aim to provide a comprehensive portfolio of evidence to evaluate support for a definitive randomised trial:
1. To demonstrate willingness of patients to participate in the trial
2. To demonstrate whether relevant healthcare staff within participating hospitals are willing to randomise patients into the trial
3. To provide pilot data on the clinical effects of oral ibuprofen in reducing pain after major elective gut surgery, compared to usual analgesia alone without a Non-Steroidal Anti-Inflammatory Drug
4. To provide safety data on the use of oral ibuprofen as an analgesic in patients undergoing major elective gut surgery

Ethics approval required
Ethics approval required

Ethics approval(s)
Approved 03/02/2025, London - South East Research Ethics Committee (Health Research Authority, 2 Redman Place, London, E20 1JQ, United Kingdom; -; londonsoutheast.rec@hra.nhs.uk), ref: 24/LO/0885

Primary study design
Interventional

Study design
Open randomized controlled trial

Study type(s)
Treatment

Health condition(s) or problem(s) studied
Pain management for patients undergoing major gastro-intestinal surgery

Interventions
Oral ibuprofen 400 mg three times daily for 5 days, started on postoperative day one, plus usual analgesic measures (epidural, patient-controlled analgesia, etc) and proton pump inhibitor (e.g. lansoprazole).

Intervention Type
Drug

Phase
Phase IV

Drug/device/biological/vaccine name(s)
Ibuprofen

Primary outcome(s)
Patient outcome measures:
1. Number of doses of ibuprofen or other NSAID administered to each patient within 5 days after surgery, measured by reviewing the patient's medical records
2. Clinical effects of oral ibuprofen in reducing pain after major elective gut surgery measured using the Overall Benefit of Analgesia Scores (OBAS) recorded daily for 5 days after surgery
3. Total opioid dose (Oral Morphine Equivalents) within 5 days after surgery, measured by reviewing the patient's medical records
4. Clinical effects of oral ibuprofen in reducing pain after major elective gut surgery measured using the Numeric Rating Scale (NRS) pain scale on postoperative days 1 to 5
5. All complications within 30 days of surgery, measured by reviewing the patient's medical records
6. Mortality within 30 days of surgery, measured by reviewing the patient's medical records
7. Duration of hospital stay within 30 days of surgery, measured by reviewing the patient's medical records
8. Anastomotic leak graded within 30 days of surgery, measured by reviewing the patient's medical records
9. Acute kidney injury (KDIGO creatinine definition only) within 30 days of surgery, measured by reviewing the patient's medical records
10. Gastro-intestinal bleed within 30 days of surgery, measured by reviewing the patient's medical records

Hospital-level feasibility outcomes:
1. Number of eligible patients per year in each hospital, measured using screening log data
2. Number of eligible patients randomised per year in each hospital, measured using screening log data
3. Participating hospitals randomising at least one patient within the 12-month recruitment period, measured using enrolment data

4. Number of consultant surgeons and anaesthetists in each hospital who support the recruitment of patients in their care in principle and the total number delivering care for elective colorectal surgery, measured using the feasibility site questionnaire

Key secondary outcome(s)
There are no secondary outcome measures

Completion date
30/06/2027

Eligibility

Key inclusion criteria
Patients aged 18 years and over undergoing major elective gut surgery with bowel anastomosis

Participant type(s)
Patient

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. Inability or refusal to provide informed consent
2. Previous enrolment in the PROTECT-AEGIS trial
3. Concomitant administration of any of the below:
3.1. Another Non-Steroidal Anti-Inflammatory Drug
3.2. Mifepristone within 2 weeks before surgery
4. History of specific risk factors:
4.1. Severe organ dysfunction defined as American Society of Anaesthesiologists (ASA) Physical Status Classification System 4 and/or eGFR <45
4.2. Known hypersensitivity or allergic reactions to ibuprofen (or its excipients), or other Non-Steroidal Anti-Inflammatory Drugs
4.3. Peptic ulcer disease: two or more episodes of proven ulceration or bleeding, or upper

gastrointestinal perforation
4.4. Third trimester of pregnancy
4.5. Solid organ or bone marrow transplant

Date of first enrolment
17/03/2026

Date of final enrolment
01/12/2026

Locations

Countries of recruitment
United Kingdom

England

Study participating centre
Barts Health NHS Trust
The Royal London Hospital
80 Newark Street
London
England
E1 2ES

Study participating centre
The Royal Marsden Hospital
Fulham Road
London
England
SW3 6JJ

Study participating centre
University Hospitals Birmingham NHS Foundation Trust
Queen Elizabeth Hospital
Mindelsohn Way
Edgbaston
Birmingham
England
B15 2GW

Study participating centre

University Hospital Southampton NHS Foundation Trust
Southampton General Hospital
Tremona Road
Southampton
England
SO16 6YD

Study participating centre
Croydon Health Services NHS Trust
Croydon University Hospital
530 London Road
Thornton Heath
England
CR7 7YE

Study participating centre
The Newcastle upon Tyne Hospitals NHS Foundation Trust
Freeman Hospital
Freeman Road
High Heaton
Newcastle upon Tyne
England
NE7 7DN

Study participating centre
Leeds Teaching Hospitals NHS Trust
St. James's University Hospital
Beckett Street
Leeds
England
LS9 7TF

Study participating centre
NHS Grampian
Summerfield House
2 Eday Road
Aberdeen
Scotland
AB15 6RE

Study participating centre

University Hospitals Birmingham NHS Foundation Trust
Queen Elizabeth Hospital
Mindelsohn Way
Edgbaston
Birmingham
England
B15 2GW

Study participating centre
Manchester University NHS Foundation Trust
Cobbett House
Oxford Road
Manchester
England
M13 9WL

Study participating centre
South Tyneside and Sunderland NHS Foundation Trust
Sunderland Royal Hospital
Kayll Road
Sunderland
England
SR4 7TP

Study participating centre
York and Scarborough Teaching Hospitals NHS Foundation Trust
York Hospital
Wigginton Road
York
England
YO31 8HE

Study participating centre
The Dudley Group NHS Foundation Trust
Russells Hall Hospital
Pensnett Road
Dudley
England
DY1 2HQ

Sponsor information

Organisation
Queen Mary University of London

ROR
https://ror.org/026zzn846

Funder(s)

Funder type
Government

Funder Name
National Institute for Health and Care Research

Alternative Name(s)
National Institute for Health Research, NIHR Research, NIHRresearch, NIHR - National Institute for Health Research, NIHR (The National Institute for Health and Care Research), NIHR

Funding Body Type
Government organisation

Funding Body Subtype
National government

Location
United Kingdom

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Data sharing statement to be made available at a later date

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Participant information sheet	version 2.0	20/01/2025	17/09/2025	No	Yes
Protocol file	version 2.0	30/01/2025	17/09/2025	No	No
Protocol file	version 2.0 version 3.0	30/01/2025	17/09/2025	No	No

Protocol file	19/06/2025	02/01/2026	No	No