

# Analgesic efficacy of interpleural and paravertebral block

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|----------------------------------------|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| <b>Submission date</b><br>13/10/2014   | <b>Recruitment status</b><br>No longer recruiting | <input checked="" type="checkbox"/> Prospectively registered<br><input type="checkbox"/> Protocol            |
| <b>Registration date</b><br>10/11/2014 | <b>Overall study status</b><br>Completed          | <input type="checkbox"/> Statistical analysis plan<br><input type="checkbox"/> Results                       |
| <b>Last Edited</b><br>02/02/2018       | <b>Condition category</b><br>Surgery              | <input type="checkbox"/> Individual participant data<br><input type="checkbox"/> Record updated in last year |

## Plain English summary of protocol

### Background and study aims

Injection of local anaesthetic to numb an area of the body is known as regional anaesthesia. This is known to be a very good and safe way of providing pain relief for breast surgery and it avoids many of the side effects of strong pain killers, such as morphine. There are several types of regional anaesthesia used for breast surgery, but at the moment, its not known which one provides the best pain relief. At our institution we commonly use two types of regional anaesthesia - UGTPVB and interpleural block. UGTPVB involves an injection of local anaesthetic to a small area beside the spine which then spreads and blocks the nerves to the chest. In interpleural block, the local anaesthetic is injected into the lining of the lung which then spreads to block the same nerves. Both injections are performed once the patient has been anaesthetised. This study will help anaesthetists and patients decide which of these two pain relief techniques work best. We suspect that UGTPVB provides better pain relief as local anaesthetic is injected close to its point of action but this is not proven. It is easier and quicker to give patients the interpleural block so if we find out that the two techniques provide equal pain relief then interpleural block will be an attractive option for anaesthetists.

### Who can participate?

Female patients aged between 18-85 and undergoing a mastectomy at the Royal Victoria Infirmary (UK)

### What does the study involve?

Participants are randomly allocated to have either interpleural or UGTPVB. All patients receive the same anaesthetic regardless of technique. Once the patients are anaesthetised, the block is performed by an anaesthetist who is an expert in regional anaesthesia. No one else is aware of which block each patient receives. The patients proceed with their anaesthetic and surgery as normal. After the operation all patients record their pain and nausea scores every six hours and the research team record the amount of morphine each patient needs for the first 24 hours after surgery. We will analyse the data to determine whether USGPVB provides better pain relief than interpleural block. The results will be submitted to an anaesthetic peer reviewed journal for publication.

What are the possible benefits and risks of participating?

By enrolling in the study the participant will receive one of the most effective types of pain relief for their operation. Studies have shown that both techniques provide excellent pain relief with few side effects- especially when compared to morphine based pain relief. Regional anaesthesia is also known to reduce chronic scar pain, a common problem following mastectomy, and there is some evidence that the use of regional anaesthesia may help prevent the cancer from returning. Complications of either type of block are rare and already standard treatments. The most likely complications of a paravertebral block include low blood pressure, bleeding at the site of the injection and puncturing of the lung lining. The most common risk of interpleural block is developing a pneumothorax. Serious complications of both injections are very rare. In any technique where local anaesthetics are used there is a risk of toxicity. The most likely serious complication of local anaesthetic toxicity is a seizure and this occurs in around 1 in 10,000 patients.

Where is the study run from?

The Royal Victoria Infirmary hospital in Newcastle-Upon-Tyne (UK)

When is the study starting and how long is it expected to run for?

January 2015 to January 2016

Who is funding the study?

1. Newcastle-upon-Tyne Hospitals NHS Foundation Trust (UK)
2. National Institute of Academic Anaesthesia (UK) - pending

Who is the main contact?

Dr Jonathan Womack

jonowomack@doctors.org.uk

## Contact information

### Type(s)

Scientific

### Contact name

Dr Mritunjay Varma

### Contact details

Anaesthetic Department

Royal Victoria Infirmary

Queen Victoria Road

Newcastle Upon Tyne

United Kingdom

NE1 4LP

+44 (0)191 233 6161

Mritunjay.Varma@nuth.nhs.uk

## Additional identifiers

### Protocol serial number

Version 3

# Study information

## Scientific Title

A comparison of the analgesic efficacy of interpleural and ultrasound guided thoracic paravertebral block for mastectomy: a double blinded randomised trial

## Acronym

PVIPM

## Study objectives

Does ultrasound guided paravertebral block provide better analgesia than interpleural block for patients undergoing simple mastectomy?

## Ethics approval required

Old ethics approval format

## Ethics approval(s)

Not provided at time of registration

## Study design

Prospective randomised double-blind trial

## Primary study design

Interventional

## Study type(s)

Treatment

## Health condition(s) or problem(s) studied

Analgesia for mastectomy

## Interventions

1. Group one will receive ultrasound guided paravertebral block and a standardised anaesthetic
2. Group two will receive interpleural block and the same standardised anaesthetic

## Intervention Type

Drug

## Phase

Not Applicable

## Primary outcome(s)

VAS pain score measured at six hourly intervals for the first 24 hours following mastectomy

## Key secondary outcome(s))

1. Nausea and vomiting rate
2. 24-hour morphine consumption

## Completion date

01/01/2016

# Eligibility

## Key inclusion criteria

1. Female patients
2. Between the age of 18 and 85
3. Undergoing elective mastectomy at the RVI

## Participant type(s)

Patient

## Healthy volunteers allowed

No

## Age group

Adult

## Lower age limit

18 years

## Sex

Female

## Key exclusion criteria

1. Any procedure other than sentinel node biopsy in addition to simple mastectomy. This includes axillary node clearance and reconstructions.
2. BMI>35
3. Musculoskeletal deformity
4. Local infection at paravertebral or interpleural injection site
5. Coagulopathy
6. Respiratory disease which limits functional capacity
7. Neurological disease
8. Allergy or contraindication to local anaesthetics, opiates, paracetamol, parecoxib, volatile or intravenous anaesthetics and neuromuscular blockade.
9. Chronic pain treated by long term opiates
10. Psychiatric disease
11. Pregnancy or breast feeding
12. Patient refusal or incapacity
13. Anticipated difficult intubation which would preclude the use of neuromuscular blockade
14. Day case procedure planned

## Date of first enrolment

01/01/2015

## Date of final enrolment

01/01/2016

# Locations

## Countries of recruitment

United Kingdom

England

**Study participating centre**

**Royal Victoria Infirmary**

Newcastle Upon Tyne

United Kingdom

NE1 4LP

## Sponsor information

**Organisation**

The Newcastle upon Tyne Hospitals NHS Foundation Trust (UK)

**ROR**

<https://ror.org/05p40t847>

## Funder(s)

**Funder type**

Government

**Funder Name**

Newcastle upon Tyne Hospitals NHS Foundation Trust

**Alternative Name(s)**

Newcastle upon Tyne Hospitals NHS Trust

**Funding Body Type**

Government organisation

**Funding Body Subtype**

Local government

**Location**

United Kingdom

**Funder Name**

National Institute of Academic Anaesthesia (UK) - pending

# Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary

Not provided at time of registration