

A study to assess factors that may be influenced by reducing pressure in the abdomen during keyhole surgery on the bowel

Submission date 11/05/2017	Recruitment status No longer recruiting	<input type="checkbox"/> Prospectively registered <input type="checkbox"/> Protocol
Registration date 16/05/2017	Overall study status Completed	<input type="checkbox"/> Statistical analysis plan <input type="checkbox"/> Results
Last Edited 15/01/2018	Condition category Cancer	<input type="checkbox"/> Individual participant data <input type="checkbox"/> Record updated in last year

Plain English summary of protocol

Background and study aims

Colorectal cancer is cancer of the large bowel, which is the lower part of the tubes through which food passes through the body. Keyhole surgery is now considered to be the best way of treating this disease. In keyhole surgery, small cuts are made into the tummy (abdomen) through which the surgeon can pass a viewing system and instruments to do the surgery. This is better for the patient than having a large operation (open surgery) of the abdomen. With keyhole surgery, the patient has to be in hospital for less time and gets over the operation much quicker. During keyhole surgery it is difficult to see what is inside the tummy because everything is squashed together in a confined space. The surgeon gets round this by passing a gas through the keyhole to cause pressure in the tummy. This pushes the organs apart and by changing the patients position, makes surgery easier. Carbon dioxide is the gas most often used because it is safer and relatively cheap. Some patients such as the elderly, those who are obese and those with lung problems may be affected by the increased pressure in the tummy and the carbon dioxide itself. New equipment known as VTS (valveless trocar system) is available which claims to make it easier for the surgeon to see to do the surgery and therefore allows the pressure in the tummy to be reduced. This is better for both the patient and the surgeon. In order to assess the VTS a trial will have to be carried out in the future to compare surgery using it and surgery using the current equipment. Before this is possible, it is necessary firstly to identify what can be measured and compared using the two methods, and then to do a small pilot study. The aim of this study is to identify what measurements can be collected during the keyhole surgery.

Who can participate?

Adults aged 18 and older who are undergoing laparoscopic resection for colorectal neoplasia.

What does the study involve?

After consenting to join the study, the researcher collects the data points outlined in the outcomes section during surgery and the patient's progress following surgery, such as their pain scores up to the day of discharge. The participant undergoes the planned treatment proposed by the clinical team and has routine observations as per the hospital usual practice. No additional interventions or tests are performed for this study. The total duration of follow-up is

up to the day of discharge from hospital following their bowel resection, which is usually between 5 to 10 days.

What are the possible benefits and risks of participating?
Not provided at time of registration.

Where is the study run from?
Churchill Hospital (UK)

When is the study starting and how long is it expected to run for?
December 2015 to July 2017

Who is funding the study?
Conmed (UK)

Who is the main contact?
Dr Marta Penna (Scientific)

Contact information

Type(s)
Scientific

Contact name
Dr Marta Penna

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Additional identifiers

Protocol serial number
11821

Study information

Scientific Title
Reducing Intra-Abdominal Pressure in Laparoscopic Colorectal Surgery: A feasibility study

Acronym
RAPCo

Study objectives

Aims and objectives:

1. To determine if significant differences can be measured through intra-operative and postoperative outcomes that reflect a change in the intra-abdominal pressures during laparoscopic colorectal surgery
2. To determine the range of any differences in a number of variables, in order to identify the best primary outcome for future research studies
3. To determine if the valveless trocar system (VTS) is able to reliably and safely offer a way of reducing the intra-abdominal pressure (IAP) during laparoscopic surgery

Hypothesis:

1. A reduction in intra-abdominal pressures during laparoscopic surgery will have an impact on carbon dioxide elimination and surgical operative flow with a subsequent improvement in patient outcomes
2. The VTS offers a more reliable and safer method of reducing the IAP during laparoscopic surgery compared to conventional insufflation techniques

Ethics approval required

Old ethics approval format

Ethics approval(s)

Wales Research Ethics Committee 1, 30/03/2016, ref: 16/WA/0070

Study design

Observational cohort study

Primary study design

Observational

Study type(s)

Other

Health condition(s) or problem(s) studied

Laparoscopic colorectal surgery

Interventions

Patients that meet the inclusion criteria for the study will be invited to take part and provided with a written information sheet. If the patient consents to participating, the researcher will collect the data points outlined in the outcomes section during surgery and the patient's progress following surgery, such as their pain scores up to the day of discharge. The patient will undergo the planned treatment proposed by the clinical team and have routine observations as per the hospital usual practice. No additional interventions or tests are performed for this study. The total duration of follow-up is up to the day of discharge from hospital following their bowel resection, which is usually between 5 to 10 days.

Intervention Type

Procedure/Surgery

Primary outcome(s)

Feasibility is measured by the number and type of variables that can be reliably recorded at 10 minute intervals during laparoscopic colorectal surgery and during post-operative recovery until discharge from hospital.

Key secondary outcome(s)

1. Intra-operative cardiorespiratory effects are measured by the anaesthetic machine monitoring system at 10 minute intervals.
2. Intra-operative surgical efficiency is measured at 10 minute intervals by:
 - 2.1. Observing the number of times the laparoscope is cleaned,
 - 2.2. Observing the number of times the laparoscopic ports are opened to remove gas
 - 2.3. The intra-abdominal pressure established by the insufflation system
 - 2.4. Recording the total operative time
3. Post-operative pain is measured by a visual analogue pain scale once a day for five days following surgery
4. Post-operative complications are recorded from patient note review the day after patient discharge from hospital

Completion date

15/07/2017

Eligibility

Key inclusion criteria

1. Aged 18 years or over
2. Male and female
3. Participant willing and able to give consent for participation
4. Able to provide informed consent
5. Undergoing laparoscopic high anterior resection for colorectal neoplasia

Participant type(s)

Patient

Healthy volunteers allowed

No

Age group

Adult

Lower age limit

18 years

Sex

All

Key exclusion criteria

1. Conversion to open procedure or midline wound
2. Creation of diverting loop ileostomy

Date of first enrolment

18/05/2016

Date of final enrolment

30/03/2017

Locations

Countries of recruitment

United Kingdom

England

Study participating centre

Churchill hospital

Oxford University Hospitals NHS Foundation Trust

Old Road

Headington

Oxford

United Kingdom

OX3 7LE

Sponsor information

Organisation

Oxford University Hospitals NHS Foundation Trust

ROR

<https://ror.org/03h2bh287>

Funder(s)

Funder type

Industry

Funder Name

Conmed

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Other

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
HRA research summary			28/06/2023	No	No
Participant information sheet	Participant information sheet	11/11/2025	11/11/2025	No	Yes