Multi-disciplinary team working to implement Enhanced Recovery

By Angie Balfour
ERAS Nurse Specialist
NHS Lothian
Multi-disciplinary team working to implement sustain Enhanced Recovery

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My brief for this session....

Discuss:
- improving multi-disciplinary team working
- overcoming the challenges and issues
Just a wee refresher in Enhanced Recovery - again!!!
Traditional Care

Enhanced Recovery
ERAS/ Fast-Track Pioneers

Prof Henrik Kehlet

ERAS Society
controlling postoperative physiology

- preop information and teaching
- attenuation of stress
- pain relief
- exercise
- enteral nutrition

reduced morbidity and accelerated convalescence
ERAS

- Multi-modal analgesia - opioid sparing
- Prevention of nausea and vomiting
- Early mobilisation
- Warm air body heating in theatre
- Early removal of Catheters / drains
- Stimulation of gut motility / laxatives
- Perioperative oral nutrition
- Selective bowel-prep
- CHO loading/ no fasting
- Thoracic epidural Anaesthesia
- No NG tubes
- No - premed
- Short-acting Anaesthetic agent
- Avoidance of Sodium/fluid overload
- Short incisions/ Minimally invasive surgery
- Preadmission counselling
- Audit of compliance/ outcomes
- Early mobilisation

Clin Nutr 2005,24,466-477
Traditional care v ERAS

Functional capacity

Surgery  Multi-modal intervention

Traditional care

Days  Weeks
The enhanced recovery pathway

Active patient involvement

Referral from primary care
- Health & risk assessment
- Good quality patient information
- Informed decision-making
- Managing patient’s expectations of what will happen to them
- Optimised health/medical condition
- Therapy advice
- Carbohydrate loading (high energy drinks)
- Maximising patient’s hydration
- Avoidance of oral bowel preparation, where appropriate
- Discharge planning – expected date of discharge (EDD)

Pre-operative
- Admit on the day of surgery
- Optimise fluid hydration
- Avoid routine use of sedative pre-medication
- Carbohydrate loading (high energy drinks)
- No / reduced oral bowel preparation (bowel surgery), where appropriate

Admission
- Minimally invasive surgery if possible
- Individualised goal-directed fluid therapy
- Avoid crystalloid overload
- Epidural management (incl thoracic)
- Use of regional/spinal and local anaesthetic with sedation
- Hypothermia prevention

Intra-operative
- The patient has the best possible management during surgery

Post-operative
- No routine use of wound drains
- No routine use of naso gastric tubes (bowel surgery)
- Active, planned mobilisation within 24 hours
- Early oral hydration
- Early oral nutrition
- IV therapy stopped early
- Catheters removed early
- Regular oral analgesia e.g. paracetamol and NSAIDS
- Avoidance of systemic opiate-based analgesia, where possible

Follow-up
- Discharge on planned day or when criteria met
- Therapy support (stoma, physiotherapy, dietitian)
- 24 hour telephone follow-up if appropriate

Getting the patient in best possible condition for surgery

Whole team involvement
Referral from Primary Care

- Optimised health / medical condition
- Informed decision making
- Pre-operative health & risk assessment
- Pt information and expectation managed
- DX planning (EDD)

Pre-Operative

- Optimising pre-operative haemoglobin levels
- Managing pre-existing co-morbidities e.g. diabetes

Admission

- Optimised fluid hydration
- CHO loading
- Reduced starvation
- No / reduced oral bowel preparation (bowel surgery)

Intra-Operative

- Planned mobilisation
- Rapid hydration & nourishment
- Appropriate IV therapy
- No wound drains
- No NG (bowel surgery)
- Catheters removed early
- Regular oral analgesia
- Paracetamol and NSAIDS
- Avoidance of systemic opiate-based analgesia where possible or administered topically

Post-Operative

- Optimising pre-operative haemoglobin levels
- Managing pre-existing co-morbidities e.g. diabetes

Follow Up

- Optimised health / medical condition
- Informed decision making
- Pre-operative health & risk assessment
- Pt information and expectation managed
- DX planning (EDD)
Enhanced Recovery After Surgery Society (UK)

ERAS UK aims to improve patient recovery after surgery by promoting knowledge, understanding and research regarding optimal outcomes. Our society is free to join and members benefit from reduced conference fees.

Measurement of outcomes is a hot topic of conversation and it is one of the themes for our conference this year. We would like to know how the various aspects of enhanced recovery are measured in your own team/organisation to help us map the current situation across the UK. Please take a few moments to complete this survey - the results will be presented during an interactive session at the conference and the outcomes then posted on this site.

Our next conference will be on 14th November at the Hub, City College, Southampton, and will be eligible for 5.5 CPD points.

We have some exciting faculty members confirmed for this event and will be updating the details of the programme regularly over the coming weeks.

**New details of abstract presentations are now available**

We have summarised the feedback from our most recent conference in Birmingham here. Presentations and photos from our previous events can be downloaded in the resources section.
ERAS represents a paradigm shift in peri-operative care in two ways. First, it re-examines traditional practices, replacing them with evidence-based best practices when necessary. Second, it is comprehensive in its scope, covering all areas of the patient's journey through the surgical process.

The key factors that keep patients in the hospital after surgery include the need for parenteral analgesia, the need for intravenous fluids secondary to gut dysfunction, bed rest caused by lack of mobility.

The central elements of the ERAS pathway address these key factors, helping to clarify how they interact to affect patient recovery. In addition, the ERAS pathway provides guidance to all involved in peri-operative care, helping them to work as a well-coordinated team to provide the best care.

Use of the ERAS pathway has been shown to:
- reduce care time by more than 30% and
- reduce postoperative complications by up to 50% [1].

Making Enhanced Recovery the way we do things round here

- Means that all staff are confident to progress a patient
- Needs different parts of the pathway to talk to each other
- Ongoing commitment to education
- Can only happen when protocols are simple clear and written down and apply to most patients
Qualitative and quantitative benefits

- Benefits for patients
  - Clarity of information and what to expect
- Benefits for staff
  - Reduction in variation
- Benefits for service and organisation
  - Best use of available resources
  - Predictability
So how do we make it happen?

Benefits come from teamwork.
ERAS team approach

- Surgeon
- Anaesthetist
- HDU nurses
- Ward nurses
- Nurse Specialists
- Physiotherapist
- Dietitian
- Other A.H.P’s
- Management

Team work:
- Training
- Implementing
- Planning
- Auditing
- Updating
- Reporting
- Research
<table>
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<td>Surgeon</td>
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Team work:
- Training
- Implementing
- Planning
- Updating
- Reporting
- Research
ERAS team approach

- Surgeon
- Anaesthetist
- HDU nurses
- Ward nurses
- Nurse Specialists
- Physiotherapist
- Dietitian
- Other AHP’s
- The Patient / Relatives
- Management

Team work:
- Training
- Implementing
- Planning
- Auditing
- Updating
- Reporting
- Research

But what about the patient?
Initiatives to reduce length of stay in acute hospital settings: a rapid synthesis of evidence relating to enhanced recovery programmes

Fiona Paton, Duncan Chambers, Paul Wilson, Alison Eastwood, Dawn Craig, Dave Fox, David Jayne and Erika McGinnes
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Trusts may cover more than one surgical specialty.
ROADBLOCKS to ERAS!

CONCEPT

PATIENT EDUCATION?
CARE PATHWAY?
COMPLIANCE?
HDU USE?
DISCHARGE/FU?
DATA?
SUSTAINABILITY

REALITY
What’s happening in…. NHS Lothian
Surgical Specialities engaged in ERAS

- Colorectal
- Orthopaedics - Full implementation
- Urology
- Upper GI/ Liver
- Gynaecology - Partial implementation
- Vascular
- Breast
- Bariatric Surgery
- Plastics - Preliminary discussions
- ENT
Colorectal

- Multi-modal analgesia - opioid sparing
- Prevention of nausea and vomiting
- Early mobilisation
- Warm air body heating in theatre
- Early removal of catheters/drainage
- Perioperative oral nutrition
- Stimulation of gut motility/laxatives
- Selective bowel preparation
- CHO loading/no fasting
- Thoracic epidural anaesthesia
- No NG tube
- No premed
- Short acting anaesthetic agent
- Avoidance of sodium/fluid overload
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ERAS

Clin Nutr 2005, 24, 466-477
Colorectal

- Multi-modal analgesia - opioid sparing
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- Short incisions, minimally invasive surgery
- Warm air body heating in theatre
- Early removal of Catheters / drains
- Stimulation of gut motility / laxatives
- Perioperative oral nutrition
- Early mobilisation
- Audit of compliance / outcomes

Compliance to ERAS (approx 50%)
Orthopaedics

- Multi-modal analgesia - opioid sparing
- Prevention of nausea and vomiting
- Early removal of catheters / drains
- Stimulation of gut motility / laxatives
- Early mobilisation
- Warm air body heating in theatre
- Preadmission counselling
- Selective bowel prep
- CHO loading / no fasting
- Thoracic epidural Anaesthesia
- No NG tubes
- No premed
- Short-acting Anaesthetic agent
- Avoidance of sodium/fluid overload
- Short incision, minimally invasive surgery
- Audit of compliance / outcomes

Compliance to ERAS (approx 70%)
So what’s the difference?

Why is one specialty “better” at ERAS than another?
The central elements of the ERAS pathway address these key factors, helping to clarify how they interact to affect patient recovery. **In addition, the ERAS pathway provides guidance to all involved in peri-operative care, helping them to work as a well-coordinated team to provide the best care.**

Use of the **ERAS pathway** has been shown to:
- reduce care time by more than 30% and
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Making Enhanced Recovery the way we do things round here

- Means that all staff are confident to progress a patient
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- **Can only happen when protocols are simple clear and written down and apply to most patients**
Qualitative and quantitative benefits

Benefits for patients
  - Clarity of information and what to expect

**Benefits for staff**
  - Reduction in variation

Benefits for service and organisation
  - Best use of available resources
  - Predictability
Roadblocks to ERAS

CONCEPT

PATIENT EDUCATION?
CARE PATHWAY?
COMPLIANCE?
HDU USE?
DISCHARGE/FU?
DATA?
SUSTAINABILITY

REALITY
My recommendation.....

A multi-disciplinary pathway is essential if ERAS is to succeed and become part of everyday care in our organisations.

BUT:
It must also strive to be person-centred and take into account the individual needs of each and every patient
A stunning example of documentation!!

Translation = Eating & Drinking (water)
Not mobilised yet
So what does the multi-disciplinary team *really* think about Enhanced Recovery?
Colorectal Surgeon
“As everyone locally knows, I take issue with the term ERAS, and the term “Enhanced” specifically! In my practice over the last 30 years I have been banging the drum about a multidisciplinary rapid recovery protocol as the default position and hence the Standard of Care. The ethos of rapid return to normal activity and physiology needs to be instilled in the mindset of patients, relatives, community and hospital based healthcare professionals alike.”

Orthopaedic Surgeon
“The Enhanced Recovery Programme has led to a shift in the mindset and attitude of all involved in the care of our patients – now all members of the team are thinking: What can I do to encourage the patient to get up and going as soon as they are able?”
There are 2 main limitations to ERAS: first, it requires systemic change in various areas - documentation, training of staff, reconsideration of the patient pathway (e.g. separating elective and emergency pts) which is difficult to implement in large organisations within the NHS. Second, it requires manpower to achieve some aspects of the protocol e.g. pre-op buy in by pt and relatives, inpatient mobilisation, encouragement with meals etc. When it works, it works well.”

“I think ERAS is a bit like a mini roundabout. When you approach the roundabout the philosophy is give way to the right. Just how you go through the junction depends; some will go round the roundabout others will drive straight over it the end result is however the same. It is the same with ERAS. We all agree with the philosophy of pre op optimisation, early mobilisation, nutrition and early discharge etc. Just how we go about achieving it seems to differ from surgeon to surgeon”
Anaesthetist (Colorectal)

“My personal feeling is that the input of the specialist nurse is immensely important in terms of preparing the patient mentally. Letting them know what is expected of them i.e. eat, drink, move around, is one of the best interventions.

I am happy to think about and deliver an “ERAS” anaesthetic, and fluid regime. I think getting input from my surgical colleagues has been the hardest thing for me. I got a lot from the multi disciplinary meetings I attended, but these were poorly attended by surgeons, and I was often not free to attend.”
Consultant – Medicine of the Elderly

“Multi-Disciplinary Teamwork and a consistent approach with ERAS creates a more efficient and effective pathway of care. It allows patients and their families to be engaged and better understand what is happening to them. It creates a channel for better information and communication within the team and the patients and their families.

However, older people with multiple co-morbidities and complex frailty issues do not lend themselves well to fitting into a standard care pathway. Speaking from experience in elderly medicine, care pathways need to be tailored to the patients needs as some elderly patient may “fall off” the pathway with nowhere else to go.

Patients of the future will be frail and elderly so we need to create something that is fit for purpose now and include other members of the multi-disciplinary team to discuss issues such as cognition – ERAS Plus/ Frailty Clinic”
Acute Pain Nurse Specialist (Colorectal)
“Peri-operative care should be Patient focused individualised care. Pain relief should be multi-modal to achieve best pain management and minimise analgesic related side effects - Not protocol driven.”

Actual quote written on a napkin over coffee break!!
Senior Charge Nurse (Surgical HDU)
“I think it should be the way we nurse anyway despite the location of the patient. **ERAS just adds structure and clarity** (or it should if they all agree). I was always taught to promote self care which in essence this is”

Senior Charge Nurse (Orthopaedics)
“**Impossible to get full consultant buy in and this would make the biggest difference.** On the positive side, when a patient’s expectations are met then their experience is so positive that this makes it a rewarding experience for all involved”
Senior Charge Nurse (Colorectal)
“We all desperately want ERAS to work however we still don’t have full “buy-in” from all members of the Multi-Disciplinary Team. There is no one group in particular but rather some surgeons – some nurses – some managers. There are small pockets of each team that remain sceptical about ERAS causing obstruction to its implementation. Our processes are being reviewed at the moment to improve our ERAS compliance and we are working to renew our care pathways and produce algorithms/protocols around mobilisation, nutrition and removal of lines to encourage patient independence”
Colorectal Nurse Specialist
“When ERAS is applied properly, it is a very good thing – as long as people don’t move patients along the pathway too quickly especially in the elderly. As long as patients are aware of who is going to give them the relevant support and information throughout their journey”

Stoma Nurse - Colorectal
“We still have a long way to go with our ERAS programme. If the patient is able to mobilise earlier, eat and drink sooner and recover better then it is obviously what we should be trying to implement. However, the MDT do not always agree and as there are 13 colorectal surgeons all working together, this makes it virtually impossible to get agreement in the unit.”
Physiotherapist (Colorectal)
“The ERAS programme requires MDT commitment to be a success. Managing patient expectation is key to success, done well by implementation of patient booklets in WGH. ERAS patients are mentally more prepared and motivated to mobilise and progress their mobility post op. As a result their recovery tends to have less respiratory compromise or post op problems associated with immobility.”

Physiotherapist (Orthopaedics)
“ERAS promotes earlier independence and ownership of the patient’s recovery following surgery through to discharge.”
OT (Orthopaedics)

"MDT working and shared goals are essential for the success of ERAS. The introduction of an Occupational Therapy service to the pre-admission clinic will aim to provide best patient care and outcomes from an MDT approach"
Dietitian (Colorectal)

“The advances in nutritional care of surgical patients has improved greatly over the last few decades. Using ERAS can greatly improve patient recovery and prevent post op complications, reducing patient stay and speeding up recovery at home. Changes in this approach to nutritional practice, although challenging, produces positive results which has been clear within our unit. We have needed ongoing education and support for staff at all levels to have the confidence to apply ERAS principles. One of our main goals is to improve our pre-op literature to enhance patient empowerment post op and to continue educating staff to improve confidence in improving nutritional care including use of ONS drinks and snacks more regularly post-op. Working together will improve ERAS care from a nutritional point of view”
Pharmacist (Colorectal)
“Don’t write the drinks on the drug Kardex!!

Pharmacist (Orthopaedics)
- “Standardising Practice"
- Ensuring Governance
- Safety
- Protocolised Care”
Surgeons using local anaesthetic more frequently following ERAS implementation

Protocol produced by Pharmacist/Anaesthetist

Application process – local committees

Rubber stamped – accepted as standardised care

Other improvements include:
- **Integrated Care Pathway**
- Pre-Printed Drug Kardex featuring:
  - Laxatives
  - Oral Ephedrine (under review by Medicines Policy Committee)
  - Local anaesthetic analgesia protocol......
Enhanced Recovery
Primary Hip and Knee Replacements

All anaesthetists

Advised regime:
- Midazolam 0.2mg i.v.
- Spinal 15mg bupivacaine 0.5% or less
- Antibiotics
- Dexamethasone 8mg i.v.
- Ondansetron 4mg i.v.
- Tranexamic Acid 1g i.v.
- Hips - in anaesthetic room
  - Knees - 10 min before tourniquet release
  - Propofol TCI sedation

**Oxycodone MIR** 10mg bd (hips) 15mg bd (knees) oral
1st Dose as a "one off" on the front of drug card if necessary
A FURTHER 3 REGULAR DOSES ONLY AT 0800 AND 2000
PLEASE PUT A STOP DATE

**Oxynorm** specific dose between 5-10 mg oral for breakthrough
- Paracetamol regular oral
- Ibuprofen orally if appropriate
- PPI oral if appropriate
- Ephedrine 30mg oral 20 min before mobilisation
- Max 4 doses in 24 hours for prevention of postural hypotension or to treat systolic <90mmHg
- Laxatives
  1) Senna 15mg at night
  2) Macrogol One sachet twice daily.

Ensure that the patient has received an anaesthetic which will allow them to mobilise early.

**Check:**
- Multimodal analgesia prescribed and administered
- **NO PCA** (unless specifically indicated)
- Weaker opioid prescribed for step down analgesia
- Regular anti-emetic prescribed
- Tranexamic Acid and Dexamethasone given
- Strong encouragement for oral route for all drugs and fluids postoperatively

KC and COLP June 2014
The Patient

Great – no issues. Back to work 2 weeks after op. Excellent recovery – looking forward to reversal of stoma
Wound opened when sneezed (10 days post op) – great recovery. 1st 2 weeks after op “awful”
Advised to slow down as doing too much – vacuuming and ironing 3 weeks after op
Pizza not so good 2 weeks after op – brand new!!
Rod Stewart concert Day 40!!
Walking the dog 2 weeks after op – 100%
Pizza 6 weeks after op – no problems
100% - 4 weeks after op – excellent recovery
4 weeks after op – been on a cruise (5 weeks after op)
100% - 4 weeks after op – going to Boston tomorrow
3 weeks after op – pulling a muscle in my groin from gardening
Good recovery!!
Back to work at 4 weeks – working full time
9 holes of golf at 3 weeks – lifted a suitcase a bit too soon!
Excellent recovery – working from home 3 weeks after op
On a fishing trip 5 weeks after op – feeling fine.
Driving again at 5 weeks – starts chemo on Monday
Attended A & E with wound infection – moved house
Lake district holiday 5 weeks after op
GP not letting me go to the Gym!!
Doing ok but went running too soon, so setback
Back to work at 4 weeks – going to Boston tomorrow
100% - 4 weeks after op – back to work 2 weeks after op
1st 2 weeks after op “awful”
Glencoe – 6 weeks after op
5 mile walk per day 4 weeks after surgery – 9 holes of golf at 3 weeks
Working from home 3 weeks after op – 5 mile walk per day
Doing very well – moving house 3 weeks after op – feeling fine
6 weeks after op – 9 holes of golf tomorrow
Going to Boston tomorrow
“awful” 2 weeks after op
Tired but playing 36 holes of golf tomorrow
Back to work at 5 weeks – 1st 2 weeks after op
“awful”
Back to work – excellent recovery. Thank you
In London 4 weeks after op
In Blackpool – feeling fine
Back to work at 5 weeks – feeling fine
Going to Boston tomorrow
Back to work 2 weeks after op
In Blackpool – feeling fine
Going to Boston tomorrow
Back to work – excellent recovery. Thank you
To summarise

All members of the MDT need to agree and commit to the ERAS principles

A care pathway and series of protocols must be agreed by everyone and become standard care or “The way we do things round here!”

Patients must be involved in this process and can assist with producing information material and offer guidance about the care pathway (after all - they have been through it!!)

FINAL THOUGHT:

We must measure and audit what we are doing because....
Poor compliance = longer LOS

No data = No idea what’s going on
No data = No idea what’s going on

Proctocolectomy = 139
AP Resection = 80
Other = 67
Total/ST Colectomy = 74

Reversal Hartmann’s = 62
Sigmoid Resection = 49
Left Hemi = 48

Mostly open procedures

Anterior Resection (n = 546)
- 62% open
- 29% lap/ lap assist
- 9% converted

ileocecal/ Rt Hemi (n = 401)
- 51% open
- 44% lap/ lap assist
- 5% converted
Other benefits

- Annual Appraisals
- Job Planning
- Publications
- Research
- Service improvement
- Quality Improvement
- Audit
ERAS Compliance

Pre-Op compliance = 87%
Peri-Op compliance = 76%
Post-Op compliance = 31%
**Data collection sheets**

### Lothian Colorectal Database

**Preoperative Data: To be completed by Preadmission Clinic Nursing Staff**

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**Patient Demographics**

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**Year of Birth**

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**Smoker**

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**Pre-Operative WHO Performance Score**

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<th>0</th>
<th>Asymptomatic</th>
<th>1</th>
<th>Symptomatic, completely ambulant</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Symptomatic, &lt;50% in bed during day</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Symptomatic, &gt;50% in bed, but not bedbound</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Bedbound</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Information unavailable</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Recent immunosuppressive treatment**

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
<th>Information unavailable</th>
</tr>
</thead>
</table>

**Pre-Operative Chemotherapy**

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
<th>Information unavailable</th>
</tr>
</thead>
</table>

**Date of last chemotherapy treatment (DD/MM/YYYY)**

| Information unavailable |

**Any radiotherapy to operating field**

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
<th>Information unavailable</th>
</tr>
</thead>
</table>

---

### Lothian Colorectal Database

**Anaesthetic data- to be completed by Anaesthetist**

**Before Surgery**

<table>
<thead>
<tr>
<th>Preoperative oral carbohydrate treatment*</th>
<th>Yes</th>
<th>No, contraindicated</th>
<th>No, any other reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral bowel preparation*</td>
<td>No</td>
<td>Yes</td>
<td>Information unavailable</td>
</tr>
<tr>
<td>Preoperative long-acting sedative medication</td>
<td>No</td>
<td>Yes</td>
<td>Information unavailable</td>
</tr>
<tr>
<td>Antibiotic prophylaxis before incision*</td>
<td>No</td>
<td>Yes, IV antibiotics</td>
<td>Information unavailable</td>
</tr>
<tr>
<td>Thrombus Prophylaxis</td>
<td>No</td>
<td>Yes, LMWH (low molecular weight heparin)</td>
<td>Information unavailable</td>
</tr>
</tbody>
</table>

**ASA Physical Status Class**

| Yes, LMWH AND compression stockings |

**Operation actually performed***

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
<th>Bed during operation</th>
</tr>
</thead>
</table>

**Date of primary operation (DD/MM/YYYY)**

**Mode of Surgery**

| Emergency surgery: The patient's condition necessitated operating within 2 hours |

**Consultant surgeon responsible for care**

<table>
<thead>
<tr>
<th>Consultant</th>
<th>Specialist general</th>
<th>Surgical</th>
</tr>
</thead>
</table>

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Thank you very much