ANAESTHETIC GUIDELINES for ELECTIVE LAPAROSCOPIC COLORECTAL SURGERY at UNIVERSITY HOSPITAL WISHAW ((ERAS)

TARGET AUDIENCE	Secondary care Anaesthetics and Colorectal Enhanced Recovery Pathways at Wishaw
PATIENT GROUP	All adult patients undergoing major laparoscopic colorectal surgery at Wishaw hospital

Clinical Guidelines Summary

- The guideline is based on the preliminary NERCI (National Enhanced Recovery Colorectal Initiative) for laparoscopic surgery
- This version is a revised one in 2024 in conjunction with the pain team colleagues and has been disseminated within the anaesthetic department and amongst the colorectal surgeons and ERAS teams for consensus ,prior to publication .
- It incorporates current evidence and emphasises areas like opioid stewardship and avoids modified release preparations which were a major part of previous ERAS versions
- It also gives directive options when intended laparoscopic assisted surgery gets converted to open surgery
- It focusses on Enhanced Recovery after Surgery principles
- It has a publication date and review date for future revisions as appropriate

Elective Laparoscopic Colorectal Surgery at UHW

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Encourage sip till send before induction; Anaesthetic tailored to the individual patient; Level 1 bed as default post op (unless HDU indicated); For obese and morbidly obese use Society of Bariatric Anaesthetists (SOBA) calculator for intravenous (IV) doses.

Preinduction

- Minimum monitoring; Pre- induction checks.
- w Awake spinal: Single intrathecal dose of 5 - 10 micrograms/kilogram of diamorphine (max 1 milligram (mg)) with 2 - 2.5ml's 0.25% - 0.5 % bupivacaine (can use double wrapped saline as vehicle instead of bupivacaine if appropriate; restrict to 5 micrograms per kilo diamorphine for most >70 years).

Induction

- Generally intravenous induction
- Alfentanil/Fentanyl bolus or Remifentanil Target Controlled Infusion (TCI) - as per preference; Propofol 2-3mg/kg or TCI; Rocuronium 0.6 to 1.2mg/kg.
- Consider ketamine 20mg ketamine IV post induction. Tranexamic acid 1gram IV.
- Dexamethasone IV 0.15mg/kg (unless patient is a poorly controlled diabetic).
- Antibiotics stat as per local protocol; No Nasogastric tubes unless specifically requested.

Maintenance and Reversal

- Oxygen/air/sevoflurane or TCI as indicated/as per preference.
- Aim for lung protective ventilation intraop.
- Consider intra-arterial pressure monitoring; Aim for Systolic >100mmHg; MAP> 65mmHg or within 20% of baseline; Metaraminol infusion as indicated.
- Limit fluid administration to within 2 litres intraoperatively (unless otherwise indicated); avoid "normal saline"; take precautions to protect pressure points and be wary of well leg compartment syndrome.
- Paracetamol 1g IV (beware patient group directive dose timing and patients < 50kg) and Ondansetron 4mg IV towards the end of the case.
- Port site infiltration of LA as permissible at the end.
- Sugammadex 2mg/kg or 4mg/kg (as per Neuromuscular monitoring) for reversing rocuronium.

Lead Author	**Drs R. Padmanabhan & I. Mckevitt**	**Date approved**	**May 2025**
Version	**2**	**Review Date**	**May 2028**

Post Operatively

- Prescribe one off rescue analgesia in recovery (eg: Fentanyl 100 micrograms titrated to clinical effect).
- No further IV fluids unless clinically indicated; aim for early resumption of oral fluids and soft diet.
- Prescribe
    - Regular paracetamol oral,
    - Regular ondansetron IV for 24 hours post op
    - As needed (prn) immediate release oxycodone 5mg 2hrly,
    - prn cyclizine and buccastem po.
- Remove arterial line in recovery (unless patient going to High Dependency Unit).
- Regular immediate release oxycodone 5mg 6 hourly from day 1 post operatively for 3-4 days max (reduce dose to 2.5mg 6 hourly for elderly >70, unless patient has tolerance from regular preadmission analgesia). Opioids to be reviewed and weaned by medical staff.

If Spinal is Containdicated or Not Possible

- Consider all other parts of the guideline.
- Consider remifentanil TCI intraoperatively.
- Administer morphine 0.1 to 0.2mg/kg IV bolus at least 20 minutes prior to end of operation.
- Consider another 20mg IV bolus of ketamine and Transverse Abdominis Plane (TAP) blocks under vision by surgical team (max dose - 2mg/kg of levobupivacaine).
- Insert subcutaneous cannula (SC) prior to waking up the patient and prescribe morphine S/C protocol for post op pain relief (consider Patient Controlled Analgesia (PCA) only if deemed absolutely necessary).
- Switch over to 5mg oxycodone immediate release regular 6 hourly along with 5mg oxycodone 2 hourly mg prn per oral after pain team review as appropriate; Consider non-steroidals day one post op (risk Vs benefit and never on empty stomach – try and avoid in elderly >70 years).

Conversion to open with midline incision

- Rectus sheath catheters and local protocol; Consider PCA instead of S/C morphine.

General Exclusions

- Lack of patient co-operation/comprehension.
- ***Contraindications to spinal or any of the aspects mentioned in the guideline.***
- Allergy or contraindications to local anaesthetics, morphine, oxycodone, ketamine etc.
- Patient on long term opiates and complex patients – discuss with pain team and formulate individualised plan.

General Guidance

- Opioid sparing wherever possible; Opioid stewardship (take home maximum 7 days as a norm).
- Urinary catheter removal as early as possible; Thromboprophylaxis as per protocol (minimum 6 hours post spinal); Maintain normothermia; Temperature monitoring.
- Blood sugar monitoring as indicated; Monitoring of neuromuscular block; Bispectral Index (BIS)/ Massimo monitoring as indicated. Steroid cover for patients at risk.
- As always: Re-evaluate if patient is complaining of pain or things don't appear right.

References/Evidence

1) NERCI (National Enhanced Recovery Colorectal Initiative): Peri - operative care Pathway for Laparoscopic Bowel resections, NHS Scotland.

2) UpToDate: Enhanced Recovery after colorectal surgery literature review through to Aug 2024 R. Ricciardi et al.

3) Peri-operative pain management in adults: a multidisciplinary consensus statement from the association of Anaesthetists and the British pain society; Anaesthesia 2024, 79, 1220-1236.

4) An international multidisciplinary consensus statement on the prevention of opiod related harm in adult surgical patients: Anaesthesia 2021,76,520-536.

5) Anaesthesia for laparoscopic surgery: BJA education 2011; 5; 177-180.

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Appendices

1. Governance information for Guidance document

Lead Author(s):	Dr R Padmanabhan, Consultant Anaesthetist ,UHW
Endorsing Body:	NHS Lanarkshire
Version Number:	2
Approval date	September 2024
Review Date:	September 2027
Responsible Person (if different from lead author)	Dr R Padmanabhan, Dr I Mckevitt- Consultant Anaesthetists, University Hospital Wishaw, Ms Sharon Anderson, Acute Pain Nurse UHW

CONSULTATION AND DISTRIBUTION RECORD	
Contributing Author / Authors	Dr I Mckevitt (Consultant Anaesthetist) Dr L Bell(Consultant Anaesthetist) ,Ms Sharon Anderson(acute pain Nurse) – University Hospital Wishaw
Consultation Process / Stakeholders:	Acute pain Team, Anaesthetic team, ERAS team at Wishaw and Consultant Colorectal surgeons at Wishaw

Distribution	

CHANGE RECORD			
Date	**Lead Author**	**Change**	**Version No.**
		e.g. Review, revise and update of policy in line with contemporary professional structures and practice	1
			2
			3
		.	4
			5

2.You can include additional appendices with complimentary information that doesn't fit into the main text of your guideline, but is crucial and supports its understanding.

e.g. supporting documents for implementation of guideline, patient information, specific monitoring requirements for secondary and primary care clinicians, dosing regimen/considerations according to weight and/or creatinine clearance

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