# Pre-Operative

**Date:**

- **Stage:** Standard
- **Completed, Staff to sign:**
- **If NOT completed, give reason:**

| Procedure | Description |
|-----------|-------------|
| Bowel preparation | Picolax x 2 for L sided cases, Fleet enema for R sided cases |
| **In patients with colorectal cancer:** | Screen for and treat Fe deficiency + 3 drinks daily of immunonutrition for 5 days preop. |
| Reduced starvation | (food up to 6h pre-op, carbohydrate drink 2h pre-op). |
| 2 x carbohydrate loading drinks morning of surgery (before 0600). |
| NB. Caution in patients with delayed gastric emptying (e.g. diabetics). |
| **Pre-emptive high risk physician review if concerns re frailty or morbidity.** |
| **Document end of life wishes.** |
| Education about discharge goals and arrange post-discharge support pre-emptively. |
| **Education about expected post-op pain and aims of analgesia (move and deep breathe), and that some discomfort is expected.** |

### Antibiotic prophylaxis (CALHN guidelines)

- Cefazolin 2g IV + Gentamicin 2mg/kg IV + Metronidazole 500mg IV
- (Q2 Ceftriaxone 1g IV + Metronidazole 500mg IV, if eGFR < 60)
- (Q2 Vancomycin 1g IV instead of Cefazolin, if penicillin / cef allergy)

### Regional blocks

- Mid-Thoracic epidural (T6-T10), if medical indication only.
- If no epidural used => 0.25% Levobupivacaine TAP block at start of case under direct vision AND TAP catheter continuous infusion (2 x 0.25% levobupivacaine infusers, 5ml/h, start at end of case).
- Surgeon to prescribe levobupivacaine infusion at end of case in patient chart.
- Lignocaine intra-operative infusion and IPLA can also be considered - coordinate dosing between surgical and anaesthetic team.

### IV fluids

- Euvolaemic regimen using balanced solution (plasmalyte or hartmann's).
- 1 - 2L expected total IV fluid volume during routine colorectal case.
- Additional replacement of blood loss at the discretion of the anaesthetist and surgeon (suggest colloid or blood depending on volume required).*

### Antiemetics (CALHN guidelines)

- Dexamethasone / Ondansetron / Droperidol

### Analgesia

- Maximise opioid sparing techniques.
- Under body warmer, warm air blanket if temp < 36 degrees
- Body temp monitoring catheter.
- Bladder IDC optional for right hemicolecotomy.
- TEDS and SCD (remove SCD at end of case)
- Clexane 40mg sc if no increased bleeding risk (use 20mg if wt < 50kg or CCI < 30)
- Consider intra-op orogastric tube to be removed at the end of case.
- No routine peritoneal drains.
- No routine postop nasogastric tube.
- If IDC inserted for right hemicolectomy, consider removal at the end of case.

### Warming blanket to continue in recovery if temp <36 degrees

- Oxygen supplementation as required to maintain SpO2 >95% (even if patient aslepp).
- Hourly breathing + coughing (I-COUGH resp bundle: https://tinyurl.com/yctev9x4)

### IV fluids

- 4%Dex / 0.18%NaCl + 30KCL running at 50ml/h.
- Stop IV fluids completely if patient tolerating oral intake on the night of surgery.
- Urine output ≥ 20ml/h averaged over 4h is acceptable, avoid bolusing.

### Antiemetics

- Ondansetron 4mg IV Q8h regular
- Maxolon 10mg IV Q8h regular: Do not use in patients > 75 years old.

### Analgesia

- Paracetamol 1g PO Q6h regular: Caution in patients < 60kg or with liver dysfunction.
- Tramadol 50mg PO/subcut Q4h regular: Do not use if on SSRi or eGFR < 60.
- Coloxyl + Senna 1 tab BD, MgOH2 10ml BD
- Anaesthetist to consider PCA +/- Ketamine infusion if required.

### Oral intake

- Free oral fluids from 4 hours after surgery => limit to 1000ml in first 12 hours.
- Fortjuce/Sustagen/Resource drink from 4 hours following completion of operation.
- Regular diet for dinner if fluids tolerated and no nausea.
- Stop drinking if nausea or vomiting or hiccuping.
- Early NG insertion if clinical suspicion of ileus (do not wait for vomiting)
**Aim for placement in WARD 5E**
If morning surgery and patient returns to the ward prior to 1800 => sit out of bed.
Continue Clexane 40mg sc until discharge (use 20mg if wt < 50kg or CrCl < 30)
Continue TEDS until discharge
If IDC in consideration after medical review.
NB. Decision for removal will be based on the type of surgery.
Hourly breathing + coughing (I-COUGH resp bundle: https://tinyurl.com/yctev9x4)

### Antiemetics
Ondansetron 4mg IV Q 8h regular
Maxolon 10mg IV Q 8h regular: Do not use in patients > 75 years old.

### Analgesia
Paracetamol 1g PO Q 6h regular: Caution in patients < 60kg or with liver dysfunction.
Tramadol 50mg PO/subcut Q 4h regular: Do not use if on SSRI or eGFR < 60.
Coloxyl + Senna 1 tab BD, MgOH2 10ml BD (Fleet enema OD for right colectomy)
Continue PCA or epidural analgesia if this was started.

### Oral intake
General diet as tolerated.
Fortijuce/Sustagen/Resource drink BD, Stop drinking if nauseous or vomiting or hiccuping.
Early NG insertion if clinical suspicion of ileus (do not wait for vomiting)
Sit out of bed for meals
4 hours in chair during the day. May be split up.
60 metre walk (1st)
60 metre walk (2nd)
**No bedpans or urinals.**
Epidural analgesia or PCA must NOT stop the patient from walking.

### Remove epidural or PCA (if tolerating oral intake)
Potential for IDC removal after medical review
Hourly breathing + coughing (I-COUGH resp bundle: https://tinyurl.com/yctev9x4)

### Antiemetics
Ondansetron 4mg PO / IV Q 8h regular
Maxolon 10mg PO / IV Q 8h regular: Do not use in patients > 75 years old.

### Analgesia
Paracetamol 1g PO Q 6h regular: Caution in patients < 60kg or with liver dysfunction.
Tramadol 50mg PO Q 4h regular: Do not use if on SSRI or eGFR < 60.
Coloxyl + Senna 1 tab BD, MgOH2 10ml BD (Fleet enema OD for right colectomy)

### Oral intake
General diet as tolerated.
Fortijuce/Sustagen/Resource drink BD, Stop drinking if nauseous or vomiting or hiccuping.
Early NG insertion if clinical suspicion of ileus (do not wait for vomiting)
Sit out of bed for all meals
6 hours in chair during the day. Split up.
60 metre walk (1st)
60 metre walk (2nd)
60 metre walk (3rd)
60 metre walk (4th)
**No bedpans or urinals.**
Epidural analgesia or PCA must NOT stop the patient from walking.

### Order medications for discharge tomorrow
Hourly breathing + coughing (I-COUGH resp bundle:)

### Antiemetics
Ondansetron 4mg PO / IV Q 8h regular
Maxolon 10mg PO / IV Q 8h regular: Do not use in patients > 75 years old.

### Analgesia - Consider changing analgesia to prn if pain controlled
Paracetamol 1g PO Q 6h regular: Caution in patients < 60kg or with liver dysfunction.
Tramadol 50mg PO Q 4h regular: Do not use if on SSRI or eGFR < 60.
Coloxyl + Senna 1 tab BD, MgOH2 10ml BD (Fleet enema OD for right colectomy)

### Oral intake
General diet as tolerated.
Fortijuce/Sustagen/Resource drink BD, Stop drinking if nauseous or vomiting or hiccuping.
Early NG insertion if clinical suspicion of ileus (do not wait for vomiting)
Sit out of bed for all meals
8 hours in chair. Split up.
60 metre walk (1st)
60 metre walk (2nd)
60 metre walk (3rd)
60 metre walk (4th)
100 metre walk (1st)
100 metre walk (2nd)
100 metre walk (3rd)
100 metre walk (4th)
100 metre walk (5th)
100 metre walk (6th)
100 metre walk (7th)
100 metre walk (8th)
100 metre walk (9th)
Can be discharged prior to completion of walks.
*Oral analgesia / antiemetics take home.*

### Discharge patient if discharge criteria met. If not met, repeat instructions for Day 3.

**Criteria for discharge:**
- No pain
- Adequate nutrition
- Adequate mobilisation
- Adequate bowel function

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**Post op Day 1:**

**Post op Day 2:**

**Post op Day 3:**

**Post op Day 4:**

**Post op Day 5:**

**Post op Day 6:**

**Post op Day 7:**

**Post op Day 8:**

**Post op Day 9:**

**Post op Day 10:**

**Post op Day 11:**

**Post op Day 12:**

**Post op Day 13:**

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**Home:**

Date:
| Medical Staff Criteria for safe discharge |
|------------------------------------------|
| No clinical and biochemical concern      |
| Tolerance of general diet                |
| Passing flatus OR bowels opened.         |
| Acceptable pain control on oral analgesia|
| Mobilising independently.                |
| If stoma present: patient managing care independently. |

*https://www.uptodate.com/contents/intraoperative-fluid-management

NB: all medications recommended should only be prescribed if no absolute or relative contra-indication. This is the responsibility of the prescribing physician.

This a suggested guideline only, and may not apply to all patients. Individualised treatment is still required, including earlier discharge if clinically safe.
| Stage                      | Standard                                                                 | Completed. Staff to sign. | If NOT completed, give reason. |
|---------------------------|--------------------------------------------------------------------------|---------------------------|--------------------------------|
| Pre-Operative             | Bowel preparation: Picolax x 2 for L sided cases, Fleet enema for R sided cases. In patients with colorectal cancer: Screen for and treat Fe deficiency + 3 drinks daily of immunonutrition for 5 days preop. Reduced starvation (food up to 6h pre-op, carbohydrate drink 2h pre-op). 2 x carbohydrate loading drinks morning of surgery (before 0600). NB. Caution in patients with delayed gastric emptying (e.g. diabetics). Pre-emptive high risk physician review if concerns re frailty or morbidity. Document end of life wishes. Education about discharge goals and arrange post-discharge support pre-emptively. Education about expected post-op pain and aims of analgesia (move and deep breathe), and that some discomfort is expected. |                           |                                |
|                           | Antibiotic prophylaxis (CALHN guidelines) Cefazolin 2g IV + Gentamicin 2mg/kg IV + Metronidazole 500mg IV (OR Ceftriaxone 1g IV + Metronidazole 500mg IV, if eGFR < 60) (OR Vancomycin 1g IV instead of Cefazolin, if penicillin / cef allergy) 0.25% Levo布upivacaine TAP block at start of case under direct vision AND TAP catheter continuous infusion (2 x 0.25% levo布upivacaine infusers, 5ml/h). Lignocaine intra-operative infusion and IPLA can also be considered - coordinate dosing between surgical and anaesthetic team. IV fluids Euvolaemic regimen with balanced solution (plasmalyte or hartmann's). 1 - 2L expected total IV fluid volume during routine colorectal case. Additional replacement of blood loss at the discretion of the anaesthetist and surgeon (suggest colloid or blood depending on volume required). |                           |                                |
|                           | Antiemetics (CALHN guidelines) Dexamethasone / Ondansetron / Droperidol |                           |                                |
|                           | Analgesia Maximise opioid sparing techniques. Under body warmer, warm air blanket if temp < 36 degrees Body temp monitoring catheter. Bladder IDC optional for right hemicolecotomy. TEDS and SCD (remove SCD at end of case) Clexane 40mg sc if no increased bleeding risk (use 20mg if wt < 50kg or CrCl < 30) Consider intra-op orogastric tube to be removed at the end of case. |                           |                                |
|                           | Warming blanket to continue in recovery if temp <36 degrees Oxygen supplementation as required to maintain SpO2 >95% (even if patient asleep) Hourly breathing + coughing (I-COUGH resp bundle: https://tinyurl.com/ycxev9x3) IV fluids 4%Dex / 0.18%/NaCl + 30KCL running at 50ml/h. Stop IV fluids completely if patient tolerating oral intake on the night of surgery. Urine output > 20ml/h averaged over 4h is acceptable, avoid bolusing |                           |                                |
|                           | Antieneemics Ondansetron 4mg IV Q8h regular Maxolon 10mg IV Q6h regular: Do not use in patients > 75 years old. |                           |                                |
|                           | Analgesia (see Appendix 1 for exclusions) Paracetamol 1g PO Q6h regular: Caution in patients < 60kg or with liver dysfunction. Pregabalin 75mg PO BD regular (50mg if > 70 yrs): Do not use if eGFR < 60. Coloxyl + Senna 1 tab BD, MgOH2 10ml BD Tramadol 50mg PO/subcut Q4h / PRN: Do not use if on SSRI or eGFR < 60. Avoid opioids completely if possible (contact surgical team if opioids required). If needed, then recommend half the age-based dosing and PCA as last resort. If PCA is required, stop pregabalin and refer to APS. |                           |                                |
**Oral intake**
- Free oral fluids from 4 hours after surgery => limit to 1000ml in first 12 hours.
- Regular diet for dinner if fluids tolerated and no nausea.
- Stop drinking if nausea or vomiting or hiccuping.
- Early NG insertion if clinical suspicion of ileus (do not wait for vomiting).
- Continue Clexane 40mg sc until discharge (use 20mg if wt < 50kg or CrCl < 30).
- Continue TEDS until discharge.
- If morning surgery and patient returns to the ward prior to 1800 => sit out of bed.
- Stop drinking if nausea or vomiting or hiccuping.
- Early NG insertion if clinical suspicion of ileus (do not wait for vomiting).
- Sit out of bed for meals.
- 4 hours in chair during the day. May be split up.
- 60 metre walk (1st).
- 60 metre walk (2nd).
- No bedpans or urinals.
- Potential for IDC removal after medical review.
- Hourly breathing + coughing (I-COUGH resp bundle):
  - **Antiemetics**
    - Ondansetron 4mg IV Q8h regular
    - Maxolon 10mg IV Q8h regular: Do not use in patients > 75 years old.
- **Analgesia (see Appendix 1 for exclusions)**
  - Paracetamol 1g PO Q6h regular: Caution in patients < 60kg or with liver dysfunction.
  - Pregabalin 75mg PO BD regular (50mg if > 70 yrs): Do not use if eGFR < 60.
  - Coloxyl + Senna 1 tab BD, MgOH2 10ml BD (Fleet enema OD for right colectomy)
  - Tramadol 50mg PO/subcut Q4h / PRN: Do not use if on SSRI or eGFR < 60.
  - Avoid opioids completely if possible (contact surgical team if opioids required). If needed, then recommend half the age-based dosing and PCA as last resort.
  - If PCA is required, stop pregabalin and refer to APS.
- Oral intake
  - General diet as tolerated.
  - Fortijuce/Sustagen/Resource drink BD.
  - Stop drinking if nausea or vomiting or hiccuping.
  - Early NG insertion if clinical suspicion of ileus (do not wait for vomiting).
  - Sit out of bed for meals.
  - 60 metre walk (1st).
  - 60 metre walk (2nd).
  - No bedpans or urinals.

**Post Op Day 1**

**Date:**

**Post Op Day 2**

**Date:**

**Oral intake**
- General diet as tolerated.
- Fortijuce/Sustagen/Resource drink BD.
- Stop drinking if nausea or vomiting or hiccuping.
- Early NG insertion if clinical suspicion of ileus (do not wait for vomiting).
- Sit out of bed for meals.
- 6 hours in chair during the day. Split up.
- 60 metres walk (1st).
- 60 metres walk (2nd).
- 60 metres walk (3rd).
- 60 metres walk (4th).
- No bedpans or urinals.

**Order medications for discharge tomorrow**

**Hourly breathing + coughing (I-COUGH resp bundle):**

**Antiemetics**
- Ondansetron 4mg PO / IV Q8h regular
- Maxolon 10mg PO / IV Q8h regular: Do not use in patients > 75 years old.
Analgesia (see Appendix 1 for exclusions) Consider change analgesia to prn
Paracetamol 1g PO Q6h regular: Caution in patients < 60kg or with liver dysfunction.
Pregabalin 75mg PO BD regular (50mg if > 70 yrs): Do not use if eGFR < 60.
Coloxyl + Senna 1 tab BD, MgOH2 10ml BD (Fleet enema OD for right colectomy)
Tramadol 50mg PO/subcut Q4h / PRN: Do not use if on SSRI or eGFR < 60.
Avoid opioids completely if possible (contact surgical team if opioids required). If needed, then recommend half the age-based dosing and PCA as last resort.
If PCA is required, stop pregabalin and refer to APS.

Oral intake
General diet as tolerated.
Fortijuice/Sustagen/Resource drink BD.
Stop drinking if nausea or vomiting or hiccupsing.
Early NG insertion if clinical suspicion of ileus (do not wait for vomiting)

Sitt out of bed for all meals
6 hours in chair. Split up.
60 metre walk (1st)
60 metre walk (2nd)
60 metre walk (3rd)
60 metre walk (4th)
100 metre walk (1st)
100 metre walk (2nd)

Day 3.
See 'criteria for discharge below
100 metre walk (1st)
100 metre walk (2nd)
100 metre walk (3rd)
100 metre walk (4th)
Can be discharged prior to completion of walks.

Oral analgesia / antiemetics take home.

Medical Staff please note criteria for safe discharge
No clinical and biochemical concern
Tolerance of general diet
Passing flatus OR bowels opened.
Acceptable pain control on oral analgesia.
Mobilising independently.
If stoma present: patient managing care independently.

Appendix 1: Some patient exclusions apply. Specifically, patients with significant renal impairment (eGFR < 60) or opioid tolerant.
(e.g. 60mg oral morphine/day, 40mg oxycodone/day, Fentanyl patch of 12mic/hr, or using illicit drugs).
All medications recommended should only be prescribed if no absolute or relative contra-indication. This is the responsibility of the prescribing physician.
This a suggested guideline only, and may not apply to all patients. Individualised treatment is still required, including earlier discharge if clinically safe.
*https://www.uptodate.com/contents/intraoperative-fluid-management