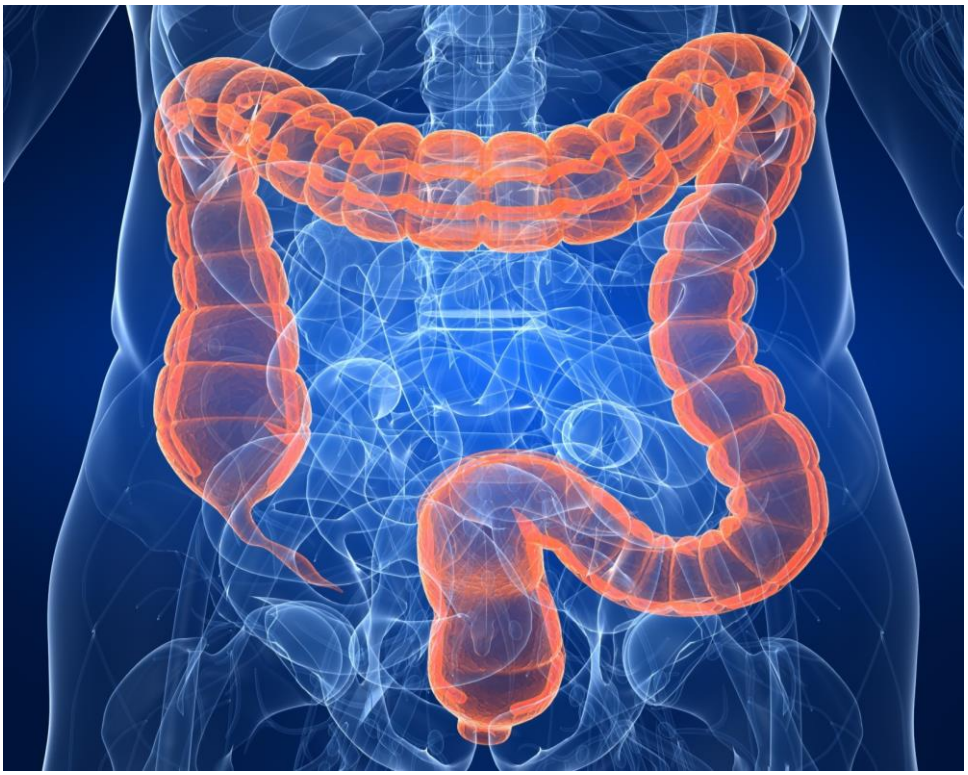
CROYDON COLORECTAL HANDBOOK



2017

A firm guide for junior doctors

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Croydon Colorectal Handbook

A FIRM GUIDE FOR JUNIOR DOCTORS

WELCOME

The colorectal team at Croydon specialises in emergency and elective bowel surgery as well as looking after acute general surgery patients. It is a fantastic team to be part of and we hope you enjoy your time with us and take an interest in colorectal surgery.

THE COLORECTAL TEAM

Consultants

Mr Robert Swift – robert.swift@nhs.net

Mr Muti Abulafi – muti.abulafi@nhs.net

Mr Said Mohamed – said.mohamed1@nhs.net

Mr Arun Shanmuganandan – arun.shanmuganandan@nhs.net

Generic secretary email – ch-tr.generalsurgery@nhs.net

Senior surgical fellow

Mr Victor Alberto – victor.alberto@nhs.net

Juniors

Registrars x 2

SHO's x 2 – consisting of FY2 and CT1/2

FY1's x 4

Bleep numbers = 779 / 797 / 440 to be carried by F1/2

Research registrars

3 registrar grade doctors undergoing research with Mr Abualfi and Mr Swift will not be part of daily firm activities but will be on the registrar on call rota

Specialist nurses

We are lucky to have a team of specialist nurses for: Cancer, Stomas, Pelvic floor and IBD.

SPECIALIST NURSES

Cancer

Ms Jo Turner-Banton, Advanced Nurse Practitioner – jtuner2@nhs.net

Enhanced recovery

Ms Jan Harris, Clinical Nurse Specialist – janice.harris5@nhs.net

Stoma

Ms Debbie Moody, Clinical Nurse Specialist – debbie.moody@nhs.net

Ms Anna Wallace, Clinical Nurse Specialist – annawallace@nhs.net

Pelvic floor

Ms Wendy Ness, Clinical Nurse Specialist – wness@nhs.net

IBD

Ms Dee Braim, Clinical Nurse Specialist – d.brain@nhs.net

WARDS

We tend to use the Queens 1 computer room as our "office". Patients will be located across all surgical wards with occasional outliers.

- Queens 1&2, Fairfield 1&2, HDU and ITU patients

Theatres

- Main colorectal theatres – 7 and 8
- Emergency theatre (CEPOD) – 6

How to book a case on CEPOD:

- *Find the patient, go to requests*
- *Request operation with EMER prefix e.g./ (EMER appendicectomy)*
- *Go to scheduling appointment book Click on this icon* 
- *On the second drop down box select Emergency request, click Find*
- *Scroll down to find patient, Right click on the patient and select schedule, then OK*
- *The theatre lists will appear, Click on theatre 6*
- *Scroll down to find a space on theatre 6 (order does not matter)*
- *Click schedule, Then OK, Click confirm, Click OK*

- *To check what is on CEPOD go to home page*
- *In top right hand corner box type main 6 and press enter*

TIMETABLES

General Firm Timetable

Handover occurs in the theatre coffee room every morning. Core surgical trainees should attend every day. One F1 should attend when the team is on take (we recommend this is the same F1 for a week to maintain continuity)

	Monday	Tuesday	Wednesday	Thursday	Friday	Weekend
AM	7.30am – SHO and registrars (+ F1 if firm on take)	7.30am – SHO and registrars (+ F1 if firm on take)	7.30am – SHO and registrars (+ F1 if firm on take)	7.30am – SHO and registrars (+ F1 if firm on take)	7.30am – SHO and registrars (+ F1 if firm on take)	8 am handover
	8am Ward round All day Abulafi list (theatre 7)	**Cancer joint MDT 8am SHO and registrars** (no FY1 to document) 8am Ward round All day Swift list (theatre 8)	8am Ward round **Local MDT 12pm SHO, registrars** + F1 to document Alternating weeks normal MDT and polyp MDT	8am Ward round 11am Mr Swift Ward round (meet in coffee room) All day Mohamed list (theatre 8)	8am Mr Abulafi Ward round (meet on Q1)	
PM	All day Abulafi list (theatre 7)	All day Swift list (theatre 8)		All day Mohamed list (theatre 8) Mr Swift list (theatre 9) – alternate weeks Victor Day Surgery list	**1pm X-ray meeting (X-ray seminar room)** **2pm Weekend handover (PGMC)**	

Abulafi/Mohamed Registrar:

	Monday	Tuesday	Wednesday	Thursday	Friday
AM	7.30 Handover 8am Ward round 8.30 Abulafi list all day	7.30 Handover 8am MDT Colonoscopy	7.30 Handover 8am Ward round 12 MDT	Purley clinic Mohamed list all day	7.30 Handover
PM	Abulafi list all day	Clinic	Admin	Mohamed list all day Ward round Admin / DSU list	1pm X-ray meeting Admin

Swift/Mohamed Registrar:

	Monday	Tuesday	Wednesday	Thursday	Friday
AM	Purley clinic / Colonoscopy	7.30 Handover 8am MDT Swift all day list	7.30 Handover 8am Ward round 12 MDT	7.30 Handover 8am Ward round Mohamed list all day	7.30 Handover
PM	Admin	Swift all day list	Clinic	Mr Swift list (alt weeks) Mohamed list all day Colonoscopy	1pm X-ray meeting Admin

Core Surgical Trainee

	Monday	Tuesday	Wednesday	Thursday	Friday
AM	7.30 Handover 8.30 Abulafi list all day	7.30 Handover 8am MDT 8.30 Swift list all day	7.30 Handover 8am Ward round 12 MDT	7.30 Handover 8am Ward round Mohamed list all day	7.30 Handover
PM	Abulafi list all day	Swift list all day	Mr Swift Clinic	Mr Swift list (alt weeks) Mohamed list all day Day Surgery list (Victor)	1pm X-ray meeting

HANDOVER

- Handover occurs in the theatre coffee room every morning at 7.30. Core surgical trainees should attend every day as it is a good learning opportunity.
- One F1 should attend when the team is on take, this can be one person for the whole week or a different person each day. The others shall start at 8am for the colorectal ward round on Queens1.
- The on call SHO from overnight and the previous day will present the patients admitted over the last 24 hours. After handover one F1 will go on the take ward round.
- There is another handover at 5pm in the theatre coffee room which you should attend if you are the F1 on take.

Weekend handover

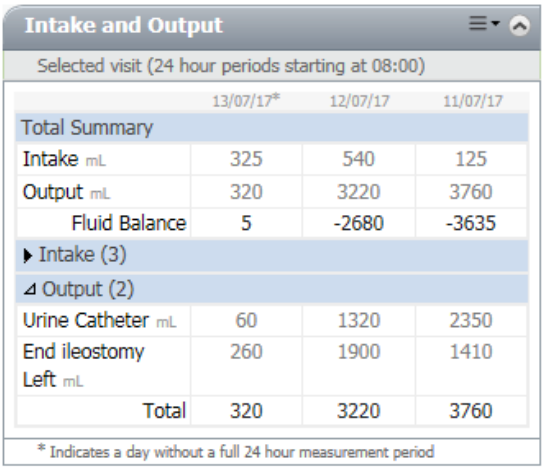
- PGMC at 2pm, a representative from our team should attend
- On Friday F1s must add all patients to a weekend surgical list. **This list is kept on – the homepage / junior doctors / general surgery / surgical handover / weekend list**
- If our team has been on take Monday-Friday then patients from the take should now be merged with our own colorectal list and added to the weekend summary list

WARD ROUNDS

- Please come in at 8am and update the list with any new colorectal patients we have taken from the morning handover (the registrar or SHO will inform you if there are any)
- Print the list out with copies for everyone and start the ward round
- Please be proactive and start the ward round when you get in, if your seniors are busy consenting or in theatre you can still see patients and gather information. They will then see the patients between cases.
- Mr Abulafi ward round – please be ready to start at 8am on Q1, have the list printed and a computer ready. You will only see the patients under Mr Abulafi.
- Mr Swift ward round – please meet him in the coffee room at 11am. You will only see the patients under Mr Swift.
- **Important information to know for every ward round:**
    - Stoma output over the last 24 hours
    - Urine output
    - Observations
        - Temperature spikes and when
    - Blood tests
        - In particular Hb, WCC and CRP trends
    - Drug charts
        - Anitibiotics, when these were started / stopped
- When reviewing patients on your own:
    - Does the patient have any pain
    - Have they been mobilising?
    - Opening bowels ? Passing urine?
    - What are they eating and drinking?

The easiest way to look at output / output balance on cerner :

- Patient Summary
- Input / Output
- Click on arrow to dropdown 'output'
- Click on e.g. 'urinary catheter'



Intake and Output

Selected visit (24 hour periods starting at 08:00)

	13/07/17*	12/07/17	11/07/17
Total Summary			
Intake mL	325	540	125
Output mL	320	3220	3760
Fluid Balance	5	-2680	-3635
▸ Intake (3)			
◿ Output (2)			
Urine Catheter mL	60	1320	2350
End ileostomy Left mL	260	1900	1410
Total	320	3220	3760

* Indicates a day without a full 24 hour measurement period

THE PATIENT LIST

- Please keep the list of patients up to date with accurate information. **The list is kept on – the homepage / junior doctors / general surgery / colorectal list**
- If you know there is a colorectal surgery list on then please check which patients will be admitted after surgery and add them to the list. Please check post-operative plans documented on the operation note.
- **Important information to keep on the list:**
    - Date of admission
    - Which consultant they are under
    - Date of any operations
    - Antibiotics, when these were started / stopped
    - Record of who is on Dalteparin / anticoagulation

Merging of take lists – IMPORTANT FOR F1s

- When we are on take, the colorectal list is kept separate to the take list
- The lists should be merged i.e. take patients added to normal colorectal list on a *Friday* (after a Monday – Friday take) and on a *Monday* (after a weekend take)

PATIENTS ADMITTED PRE-OPERATIVELY

- Some Mr Abulafi patients are admitted on a Sunday in preparation for their surgery on Monday
- Some Mr Swift patients are admitted on a Monday in preparation for their surgery on Tuesday
- Things to remember for these patients
    - They may need bowel prep (see section on bowel prep for what they need)
    - Do not leave this for the admitting doctor to work out, please document what they need
    - They need a full set of bloods (FBC, U&E, clotting and check they have 2 valid group and saves)

Checking for valid group and save:

- **Open path wardenq application**
- **Username : WARDENQ**
- **Password: viewonly**
- **Type in patient hospital number**
- **Dates group and save are taken will appear (there need to be 2)**

- **Alternatively ring the transfusion lab on 3466 to check samples**

GENERAL SURGERY ON CALL / ON TAKE

- The consultants (except Mr Swift) are all on the general surgery take rota. This means that regularly our colorectal firm will be responsible for all new surgical admissions. At these times we will accumulate many more patients and the work intensity will be higher for a period.

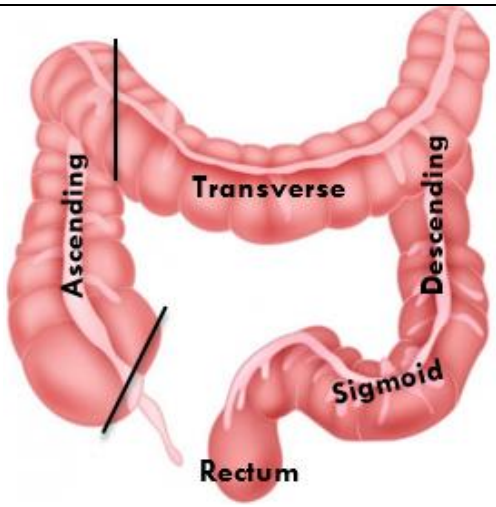
- You will all be looking after general surgery patients so it is important to understand the general presentation, investigations and management of these commonly admitted issues.

- Common admissions on the take:

- **Appendicitis / RIF pain**
- **Diverticulitis**
- **PR bleeding**
- **Head injuries**
- **Small bowel obstruction**
- **Large bowel obstruction**
- **Perforation**
- **Complications of colorectal cancer**
- **Pancreatitis / cholecystitis / biliary colic (patients usually handed over to upper GI team after confirmation of diagnosis)**
- **Vascular (patients handed over to vascular team)**

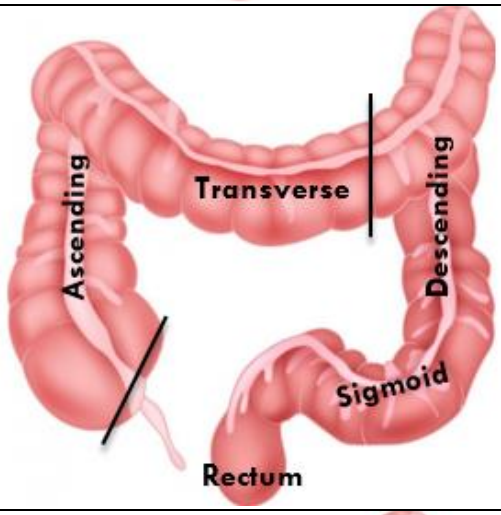
OPERATIONS

- The following operations are performed as both elective and emergency cases by all consultants
- It is important to understand the basics of these procedures so that you can look after these patients in the post-operative period



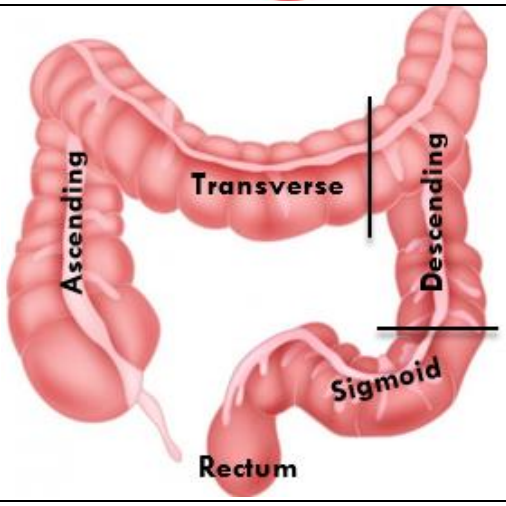
Right Hemicolectomy

- What? Removal of the right side of the colon and terminal ileum
- Why? Tumours in the caecum and ascending colon
- Scars? Laparoscopic OR midline laparotomy
- Stoma? Ileocolic anastomosis (no stoma)



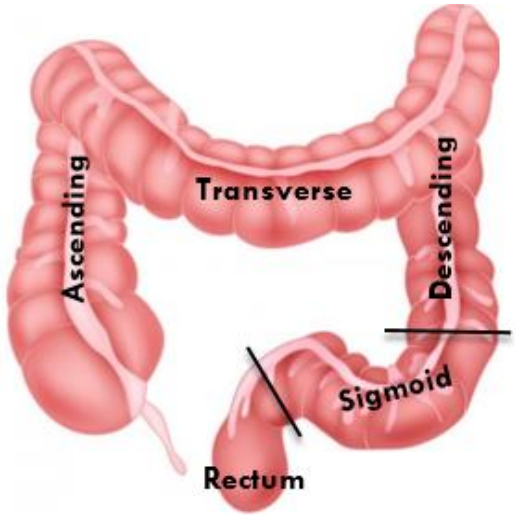
Extended Right Hemicolectomy

- What? Removal of the right and transverse colon
- Why? Tumours in the upper ascending colon or transverse colon
- Scars? Laparoscopic OR midline laparotomy
- Stoma? Ileocolic anastomosis (no stoma)



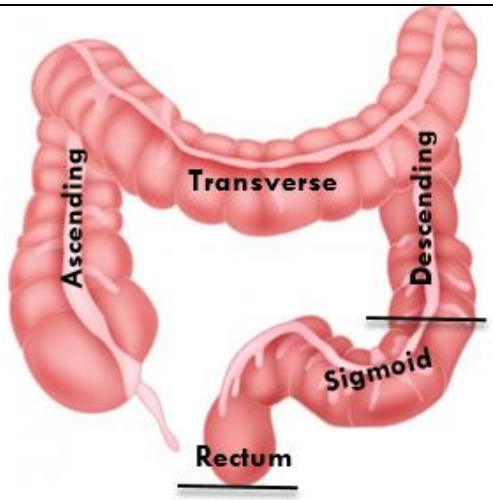
Left Hemicolectomy

- What? Removal of the left side of the colon
- Why? Tumours in the descending colon
- Scars? Laparoscopic OR midline laparotomy
- Stoma? Colocolic anastomosis (no stoma)



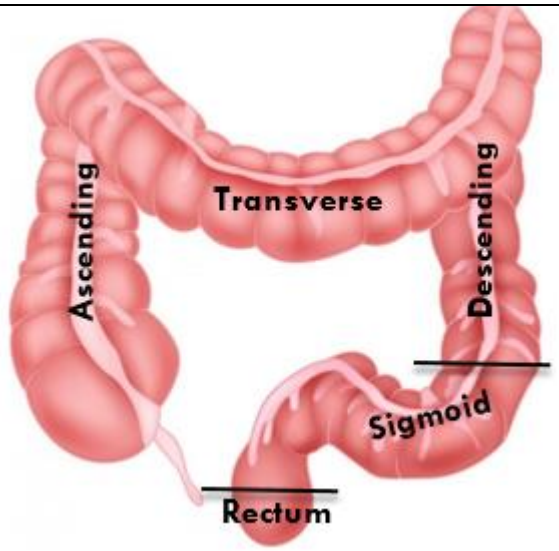
Hartmann's Procedure

- What? Removal of the sigmoid colon with the proximal bowel made into an end colostomy and the distal bowel oversewn to leave a stump
- Why? Obstruction of perforation from sigmoid tumour or diverticulitis
- Scars? Midline laparotomy
- Stoma? Single lumen colostomy in LIF
- Patients can be reversed eventually (put stoma back in and rejoin bowel ends)



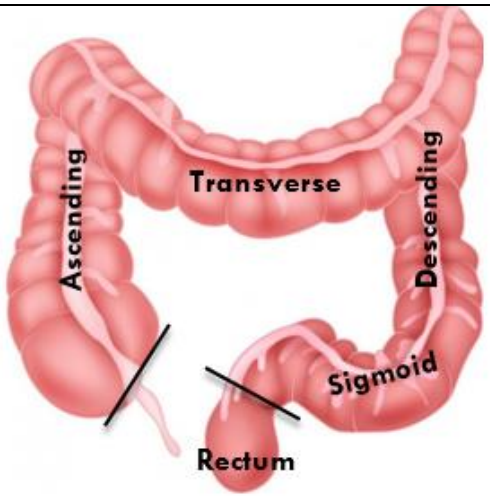
Abdomino-perineal "AP" resection

- What? Removal of the sigmoid and rectum (via the abdomen), removal of the anus (via the perineum)
- Why? Rectal cancer <4cm from the anal verge
- Scars? Midline laparotomy
- Stoma? End colostomy in LIF



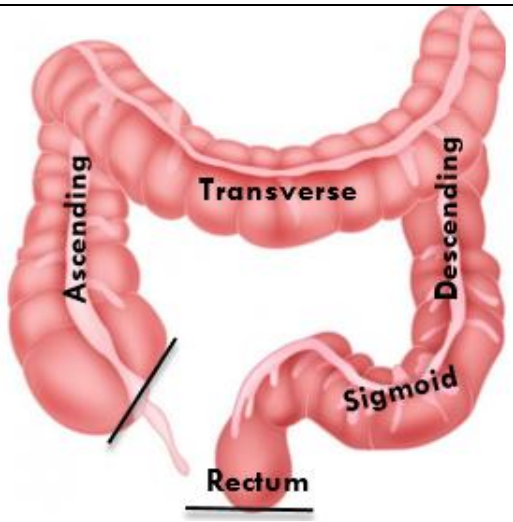
Anterior resection

- What? Removal of the sigmoid and rectum (via the abdomen)
- Why? Rectal cancer >4cm from the anal verge
- Scars? Laparoscopic OR midline laparotomy
- Stoma? Colon-rectum anastomosis (no stoma) OR ileostomy in RIF



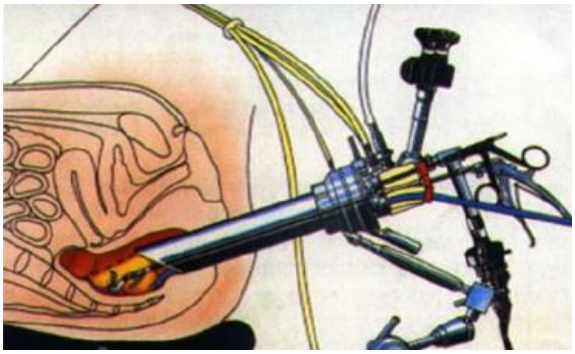
Subtotal colectomy

- What? All colon excised except distal sigmoid and rectum
- Why? IBD
- Scars? Laparoscopic OR midline laparotomy
- Stoma? Ileostomy in LIF
- Patients can be rejoined eventually with ileorectal anastomosis or ileal pouch-anal anastomosis



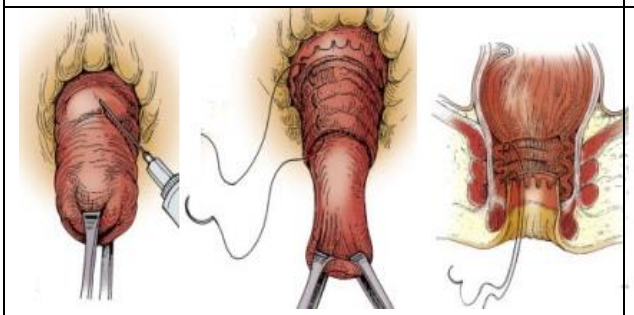
Panproctocolectomy

- What? All colon, rectum and anus removed
- Why? IBD or familial polyposis
- Scars? Laparosocpic OR midline laparotomy
- Stoma? Permanent ileostomy in LIF



TEMS / TAMIS

- What? Transanal endoscopic microsurgery / Transanal minimally invasive surgery
- Why? Polyps too large for removal at colonoscopy or small cancers in the rectum
- Scars? No external scars as performed from inside the rectum



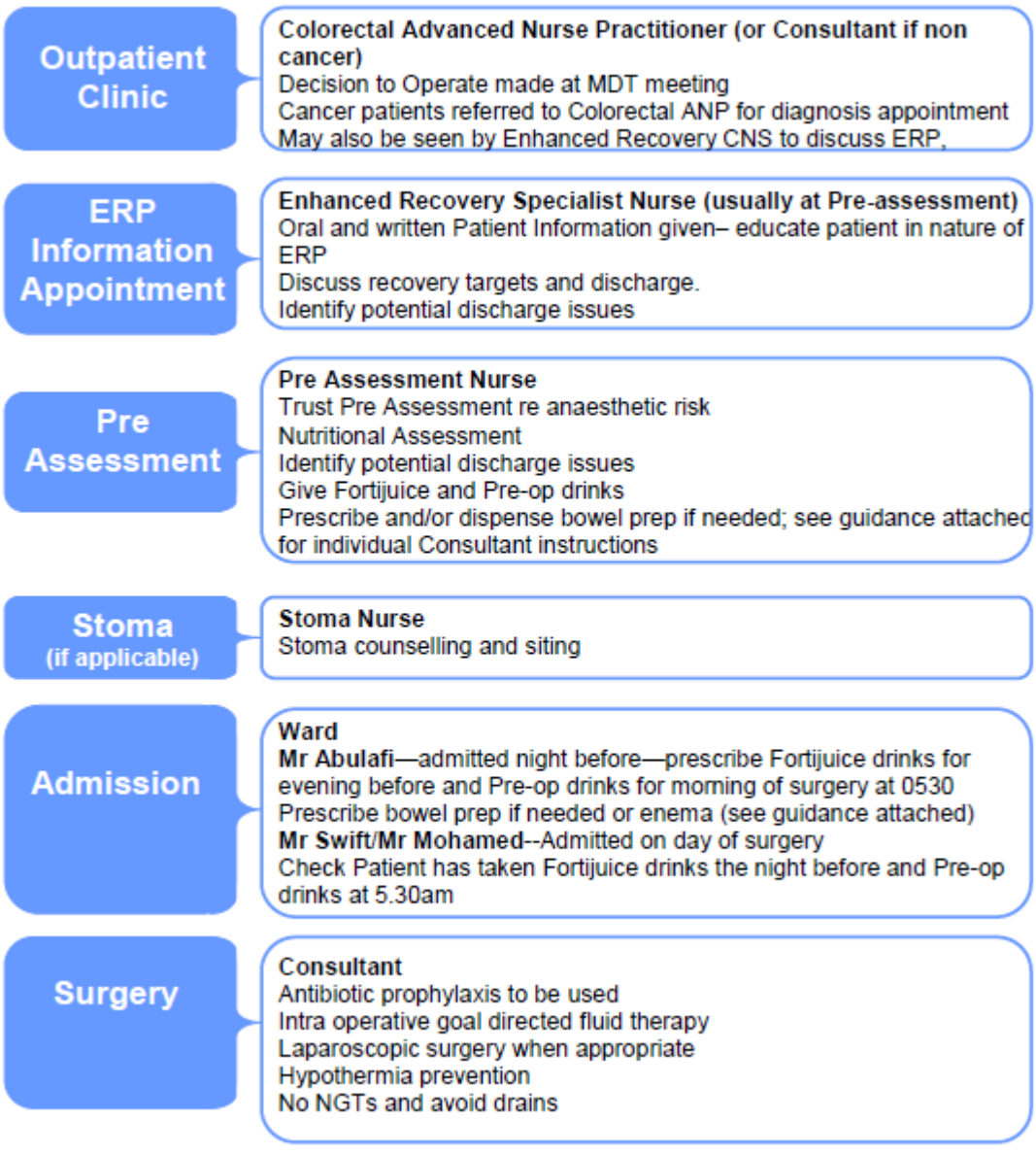
Delormes

- What? Perineal procedure involving mucosal sleeve resection then plication
- Why? Rectal prolapsed full thickness

ERAS = ENHANCED RECOVERY AFTER SURGERY

This is a way of managing patients post operatively that is commonly employed in colorectal surgery. It aims to get patients back to full health as quickly as possible after surgery. There is a dedicated ERAS nurse at Croydon who coordinates this pathway:

Jan – Enhanced Recovery Nurse Bleep 245



** After surgery patients will have telephone support for about 1 week from the specialist nurses

General Guidelines for Post Operative Stay

- Post op analgeisa is an epidural, unless the patient declines, or there is a specfic contra-indication, in which case PCA is used. Epidural reduces mobilisation so should be removed as soon as is appropriate. (Some variations between Consultants.)
- Opiate analgesia ideally to be avoided
- Catheter should be reviewed regularly and removed as soon as fluid balance is stable and epidural catheter has been removed.
- IV Hartmanns essential.
- Early oral hydration and nutrition essential
- VTE Prevention throughout is TED stockings and Dalteparin 5,000 i.u.
- See attached tables for medication prescribing **guidance**, always subject to **individual Consultant preference.**

Day of Surgery Post Op

Ward
Free fluids as tolerated
Sit out of bed up to 2 hours
IV Hartmanns 125mls/hrly
Fortijuice Drink x2
Deep Breathing and Supported cough
Medication—as directed by anaesthetist
IV Paracetamol 1g QDS
IVAB'S as per local policy
Other antiemetics/analgesia as per Consultant

Post Op Day 1

Ward
Eat small light meal if appropriate.
Free Fluids as tolerated
Fortisip Compact or Fortijuice drinks x2
Sitting 2 h out of bed
10m walks x4
IV Hartmanns 2L/24hrs max
Continue epidural
Daily review by Pain team
Supervised emptying of Stoma x2
Medications
IV Paracetmol 1g QDS
Other antiemetics/analgesia as per Consultant

Post Op Day 2

Ward
Small meals, light soft diet if tolerating.
Drink freely today
Fortisip Compact or Fortijuice drinks x2
Sitting 4h out of bed
Catheter may be removed if epidural down/mobilising.
Walk at least 20m x 4
Review IV and terminate if appropriate
Supervised change inc removal and disposal of stoma pouch by patient
Confirm whether OT assessment necessary
Medications
IV Paracetmol 1g QDS
Other antiemetics/analgesia as per Consultant

Post Op Day 3

Ward
Stop IV fluids, remove catheter and halt epidural if in situ at 8.00
Light to normal diet if tolerating.
Sitting 6h out of bed
Walk at least 30m x4
Educate patient to check epidural site on discharge
Stoma – Supervised complete change
Medication
Oral Paracetamol 1g QDS
Other antiemetics/analgesia as per Consultant

Post Op Day 4

Ward
Complete TTOs incl Dalteparin total 28 days
Confirm Discharge date; check if any additional support is organised
Light to normal Diet
Supplement drinks if not tolerating diet
Sat out of bed up to 8 hrs
Walk at least 40m x4
Ward nurse to teach self-injection of Dalteparin
Stoma – Independent change under supervision
Medication
Oral Paracetamol 1g QDS
Other antiemetics/analgesia as per Consultant

Post Op Day 5

Ward
Check TTOs
Ward to complete referral to District Nurse
Normal Diet
Sat out of bed up to 8 hrs
Walk to doorway x4
Stoma – Independent change under supervision
Medication
Oral Paracetamol 1g QDS
Other antiemetics/analgesia as per Consultant

Discharge

All professionals to sign off that patient is ready for discharge
TTOs written
TTOs dispensed
Discharge patient with Dalteparin for total 28 days
Discharge Summary written
Treatment Summary for cancer surgeries
Patient aware of what to do re removal of clips/sutures
Out Patient Appointment to be booked for 4-6 weeks with ANP

Follow Up

Colorectal ANP and/ or Enhanced Recovery CNS
to call the patient 24hrs following discharge and as often as thought necessary thereafter
Colorectal ANP will telephone cancer patients with results of MDTM post-op discussion
Stoma Nurse to home visit for Stoma check and epidural site
OPA in 4-6 weeks with Colorectal ANP for cancer patients
Surgical follow up clinic OPA for non-cancer patients

ORAL INTAKE AFTER SURGERY

- After colorectal operations, in particular where there is an anastomosis, patients are gradually brought back to a normal diet
- Please follow exact instructions from consultants and registrars about what patients may eat and drink
- Instructions for oral intake must be told to the patient and nursing staff and written on the whiteboard at their bed space

Sips water → fluids → soft diet → normal diet

- Jan (ERS specialist nurse) and Jo (Cancer specialist nurse) will discuss diet with all patients on an individual basis

STOMAS

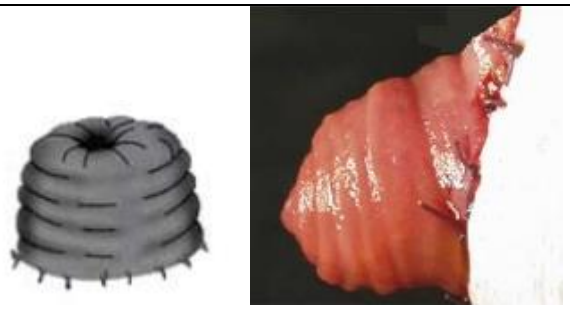
Ileostomy

- Located in the RIF (usually)
- Small bowel content is an irritant – therefore ileostomies are spouted
- Liquid effluent

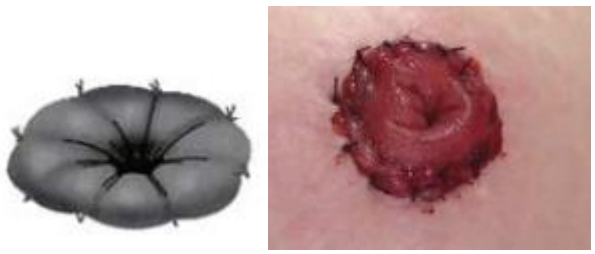
Colostomy

- Located in the LIF (or RUQ if transverse loop colostomy)
- Flush with skin surface
- Solid effluent

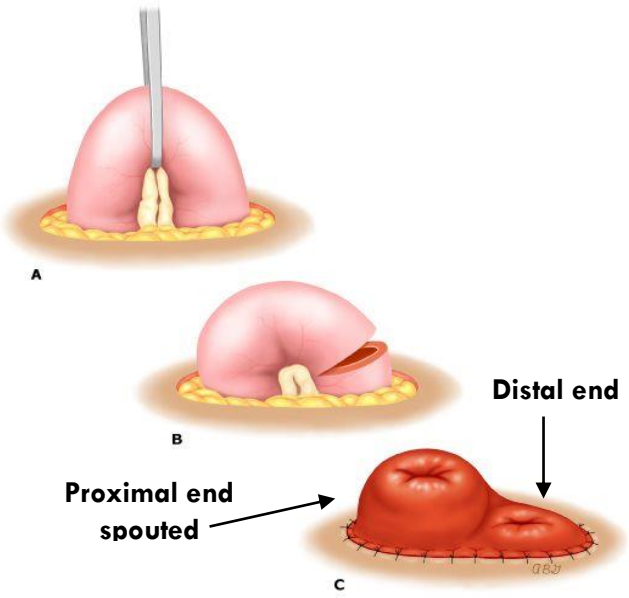
Keep an eye on stoma output (high output ileostomy >1000ml/day)



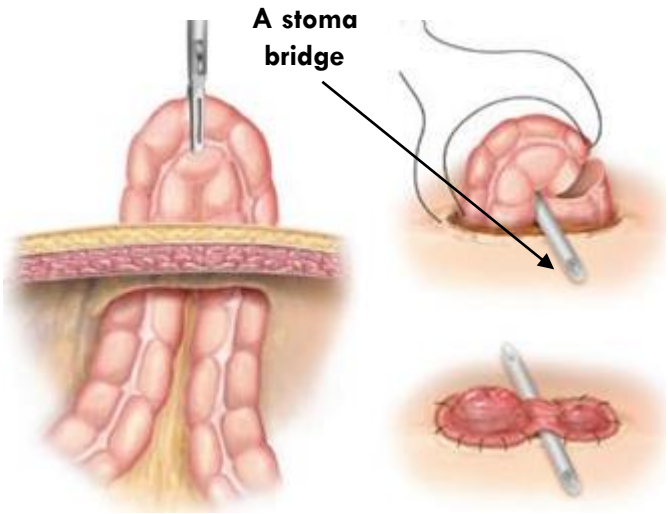
End ileostomy



End colostomy



Loop ileostomy



Loop colostomy

Stoma nurses

Please ensure stoma nurses are aware of all patients who have a stoma (elective or emergency) Contact 3641 Bleep 315

- Stoma nurses will come and see patients who may end up with a stoma to counsel them and to mark a site suitable for the stoma
- Please also ensure the stoma nurses to come and see patients regularly post operatively to train them in stoma management
- Stoma siting should be done with the patient standing up to ensure they can see the stoma
- Avoid bony prominences, skin folds and creases, waistline, old scars
- Choose a site easily accessible to the patient

Stoma complications

- Be aware of stoma complications and discuss any concerns with your seniors
- Early
    - Haemorrhage
    - Ischaemia **(Stoma should be pink and healthy looking, pale stoma may indicate anaemia, blue stoma may indicate ischaemia)**
    - High output **(Can cause hypokalaemia and dehydration, loperamide 4mg QDS to reduce stoma output)**
    - Retraction

- Late
    - Parastomal hernia
    - Obstruction
    - Dermatitis
    - Prolapsed
    - Stenosis / stricture / retraction

COMMON INVESTIGATIONS

Bloods

- Routine bloods can be put out for the phlebotomists, please do this the day before
- Blood cultures are usually taken by F1s, only some nurses have training

Plain radiographs – CXR, AXR

- During working hours patients will go to AMU for their X-ray, out of hours patient go down to A&E
- For an erect chest X-ray patients should be sat upright for 20minutes, the radiographer usually coordinates this, make sure to put "erect chest ?perforation" in the comments
- Abdominal X-rays are performed for patients with ?bowel obstruction and to look for gastrograffin

Gastrograffin

- Patients with small bowel obstruction are often given a concentrated contrast drink - gastrograffin
- Prescribe as "100ml gastrograffin once only orally"
- Approximately 4 hours after drinking gastrograffin patients should go for AXR
- Gastrograffin is both diagnostic and therapeutic in small bowel obstruction
    - It will help to reduce bowel wall oedema and may stimulate peristalsis
    - Its progress through the GI tract can be monitored with serial AXR to see how much passage of bowel contents there is through the intestine

Gastrograffin (Water soluble) enema

- To confirm integrity of rectal anastomoses post operatively, some consultants like this study
- It can also be used to look for fistula tracks
- Request as " water soluble enema " on cerner
- The radiologists will organise this investigation and a report will be given on cerner
- The patient is given the enema downstairs in radiology and series of images are taken

CT abdomen pelvis

- The investigation of choice for many acute abdomen presentations and post operative complications is a CT scan with contrast
- Patients must have good renal function for a contrast CT (usually eGFR >30 minimum)
- Check for iodine allergy
- Patients should have a pink coloured cannula or larger
- Request CT scan and discuss with on call radiologist via switch (or 4644), or go in person

Ultrasound scans

- Request on cerner then discuss in person (go down to ultrasound department)
- Investigation of choice for
    - Liver and biliary tree imaging, monitoring or looking for a collection, abdominal pain in young patients

LINES / TUBES / DRAINS

Central line

- A central line is a line inserted into either the internal jugular or subclavian (or femoral) **vein**
- Uses in colorectal surgery
    - Total parenteral nutrition (this cannot be given through peripheral cannula)
    - CVP monitoring – fluid balance
- Central lines are inserted by anaesthetics / ITU staff

PICC line

- Peripherally inserted central catheter
- This is a line inserted into a peripheral vein e.g. basilic or cephalic which is then advanced into a larger central vein
    - Uses
        - Fluids / antibiotics in patients who are difficult to cannulate
        - Long term TPN
        - Long term antibiotics
- Patients can be discharge with a PICC line if needed
- PICC lines are inserted by interventional radiology

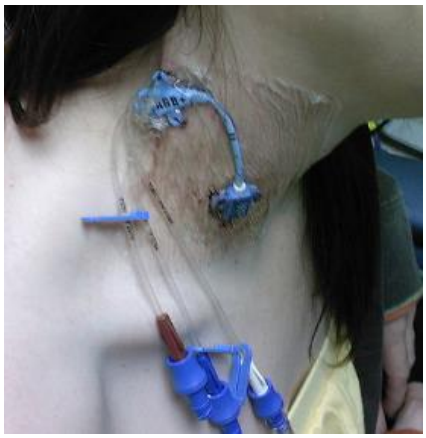
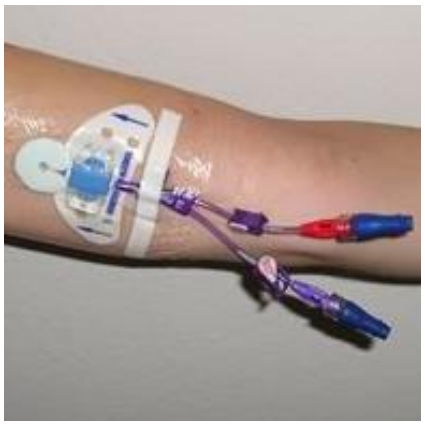
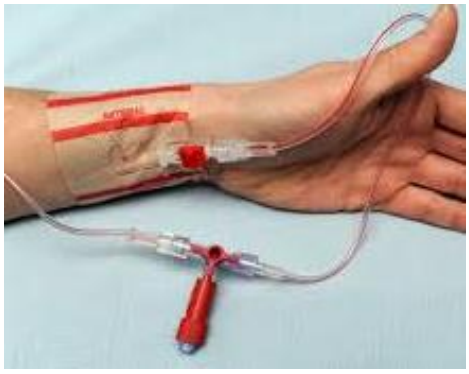
Interventional radiology

- PICC insertion
- USS guided drainage of collections

Contact on 4167 or speak to Heather (IR nurse) on 3409

Arterial line

- Patients on ITU / HDU postoperatively may have an arterial line
- This is a line inserted into the radial or brachial (or femora) **artery**
- Uses
    - Invasive BP monitoring
    - Arterial blood gas sampling
- Arterial lines are inserted by anaesthetics / ITU staff

Central line	PICC line	Arterial line
		

Nasogastric tubes

Ryles nasogastric tube

- Used in bowel obstruction to drain the stomach
- This tube is clear
- It is wider bore, stiffer, has a radio-opaque line and a metal tip
- You do not need to confirm this tube position on X-ray

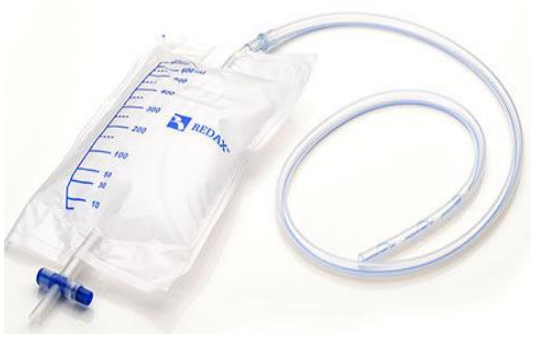
Nasogastric feeding tube

- Used for feeding
- This tube is usually opaque yellow
- It is fine-bore, made of soft silicone, contains a radio-opaque guide wire to stiffen the tube and to visualise on X-ray
- This tube position must be confirmed on X-ray

Drains

- Many surgical patients have abdominal drains post operatively to prevent fluid accumulation or drain an established collection

- Removal
  - Only remove a drain if specifically told to by a senior (usually if output <25-20ml/day)
  - The nurses can remove drains if you ask them

Non suction (Passive)	Suction (Active)
• E.g. Robinson	• E.g. Redivac
	

Catheters

- 12/14F is fine for females, 14/16F is fine for males
- 3 way catheters are used for patients with frank haematuria who need irrigation
- Our surgical consultants and registrars do not cover urology. Please speak to the urology team for specific advice

Latex short term catheter	Silicone long term catheter
• Opaque yellow • Main type used on the wards • Last approx 1 month • Come inside catheter pack	• Opaque blue (clear at other trusts) • Used for long term catheterisation as silicone is less irritative to the urothelium • (or difficult catheterisation as slightly stiffer which aids insertion) • Last approx 3 months • Are in separate packing to catheter pack
	

HEPARIN / WARFARIN

- IMPORTANT = Make sure all patients have a VTE assessment on Cerner
- All patients (unless contraindicated) should be prescribed prophylactic heparin and ted stockings
- This is usually given at 6pm by the nursing staff (therefore does not need to be held pre-operatively unless you are told otherwise)
- IMPORTANT – check the patients weight (as <50kg gets reduced dose) and renal function (as patients with poor renal function get unfractionated heparin)

5000 units Dalteparin once daily + TEDS
(If <50kg then 2500 units)

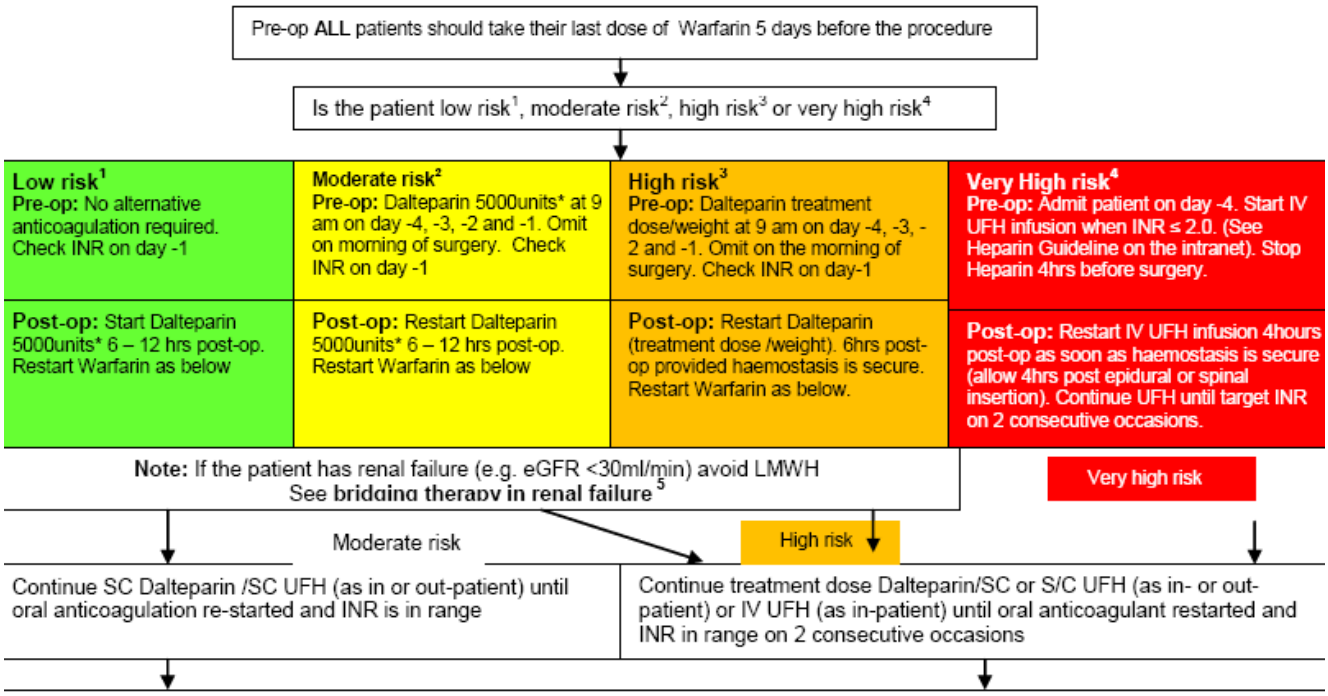
- Please check with a senior if you are unsure if a patient may have heparin. Some reasons to hold heparin may be:
    - Already anticoagulated (e.g. warfarin)
    - Active bleeding
    - Thrombocytopenia <100,000
- Treatment dose Dalteparin
    - For PE and DVT this is a once daily weight based dosing, see trust guidelines for dose

IMPORTANT –
- **Cancer patients who have had surgery need a total of 28 days of dalteparin**
- **They will need to be sent home with this as a TTA**
- **They will need to be trained how to give this (usually ward nurses do this)**

- Direct oral anticoagulants (DOACs)
    - Apixiban, dabigatran, rivaroxaban, edoxaban
    - Can be used as treatment for DVT and PE now instead of warfarin
    - First start treatment dose dalteparin, then discuss with haematology for which agent to start
- DOACs are not licensed for cancer patients
    - Therefore discuss with haematology which agent to start after treatment dose dalteparin

Holding anticoagulation pre-procedure or pre-operatively

- It is best to always check with consultant / haematologist as local guidelines can change
- The full guidelines can be found via the trust homepage – use the search box



Re-starting oral anticoagulant

If there is no excessive bleeding, ideally restart warfarin on the evening of surgery (obtain surgical consultant/SpR approval first) once oral intake has been established.

Providing INR is less than 1.5, restart with a loading dose of **1.5 x patient's usual dose for 3 days,** then continue on usual dose (e.g. a patient who usually takes 5mg warfarin, should receive 7.5 mg for 3 days and then continue on 5mg). **If the INR is more than 1.5**, contact haematology SpR for advice re-dosing.

Note: If any medications that interact with warfarin have been started/stopped during admission contact haematology SpR for advice re-dosing.

Refer to local anticoagulation clinic within 3 days of discharge if INR is not in range pre-discharge; within 5 days if 2 consecutive INR's in range. * For patients outside(45-99kg) weight range, see intranet for dosing guide of prophylactic dalteparin.

Low risk[1]

- None valvular AF(prior stroke or TIA) target INR 2.0-3.0 ***unless***
  - TIA/CVA within the last 3 months (ideally postpone surgery)
  - **Patients with low risk AF (no prior stroke or TIA) do not need bridging with LMWH.**
- VTE-Target INR 2.0-3.0 unless with:
  - Active cancer – moderate risk
  - VTE within last 3 months – moderate risk
  - VTE within last 6 weeks - high risk (ideally defer surgery, consider use of temporary IVC filter)

Moderate risk[2]

- DVT/PE (6-12 weeks ago) target INR 2.0 - 3.0
- Valvular AF (even if target INR 2-3)
- AF with TIA/CVA within the last 3 months (ideally defer surgery)
- Left ventricular thrombus

High risk[3]

- VTE within the last 6 weeks - Ideally defer surgery, consider use of temporary IVC filter
- Anitphospholipid Syndrome
- Thombophilia with DVT/PE OR multiple DVT/PE
- Any indication with target INR 3.0-4.0, unless mechanical cardiac valves when **very high risk[4]**

Bridging therapy in renal failure[5]:

- Use UFH 5000 units SC three times a day instead of dalteparin 5000u* .
- Use IV UFH infusion instead of treatment dose of dalteperin. Start IV UFH infusion when INR <2.0 (see intranet for IV heparin guidelines), stop 4 hours before surgery, restart 4hours post-op provided haemostasis is secure.
- For elderly patients with eGFR 20-30ml/min dalteparin 7500u daily may be considered on short term individual basis as alternative to IV UFH. Caution as risk of accumulation & increased bleeding with prolonged use of LMWH heparin in renal failure. It may be useful to monitor anticoagulant effect in such patients with anti-Xa assay. Discuss with haematology SpR or Bln 143 or haem lab doc. on ext. 3026

	Dabigatran *(Pradaxa®)*			Rivaroxaban *(Xarelto®)*, Apixaban *(Eliquis®)*, *Edoxaban (Lixiana®)*		
Surgery & invasive procedures	**No important bleeding risk and/or adequate local haemostasis possible (e.g. dental interventions, ophthalmological precedures, endoscopy without surgery, superficial surgery):** **Perform procedure ≥12 hours after last intake of dabigatran or apixaban/ perform procedure ≥24 hours after last intake of rivaroxaban or edoxaban** **There is no need for bridging with LMWH/ UFH**					
	Renal function	**Low risk procedure***	**High risk procedure^**	***Renal function***	**Low risk procedure***	**High risk procedure^**
	CrCL> 80 ml/min	Stop DOAC ≥ 24 hours prior to procedure	Stop DOAC ≥ 48 hours prior to procedure	***CrCL> 80 ml/min***	Stop DOAC ≥ 24 hours prior to procedure	Stop DOAC ≥ 48 hours prior to procedure
	CrCL 50-80 ml/min	Stop DOAC ≥ 36 hours prior to procedure	Stop DOAC ≥ 72 hours prior to procedure	***CrCL 50-80 ml/min***	Stop DOAC ≥ 24 hours prior to procedure	Stop DOAC ≥ 48 hours prior to procedure
	CrCL 30-50 ml/min	Stop DOAC ≥ 48 hours prior to procedure	Stop DOAC ≥ 96 hours prior to procedure	***CrCL 30-50 ml/min***	Stop DOAC ≥ 24 hours prior to procedure	Stop DOAC ≥ 48 hours prior to procedure
	CrCL 15-30 ml/min	N/A	N/A	***CrCL 15-30 ml/min***	Stop DOAC ≥ 36 hours prior to procedure	Stop DOAC ≥ 48 hours prior to procedure
	*__Low bleeding risk procedures__: Endoscopy with biopsy, prostate or bladder biopsy, pacemaker or ICD implantation, non-coronary angiography ^__High bleeding risk procedures__: Spinal or epidural anaesthesia, lumbar puncture, thoracic or abdominal surgery, major orthopaedic surgery, liver or kidney biopsy, transurethral resection of prostate, extracorporeal shockwave lithotripsy					
Post operative phase	• Dabigatran, rivaroxaban, edoxaban and apixaban should be restarted as soon as possible after the invasive procedure or surgical intervention provided the clinical situation allows and adequate haemostasis has been established. • For procedures with immediate and complete haemostasis, dabigatran, rivaroxaban, edoxaban and apixaban can be resumed 6–8 hours after the intervention; therapeutic anticoagulation by restarting dabigatran, rivaroxaban, edoxaban and apixaban should be deferred for 48 to 72 hours after high risk invasive procedures.					

FLUIDS

Daily requirements

- Maintenance requirements are approximately
  - 3L fluid per day
  - Na 100mmol per day
  - K+ 60mmol per day
- Minimum urine output 0.5ml/kg (30ml/h)
- We prescribe either
  - 0.9% normal saline + 5% dextrose with 20mmol K+ in each bag
  - Hartmann's solution (remember this only has 5mmol of K+)

The easiest way to look at output / output balance on cerner :

- Patient Summary
- Input / Output
- Click on arrow to dropdown 'output'
- Click on e.g. 'urinary catheter'

Fluid balance

- Check input / output balance chart on cerner (see 'ward rounds' for how)

CANCER PATIENTS

- Jo Turner-Banton should be your main contact for cancer patient queries
- She needs to be aware of all the cancer patients whether new or previously known
- Post surgery follow up for cancer patients is with Jo 4-6 weeks after discharge
    - Write on discharge summary "ANP clinic 4-6weeks"

- All cancer patients need a discharge summary AND a treatment summary
- ***Remember all cancer patients need 28 days of prophylactic dalteparin post operatively***

CANCER TREATMENT SUMMARY

- These are to help the GP and other clinical staff quickly review a patients cancer diagnosis, staging and treatment received / planned.
- To complete a cancer treatment summary :
    - Go to pre-configured templates on cerner
    - Type 'cancer' in the search box
    - Use template 'Surgery – cancer treatment summary'

MDT'S

- There are 2 MDT's per week, in the PGMC meeting room
    - Tuesday 8am Cancer Joint MDT
    - Wednesday 12pm Local MDT / polyp MDT (either one alternating weeks)
- SHO's and registrars present all patients at both
    - Registrars will prepare their relevant consultants patients
    - SHO's will present Mr Mohamed's patients or cover for registrar patients if they are absent

- F1's attend only on Wednesdays to document

- F1's need to prepare the cerner proformas

- F1's need to complete the Marsden proformas for Tuesday joint MDT (sent by Mary on the Thursday usually and need to be back by Friday 12)

- Mary Cowles is the current MDT coordinator (mary.cowles@nhs.net), she will send round a list of patients the week before. Please email her if you would like to add anyone to be discussed

What to prepare for cancer MDTs:

Past medical history of patient, performance status if documented
Indications for colonoscopy / flexible sigmoidoscopy
Dates and results of colonoscopy / flexible sigmoidoscopy
Dates and results of any other imaging (MRI pelvis, CT CAP)

Polyp MDT

- This happens every other Wednesday
- The SHOs usually prepare the patients to present
- The SHOs will book the investigations and treatments after the MDT
- An F1 is usually required to document at the MDT
- Sheefa Ahamadali is the current coordinator of patients for the polyp MDT
    - Sheefa.ahamadali@nhs.net (extension 4752)

What to prepare for polyp MDT:
Past medical history of patient
Indications for colonoscopy / flexible sigmoidoscopy
Dates and results of colonoscopy / flexible sigmoidoscopy
Dates and results of any other imaging

DISCHARGE SUMMARIES

- These are crucial documents and must therefore be clear and accurate summaries
- Avoid copying and pasting operation notes and scan results
- Add what follow up or appointments need to be booked at the bottom e.g. "outpatient clinic with Mr Mohamed in 8 weeks"
- Please also complete a cancer treatment summary for every cancer patient
- ***Remember that patients go home with a copy of their discharge summary. Think carefully about what you write and give them specific instructions about medications, dressings, follow up***

OUTPATIENT TRANSFUSIONS

- Some patients may need blood transfusions or iron infusions pre-operatively
- Bloods should be taken the morning before the day of transfusion (FBC, group and save)
- Then ask RAMU if the patient can come in the day after bloods for transfusion
- Call lab the afternoon before transfusion and make sure they have got G&S and then order the bags
- Complete paper prescription on RAMU for transfusion
- Tell pt to come to RAMU at 9am for transfusion
- Pt will need more bloods following transfusion including a repeat haemoglobin and G&S

ANNUAL AND LEAVE

- Please try to request annual and study leave with 6 weeks notice
- Annual and study leave forms can be collected from the PGMC. The leave must be approved and signed by a consultant.
- Registrars – at least one present at a time
- SHOs – at least one present at a time
- F1s – at least two present at a time

We recommend www.teamup.com **for organising the firm leave**

BOWEL PREP

- ALWAYS SUBJECT TO INDIVIDUAL CONSULTANTS INSTRUCTIONS
- Please ensure bowel prep is prescribed (and actually given by nurses!) the day before surgery
- Leave instructions for clerking team on cerner if patient has not arrived yet

PROCEDURE	CONSULTANT ABULAFI	CONSULTANT MOHAMED	CONSULTANT SWIFT	COMMENTS
APER	Enema	Enema	**Moviprep*** 1400hrs and 1800hrs	*Day before surgery
Anterior resection	**Moviprep *** 1400hrs and 1800hrs	**Moviprep*** 1400hrs and 1800hrs	**Moviprep*** 1400hrs and 1800hrs	*Day before surgery
Sigmoid colectomy	Enema	Enema	**Moviprep*** 1400hrs and 1800hrs	*Day before surgery
Left hemicolectomy	Enema	Enema	**Moviprep*** 1400hrs and 1800hrs	*Day before surgery
Reversal of Hartmanns OR Reversal of colostomy	**Moviprep *** 1400hrs and 1800hrs PLUS Enema on morning of surgery	**Moviprep*** 1400hrs and 1800hrs PLUS Enema on morning of surgery	**Moviprep*** 1400hrs and 1800hrs PLUS Enema on morning of surgery	
TEMS / TAMIS	Enema at 6pm (day before) then 8am (day of)		**Moviprep*** 1400hrs and 1800hrs	
Transverse colectomy	**No bowel prep**	**No bowel prep**	**No bowel prep**	
Right hemicolectomy OR closure of ileostomy	**No bowel prep**	**No bowel prep**	**No bowel prep**	

Colonoscopy

am Colonoscopy

Day before: NBM from 9am (ex. clear soup/free fluids)
5pm Moviprep A + B 1L over 1-2 hours + 500ml + 500mls clear fluid
8-9pm Moviprep A + B 1L over 1-2 hours + 500ml + 500mls clear fluid
Day of: NBM

pm Colonoscopy

Day before: NBM from 1pm (ex. clear soup/free fluids)
7pm Moviprep A + B 1L over 1-2 hours + 500ml + 500mls clear fluid
Day of : NBM
6am Moviprep A + B 1L over 1-2 hours + 500ml + 500mls clear fluid

Flexible Sigmoidoscopy

Phosphate enema 2 hours before procedure

MORBIDITY AND MORTALITY / CLINICAL GOVERNANCE

- Each month there is a clinical governance / M&M meeting held in the PGMC seminar room
- The timetable of this will be published and every team should attend
- F1s will present and mortalities from the months and relevant morbidities
    - Registrars and consultants will help you identify patients
    - Prepare a short powerpoint presentation with 1-2 slides per patient and some learning points

USEFUL NUMBERS

Download the INDUCTION APP on your phone
- **List of bleep numbers and hospital extensions for individual hospitals**

COLORECTAL F1 Bleep numbers: 797/ 779/453

Hospitals	Endoscopy 4663	XR OOH (A&E) 4641
CUH: 020 8401 3000	MRI 4244/4185/3694/3696	XR Port (A&E) 4641
SGH #6013	PACS 4749	XR reporting 4112
	PACS IEP 4749	XR Dr Blake 4107
Imaging	USS 4600/4271/3035	**Labs**
CT 3048/ 3049/4644/4126	XR 4134	Biochem 4067
ECHO 3039/4103	XR IP (AMU) 5592	Haem 4061/4071/4095

Histol 4090

Micro 3453/ 3421/ 3300

Reception: 4053

Transf 3466

Colorectal

Colorectal sec 3321

Jo (ANP) 717 /5346

Jan (ERAS) 245

Stoma nurse 315/3641

Specialities

AOS 946

Anaesth SHO 151

Cardio Reg 940

Derm: 3678 or Fax:3371

Gastro Reg 451

Haem Reg 143

Med reg 926

Neuro CNS AJ 953

Pall care 320/697

Psych 3596/4499

Resp Reg 190/406

Rheumatology 865

Stroke Reg 417

UGI F1 621

Urology Reg 308

Urology SHO 217

Urology F1 981

Specialists

Diabetes Nurse 398/4099

Dietician 3095/944

Heart Fx Nurse 772

Int Radiology (Heather) 4167

PAIN team 237

Pharm 3059 / 4142

SALT 3103

TVN 4204/383

Surgery on call

Reg 909

SHO 899

F1 420/745

Theatres

CEPOD (Th6 4806)

Coffee Rm 3299

Pre-op 4778

Recovery 3306

Wards

HDU 3267/3266

ITU 3266 code 13579

Q1 5868/3709

Q2 5874/3711

F1 4769/3284

F2 5876/3713

Clinics/Services

Ambul Clinic 3519

Anti-coag 5673/3187/5683

Ambul Clinic 3519

Dialysis 3031

Gastrograffin 4117

Gastrografin enema 3917/4950

Lancaster suite/TWOC clinic 3647

Misc

Bed Mgr 136/4411

Cannula (in hours) 523

Porters 4559

Site prac 135/136

Phleb probs 877

IT

Cerner 4332

IT 3838