COLORECTAL SERVICE ORIENTATION

ATTENDINGS

Riaz Cassim, MD
Emily Groves, MD
Keri Mayers, DO
Douglas Murken, MD
Kevin Train, MD

MIDLEVELS

Tracy Daum – NP
Christine Humphries, NP
Chris Nock, PA: 79494
Abbey Runatz, PA
Susie Kooser, CWOCN (outpatient ostomy nurse)

CONFERENCES

- GI Tumor Board/National Accreditation Program for Rectal Cancer (NAPRC) – Cancer Center at noon on Thursdays
- IBD conference – third Tuesday of the month at noon, 5th floor HSC
- Education conference Thursday afternoon when OR time allows. Staff will assign articles.

TIPS FOR SERVICE

- We will send out expectations document prior to each month – please make sure you read it.

- Helpful note templates:
    - Surgery Consult Initial

- Helpful order sets:
  - SURG/ONC: ERAS-CRS Preadmission
  - SURG/ONC: ERAS-CRS Preop/Intraop
    SURG/ONC: ERAS-CRS Postop Admit
  - SURG ONC/SURG GEN: ROUTINE ADMISSION POST-OP: IP
  - SURG ONC/SURG GEN: ROUTINE PRE OP – SAME DAY OR: IP
  - SURG ONC: BOWEL PREP: IP
  - SURG ONC: DISCHARGE ORDERSET
  - PCA ORDERS FOR ADULT PATIENTS
  - HEPARIN PROTOCOLS: (LOW INTENSITY OR STANDARD)
- Make sure DVT ppx is appropriately ordered – Colorectal patients are prone to DVTs and Pes
- Be familiar with Enhanced Recovery Protocols for elective surgery. These are posted in the workroom.
- Preferred resuscitative IVF is Plasmalyte or LR.
- Once patient no longer requires resuscitative IVF switch to D5 1/2 NS with 20 KCl if patient still needs IVF.
- TPN needs to be ordered or renewed by 1400 each day, call dietary, pharmacy or go through EPIC to renew TPN, Darby is the service dietitian (73606) who can help with this daily.
  - Clean up orders on all primary patients every day (i.e. if patient has no Foley or NGT, make sure there is no order in the chart that says to maintain Foley or NGT to LIS, or make sure to elimi- nate duplicate maintain IV order, etc.).
- Go through the chart and afternoon round at the end of the day for each patient so you can keep abreast of what is going on with them.
- Post-op check every patient and write a very brief note.
- Look at every wound, every day unless you are told otherwise.
- Common complications to be mindful of are anasto-

motic leaks, abscesses, wound infections, ileus, and hemorrhage.

- All clinic notes should be done the day of clinic.
- Make sure the OR patients have an H&P update (if original was written within 30 days) or a new H&P (if >30 days since original H&P).
- All OR patients should have updated H&P and consent if needed prior to attending seeing them.
- PAs tips: Chris is primarily inpatient Monday-Thursday and has been with colorectal for a long time. She is very knowledgeable and will not steer you wrong. Tracy covers the floor Friday and Christy covers Wednesday during conference – they are VERY helpful, treat them appropriately and learn from them.
    - Christine Humphries – in Groves clinic Monday
    - Tracy Daum – in Murken clinic on Tuesday
    - Chris Nock – in Train clinic on Thursday
    - Abbey Runatz – in Mayers clinic Tuesday afternoon and Friday morning.

ROUNDING

- Each morning get intern sign out and add all patientsfor the OR that day to the list.
- Rounds usually start at or a little before 0600.
- Give yourself plenty of time in the mornings to look up patients, some of the new ones from overnight can have very complicated histories.
- Look up all labs (CBC, BMP, Mg, PO4, hepatic enzymes, amylase, lipase, etc), micro results, pathology reports, tumor markers, etc.
- Look at the CT scans yourself
- Look up ranges of vitals
- Pay particular attention to I&Os (especially true for this service) and know the drain, ostomy and NG outputs by shift.
- Look at nursing notes for overnight events and also ancillary notes for what PT/OT, dietary, speech therapy are saying.
- Check to see if any of our consultants left recommendations for our patients (their notes are often signed late in the day)
- Carry around extra supplies like Kerlix, gauze, ABD pads, saline flushes, tape, suture removal kit, etc. for dressing changes in the morning (makes rounds go alot faster)
    - Don't stand around like a statue while your senior changes the patient's dressings, be proactive and help them change the dressings
    - Know PT recs on all patients so care management can work on dispo early.

OR:

- Know everything about the patient you're about to operate on.
- Know the technical aspects of the operation to the

best of your ability – we don't expect an intern to know step by step how to do robotic low anterior resection, but should know the basic anatomy

- Review imaging pre-operatively
- Discuss operative plan, indication and decision making with attending the day prior if possible

Learning Objectives:

- Outpatient
  - Understand what elements comprise a complete colorectal history and physical examination
  - Learn when anoscopy is indicated
  - Gain familiarity with review and interpretation of cross-sectional imaging and endoscopic reports (what a surgeon needs to be able to know from the colonoscopy report)
- Inpatient
  - Understand usual post-operative progression (pathways) after colorectal surgery
  - Recognize signs/symptoms of anastomotic complications and usual immediate work-up
- OR
  - Learn indications for and principles of safe positioning prone and lithotomy
    - Know which arm(s) to tuck and when (and why)
  - Become familiar with anorectal anatomy and terminology/nomenclature
  - Drain perirectal abscess with minimal supervision
  - Know functionality of a colonoscope and become facile with diagnostic flexible sigmoidoscopy
- Knowledge Base/Independent Study
  - Staging, treatment, and surveillance of colon, rectal,

and anal cancer
    - Differences in management strategies of benign anorectal conditions
        - Fistula in ano: understand when seton vs. fistulotomy vs. sphincter sparing procedure is indicated
    - Learn the various biologics used in the management if IBD and the general differences between them

GENERAL TIPS

- Be active, engaged and present – we enjoy teaching however that goes both ways
- Practice on endoscopic simulator prior to doing first scope – if you don't know the buttons it's hard to do a colonoscopy
- Identify patients you are interested in seeing prior to clinic – read about the disease process and this will allow a more engaged conversation
- Treat all members of the team with respect – APPs, nurses, other residents – this seems intuitive but it is incredibly important
- Be in the operating room before the patient rolls in with any pertinent imaging pulled up for review
- Ask questions!!! We are all approachable and would love to have you come to our offices to pick our brains
- Surgery is a profession – it's not easy but it is certainly rewarding

Faculty Daily Schedules

	Cassim	Groves	Mayers	Murken	Train
Monday	x	AD Clinic	AM Endo 1st	AM Endo (3rd)	AM Endo 1st 3/4/5 Monday
Tuesday	x	AM Endo (2nd/4th)		AD Clinic	
Wednesday	Main OR 1/3	Main OR	Main OR 2/4	OR assist	1st Wednesday
Thursday	AM Clinic	OR add on		OR add on	AD Clinic
Friday	x	OR assist	AD Clinic	Main OR	2nd Friday

Onboarding:
All residents should meet independently with Dr. Groves either in the week before or at some time during the first few days on service to go over learning objectives, expectations, and workflow. Ideally, we will meet the day prior to the first day of the rotation to go over expectations for the month. If not, we can plan to meet the first day of the rotation. The chief resident should coordinate this.

Evaluations:
Dr. Train will be completing the end of rotation evaluation. These are pooled comments from all of the colorectal attendings, not specifically from him.

Staff and Call Arrangement:
All staff members cover their own patients throughout the week, and whoever is on call covers all patients for the weekend.
Monday – Friday, each staff member should be updated in the morning regarding their patients and any pertinent findings on rounds. The person speaking with staff does NOT have to be the chief, and in fact the chief should delegate this communication to other members of the team so that they aren't trying to call all 5 attendings before cases start.
There is attending on call each day. Any new consults should be staffed with the listed attending on call.
Dr. Groves, Murken, Mayers and Train may work interchangeably in handling consults and emergencies that come up throughout the day depending upon the call person's availability.
Dr. Cassim is here Wednesday and Thursday mornings most weeks. He should receive daily updates on his patients.

Conferences:
-2nd Tuesday of the month (subject to change) 12-1pm Interdisciplinary IBD conference; 5-HSC
-Weekly Multidisciplinary GI tumor board 12-1pm Ground Cancer Center (or WebEx)
-We will also plan to schedule a dedicated education time during a few times a month to review journal articles, clinical practice guidelines, board/absite prep, or topics of interest you would like to discuss. The timing will be determined by the schedule for the week.

Resident coverage:
The chief resident should send out a weekly schedule each week by the preceding weekend. This should show clinic and case assignments.
-Please ensure that all cases and clinics are covered. This will require looking at the upcoming schedule and having level appropriate coverage for all cases. If things are uncovered secondary to days off, please discuss with the attending ahead of time so that they are aware and can make appropriate adjustments.

Clinic:
First and most importantly – you are not in clinic just to write our notes. It is an opportunity to learn and understand the outpatient side of things which is often much different from inpatient, especially in colorectal.

Each resident on service will be expected to attend clinic for one day per week (on average) over the course of the rotation. Learning and exposure to imaging/procedures will be emphasized as will be seeing post-operative patients that the resident operated on. An expectation would be for the resident to see no more than 5 patients per day to maximize educational yield. Unlike some other services CRS clinic includes important ambulatory procedures which should be learned by the resident.
-You are expected to be on time to clinic and ready to see the first patient when they are there.
-Please wear dress clothes and white coat for Dr. Train's clinic.
-Please discuss with the attending ahead of time to prepare for potential assigned patients.

Daily Rounding:
We also ask that you round with the attending you are working with that day between cases or during clinic breaks as able. Please round at an appropriate time to see all patients and sign in the 7am first start cases. We expect HP/consent to be completed prior to the attending seeing the patient.

Case preparation:
We expect you to have reviewed your OR cases in advance and discussed the case/plan with staff at some point before the patient is in the room for surgery; if this can be done in person the day prior, that is best as it enables joint imaging/data review. Reviewing the operative approach/plan and anticipated challenges in advance will allow the resident to maximize education yield and increase autonomy. At the end of this document is a pre-operative worksheet which provides a useful template for case preparation.

We cannot stress enough how important this is to the learning process and the application of graduated autonomy. These are complex patients and cases so without the proper preparation it is difficult to provide intraoperative teaching and learning. If you have read this document, please redeem a free coffee/drink of your choosing with Dr. Train. Please do not discuss this with anyone else. We do our cases the same way almost every time and recommend looking or asking for old operative reports to review as well. We also recommend getting a surgical atlas for review on case basics. We also expect you to be in the room to help prep and position the patient. It is important to learn how to set up and position these patients as well.

Consults:
We appreciate your thorough history and physical exams but also want you to start to develop and communicate your own plans.

Things we expect in your consult discussion:

1) Lead in with reason for consult and a statement on acuity; does the patient need surgery- urgently or non-urgently?
2) Colorectal history including past surgeries (when, where, by who, what), colonoscopy history, radiation/chemotherapy (including type and last dose), bowel function (incontinence)
3) Pertinent medical history with emphasis on cardiopulmonary disease and medications including blood thinners and biologics
4) Current vitals, labs, abdominal exam

Who to consult? First, make sure that the consult is most appropriate for CRS. There was a triage list agreed upon by faculty which should help to direct consults based on diagnosis. Consults coming from other services in our own department should include direct attending to attending communication in order to best facilitate patient care.

Murken (and Groves) Pathways

Maintenance fluids: ERAS (routine elective cases) patients should be on **50cc per hour mIVF** with a goal of turning it off once the patient is tolerating CLD as early as the afternoon of POD1. If there are issues with low UOP or Cr rises then resuscitate as indicated preferably with directed boluses.

Diets: I usually go from CLD to Reg (or diabetic, renal, cardiac as indicated but I do not generally use FLD, soft, or low residue).

Bowel regimens: I do not use stimulant laxatives like senna nor suppositories in patients with anastomoses. There is little data supporting Colace, but I think that it is benign. I usually do not use an empiric regimen but add miralax on if I think that a patient is truly constipated but only once they have passed gas. Patients with chronic constipation benefit from resuming their home regimen when safe.

Multimodal pain control: out of the OR I prefer IV Tylenol, Neurontin if no NGT, IV narcotic (we used 0.4q2 Dilaudid POD0 and a patient had to "fail" this to get approved for a PCA by pharmacy…that was due to PCA shortage issues. I am fine with a PCA on POD0 as long as it is a low dose (dilaudid 0.2 q15m). PCA may be needed for patients on preop narcotics. *I add on Toradol 15q8 POD1 if labs (Hgb, Cr, PLT) OK and use it for up to 4 days.* Convert to PO 5/10mg Oxy q4h and PO Tylenol once tolerating PO. I am favoring Exparel TAP blocks over catheters.

CRPs: **I trend CRPs with daily morning labs in patients with ileocolic, colocolonic, colorectal anastomoses without proximal diversion**. There are various endpoints in the literature but I focus on POD3/4 and prefer a value < 150/160 mg/L…if it is above this I avoid discharge, keep trending CRP, and consider early postop CT.

Stoma rods: I use them if the loop stoma is under tension, so colostomy > ileostomy, and usually aim for removal on POD3 or 4 unless patient is going home earlier, then out before discharge

Ambulation: Encouraged POD0 evening, mandatory 3 times per day by POD1; consult PT/OT for anyone not walking with minimal assistance by POD1 and for most patients > 65 years old

DVT ppx: I prefer SQH for 12-24 hours given the shorter half life with transition to Lovenox on POD1 if morning Hgb is stable.

Extended DVT ppx: While many use this strategy for 28 days in patients with IBD or cancer who undergo major abdominal surgery I have not found it to be too feasible/worthwhile in our population due to out of pocket expense.

Morning labs: Hgb drops > 2g after laparoscopic colectomy are concerning. It is my practice if this happens to hold SQH/lovenox, hold Toradol, recheck the Hgb that morning. If there is hypotension make sure to turn any anesthesia blocks off so as to not confound the clinical picture.

High output ileostomy: the goal output is < 1200cc daily. If output remains above this for a few days with a patient on a regular fiber containing diet then I start Imodium 2mg BID and titrate as needed.

Loop Ileostomy Closure

POD0: CLD
POD1: Remove foley, add Toradol if labs OK, ADAT if progressing
POD2: Remove betadine packing in wound and do not re-pack only dress with guaze and tape; earliest discharge date if doing well (flatus required for discharge)

Right Colectomy

POD0: CLD
POD1: Remove foley (assuming Cr OK), add Toradol if labs OK, CLD in AM & can get to Reg in PM if doing well
POD2: ADAT; earliest discharge date (flatus required for discharge)

Left/Sigmoid Colectomy

POD0: Sips/chips
POD1: Remove foley (unless had stents and still with hematuria or Cr elevated), add Toradol if labs OK, CLD for the day
POD2: ADAT if doing well and having bowel function
POD3: Usually the earliest discharge except for those who do exceptionally well (BM required for discharge)

LAR/IPAA/APR

POD0: Sips/chips
POD1: Add Toradol if labs OK, CLD for the day
POD2/3: Remove foley, ADAT if bowel/stoma function
POD3: ADAT, CWOCN
POD4: Usually the earliest discharge except for those who do exceptionally well and have ileostomy output < 1200cc if applicable
Drains out before discharge for LARs and IPAAs but drain usually stays until POD10 (outpatient visit) for APR
No sitting x2 weeks for APR

Train Pathways

Maintenance fluids: ERAS (routine elective cases) patients should be on **50cc per hour mIVF** with a goal of turning it off once the patient is tolerating CLD as early as the morning of POD1. If there are issues with low UOP or Cr rises then resuscitate as indicated preferably with directed boluses.

Diets: I usually go from CLD to Reg (or diabetic, renal, cardiac as indicated but I do not generally use FLD, soft, or low residue).

Bowel regimens: I do not use stimulant laxatives like senna nor suppositories in patients with anastomoses. There is little data supporting Colace, but I think that it is benign. I usually do not use an empiric regimen but add miralax on if I think that a patient is truly constipated but only once they have passed gas. Patients with chronic constipation benefit from resuming their home regimen when safe.
---**rectopexy/altemeier** should be on both Colace and miralax postop

Entereg: Please make sure everyone receives entereg in preop and then post-operatively until return of bowel function. UNLESS GETTING AN OSTOMY, then no Entereg is ordered.

Multimodal pain control: **I prefer a regimen without narcotics**. Out of the OR I prefer IV Tylenol, Neurontin if no NGT, Toradol and Tramadol 50mg q6 hours. If needed, narcotics are fine but will try to avoid if possible only after increasing tramadol. I do not do preop pain blocks and use my own Exparel regimen.

CRPs: I am beginning to trend CRPs on all patients with anastomoses. Please order them daily for 5 days.

Stoma rods: I use a red-rubber for all loop ostomies. These are removed on POD3 unless patient is going home earlier then out before discharge

Ambulation: Encouraged POD0 evening, mandatory 3 times per day by POD1; consult PT/OT for anyone not walking with minimal assistance by POD1 and for most patients > 65 years old

DVT ppx: I prefer SQH for 12-24 hours given the shorter half life with transition to Lovenox on POD1 if morning Hgb is stable.

Extended DVT ppx: **For cancer patients I would like a case management consult POD1 to begin the process of obtaining 28 days of DVT ppx. Many times this is cost-prohibitive but I want this to be documented that it was offered and that the patient refused.**

Morning labs: Hgb drops > 2g after laparoscopic colectomy are concerning. It is my practice if this happens to hold SQH/lovenox, hold Toradol, recheck the Hgb that morning.

High output ileostomy: the goal output is < 1000-1200cc daily. If output remains above this for a few days with a patient on a regular fiber containing diet:

1. Fiber BID
2. Imodium 2mg BID and titrate as needed.
3. Lomotil
4. Cholestyramine

Loop Ileostomy Closure

POD0: CLD
POD1: Remove foley, add Toradol if labs OK, ADAT if progressing
POD2: Remove betadine packing in wound and do not re-pack only dress with gauze and tape; earliest discharge date if doing well (flatus required for discharge)

Right Colectomy

POD0: CLD
POD1: Remove foley (assuming Cr OK), CLD in AM & can get to Reg in PM if doing well
POD2: ADAT; earliest discharge date (flatus required for discharge, would like a BM)

Left/Sigmoid Colectomy

POD0: Sips/chips
POD1: Remove foley (unless had stents and still with hematuria or Cr elevated), add Toradol if labs OK, CLD for the day
POD2: ADAT if doing well and having bowel function
POD3: Usually the earliest discharge except for those who do exceptionally well (BM required for discharge)

LAR/IPAA/APR

POD0: CLD
POD1: Add Toradol if labs OK, possibly okay for advancing diet
POD2/3: Remove foley, ADAT if bowel/stoma function
POD3: ADAT, CWOCN
POD4: Usually the earliest discharge except for those who do exceptionally well and have ileostomy output < 1200cc if applicable
Drains out before discharge for LARs and IPAAs but drain usually stays until (outpatient visit) for APR
No sitting x2 weeks for APR

Pre-operative Work-sheet: The resident should review the patient's EMR prior to surgery such that the following information is understood.

Name: **OR Date:**

Planned Procedure

Combined Case:
Cysto/Stents:
Flex sig:

Indication

Prior Therapy/XRT

Pre-op CT

Date/Study type:

Ab wall/incision:

Flexure:

Pedicle/Vascular:

Incidental:

Rectal Cancer MRI

Date/Study type:

Rectal cancer:

Pre-treatment comparison/treatment effect:

PMH

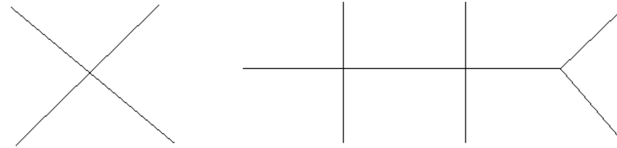
PSH

Consultant recs & Clearance data

CWOCN

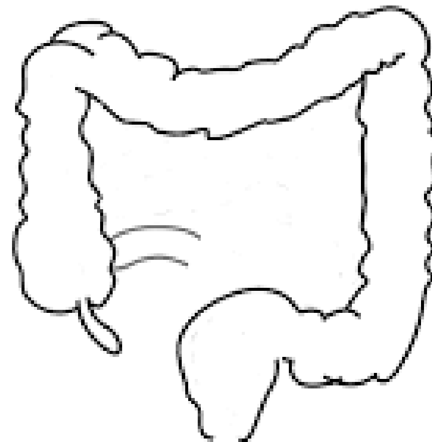
Medications

Pre-op Labs



Albumin:
Prealbumin:
CEA:
T&S:
AB:

Pre-op Scope



PENDING:

PLANNED APPROACH: