INTERN GUIDE

WVU GENERAL SURGERY
PEER TO PEER INTERN GUIDE

Welcome to residency and your intern year at WVU! Though nothing quite prepares you for your intern year we hope that this guide will help with the transition. As you probably have seen, and will soon know, the intern's job is to gather information, take the first call for patient issues and consultations and manage the floor. A big part of your year will be learning how to become more efficient with day to day intern roles. For all services, these roles include pre-rounding on the service, writing notes, ensuring all notes are written, cleaning up orders including medication lists and ordering any labs or imaging studies for the following day. These guides are meant to help with the specifics of each service. We hope this serves you well!

WVU General Surgery Residents 2018-2019

CONTENTS

BARIATRIC SURGERY

ATTENDINGS
Lawrence Tabone, MD
Nova Szoka, MD
Salim Abunnaja, MD

MIDLEVELS
Kiley Iams, PA-C
Courtney Brown, APRN

USEFUL PHONE #S
No service phone as of now

CONFERENCES/EDUCATIONAL
None as of now. The attendings do like for the interns and senior to prepare a brief presentation on a bariatrics topic to present at the end of the month. For example: achalasia diagnosis, work-up and management.

- Dr. Szoka likes you to demonstrate proficiency at the endostitch in the SIM lab prior to her allowing you to stitch on the bypass anastomosis
- Dr. Abunnaja does laparoscopic free hand tying all the time, so you should practice in the SIM lab prior/during your rotation. Feel free to ask him for assistance as he is always very willing to help improve the residents' laparoscopic skills.
- The intern is expected to attend at least one scope day and one clinic day in their month and more if free to do so.

TIPS FOR SERVICE

- Helpful order sets:
  - BARIATRIC POST-OP
  - PCA ORDERS for ADULT PATIENTS
- Helpful note templates:
  - Surgery consult initial
  - Surgery admission H&P

TYPICAL WEEKLY SCHEDULE

- Monday/Tuesday: OR days. Tabone is first week of month. Abunnaja is second week. Szoka is third week. The fourth is a combo of Tabone on Monday and Szoka on Tuesday.
- Wednesday: Usually nothing, although Szoka occasionally has a robot OR day.
- Thursday: Szoka scopes in the morning, Abunnaja in the afternoon. Clinics available
- Friday: Tabone has scopes in the afternoon. Clinics are available.

ROUNDING

- The PA's round with the attendings. As of now, no formal rounding responsibilities.
- Occasionally they may ask you to go with them on afternoon rounds, or ask for help with a task.

ATTENDING PREFERENCES

- Consults/overnight issues
- Dr. Tabone prefers to know about his own patients, regardless of whether he is on call. If his patient returns to the ED or has a major issue on the floor, he wants to know.
- Drs. Szoka and Abunnaja follow a call system. If a patient of theirs comes into the ED or has an issue overnight, staff it with the on call attending.
- All give their patients a PCA immediately post-op (previously dilaudid, but with shortages have been using morphine).
- Tabone: He keeps his elective bariatric patients (sleeve and bypass) NPO for at least the first 24 hours. He also runs his fluids at 175 ml/hr for the first 24 hours. Ask before ordering toradol on anyone.
- Abunnaja: His patients receive bariatric clear liquid diet immediately post-op. Fluids at 125 cc/hr. He has a pain regimen that he prefers, which is the PCA plus Roxicodone 5 mg and 10 mg for moderate and severe pain respectively, and if no other contraindication, toradol scheduled. He also gives scheduled reglan and decadron 10 mg q 12 hours scheduled for nausea (do not use this Tabone unless you ask or Tabone specifically states)
- Szoka: Also bariatric clears post-op and fluids at 125 cc/hr. everything else she tends to do a patient-by-patient basis, though will typically follow Dr. Abunnaja's regimen.

BREAST SURGERY

ATTENDINGS

Hanna Hazard, MD
Kristin Lupinacci, DO *(pronounced "Loopin-acey")*

MIDLEVELS

Katlin Bates, PA-C 79940
She has been on the service for a long time and is a great resource for knowing the staff preferences. It can be a good idea to run ideas by her to see if she has any input to enhance your plans.
Amanda Moran, PA-C
She is the PA in clinic full time

USEFUL PHONE #S

Kaitlin's Phone 79940
Kaitlin's pager 2561
OR Front Desk 74150
OR Charge RN 76212
OR Charge Anesthesia 76364
Materials 74189

CONFERENCES

- Monday at noon Breast Tumor Board in the Cancer Center conference room

SERVICE SCHEDULE

MONDAY

AM: Dr. Hazard clinic in Cancer Center
Noon: Tumor board in Cancer Center
PM: Dr. Lupinacci clinic in POC

TUESDAY

Dr. Hazard clinic in POC
Dr. Lupinacci OR

WEDNESDAY

Dr. Hazard OR
Dr. Lupinacci clinic in POC

THURSDAY

Dr. Hazard OR
Dr. Lupinacci OR

FRIDAY

Dr. Lupinacci clinic in Cancer Center

TIPS FOR SERVICE

- Helpful order sets:
  - BREAST SURG ONC: DISCHARGE ORDERSET
  - BREAST SURGERY: PRE-OP ORDERS
  - SURG ONC/SURG GEN: ROUTINE ADMISSION POST-OP: IP
- Professional dress for clinic always, NO SCRUBS

ROUNDING

- This is typically a lighter service as far as rounding goes. There's a good chance that if you have any patients in house, it'll only be one or two.
- See the patients in the morning and text the attending about how the patient is doing and what your plan is. Katlin will usually be there to see the patients around 0700.

OR

- Because of the selective anatomy of the specialty there is not a large variety of cases so you should know as much as possible about the patients and cases (anatomy and treatment plans).
- Before you enter the OR, it is important to know the preoperative diagnosis and what treatment the patient has undergone thus far.
- The most common procedures include:
  - Partial mastectomy (wire localized and seed localized)
  - Sentinel lymph node biopsy
  - Simple mastectomy
  - Axillary dissection
  - Intraoperative radiation

- The breast surgery service works closely with the plastic surgery service on many cases for reconstruction, so you should familiarize yourself with their operative plans.
- You may have the opportunity to work with the plastics team on their portion of the case, but there is usually a resident on the plastics service, so find out about coverage beforehand.

GENERAL SURGERY

ATTENDINGS

Kimberly Bailey, MD
Jim Bardes, MD
David Borgstrom, MD
Connie DeLa'O, MD
Daniel Grabo, MD
Cynthia Graves, MD
Uzer Khan, MD
Jennifer Knight, MD
Melissa LoPinto, MD
Gregory Schaefer, DO
Alison Wilson, MD

MIDLEVELS

Kelsey Roetenberg, PA..... 70489

USEFUL PHONE #S

Service Phone: Blue 73374
Service Phone: Gold..... 78656
Blood Bank..... 74023
OR front desk 74150
OR Charge Nurse 76212
PACU 74135
Materials..... 74189
Sterile Supply 72042
SICU Resident..... 78743
SICU Chief..... 78620
CT Scan..... 74257
X-Ray..... 74258
Medicine Consult 78633
Cardiology 78488

7 East 74072
7 West..... 74071
8 NE..... 74620
MICU 71570
MICU Resident 75454
Wound and Ostomy Team 74337
PICC Team 75215
Weekend Care Manager..... 76101

TIPS FOR SERVICE

- Helpful note templates:
  - Surgery consult initial (template for consults and H&Ps)
- Helpful order sets:
  - SURG ONC/SURG GEN: ROUTINE ADMISSION POST-OP: IP
  - SURG ONC/SURG GEN: ROUTINE PRE OP: IP
  - PCA ORDERS for ADULT PATIENTS
  - GENERAL SURGERY: DISCHARGE ORDERSET
  - TRAUMA TUBES AND DRAINS
- We are instituting a new division of the general surgery services this coming year. The Blue surgery service will function as the acute care surgery service, seeing new consults, staffing emergent cases, etc. The Gold Surgery will act as the elective surgery service.
- The mechanics of how the two services will function is being worked out still however tentatively one general surgery attending will be on call for blue surgery for a one week duration. It will function similar to the trauma surgery service in that there will be a morning report (0630 at the OR front desk) and the team will

round as a whole.

- Ownership of patients between attendings rotating off the service will be dependent on attending preference; for example if attending A does a big case (ex. exploratory laparotomy, bowel resection, ostomy) on a patient it is at his or her discretion if they will take that patient back with them onto the Gold Surgery Service at the end of their week.
- When receiving a new consult the first thing you ALWAYS do is add it to the list and let your senior know
- Do not attempt to punt or triage consults (this is senior level decision) no matter how ridiculous, or mind-numbingly-soul-crushingly-excruciatingly-obviously stupid they may appear.
- Be courteous to the service which is calling you for a consult.
- Keep your list organized so that you are able to see what needs to be done. Folding the list over and using checklists is a popular method.

STAFF PREFERENCES

- Dr. LoPinto's Post Op Preferences for Thyroids and Parathyroids:
  - *Total Thyroids*: 6 hrs post op and AM labs-> Calcium, Albumin, PTH; Tums 1000 mg TID, no DVT chemoprophylaxis, regular diet post-op, levothyroxine to start in the AM dose determined as 1.6mcg/kg daily for benign, and 2 mcg/kg daily for malignant thyroid disease. They will spend the night then discharge in the morning assuming no complications.
  - *Parathyroids*: Calcium, PTH, Albumin in AM, Tums

1000 TID PRN, regular diet, no DVT chemoprophylaxis, potential same day discharge, but generally she'll admit them.
Adrenalectomies: Beware of DVTs and PE's

PEDIATRIC SURGERY

ATTENDINGS

Nicholas Shorter, MD
Shailinder Singh, MD, MBA
Richard Vaughan, MD

MIDLEVELS

Marissa Greene, NP
Jessica Murray, RN
Susan Neptune, NP

USEFUL PHONE #S

6SE	71659
6E	74062
NICU	74140
PICU	74328
PICU resident	75264
Care Management	75270
OR 5N Front Desk	74150
OR 5N Charge RN	76212
OR 5N Charge Anesthesia	76364
Neurosurgery resident	75397
Ortho resident	78615

CONFERENCES

- **Friday mornings at 8 am** in HSC

TIPS FOR SERVICE

- Helpful note templates:
  - TES H&P
  - Surgery Consult Initial
- Dr. Vaughan is a wealth of note templates and operative reports that you can find by going to the

SERVICE SCHEDULE

MONDAY

Dr. Vaughan Clinic

TUESDAY

Dr. Shorter OR
Dr. Singh OR
Dr. Vaughan OR

WEDNESDAY

No scheduled OR or Clinics

THURSDAY

Dr. Shorter Clinic
Dr. Singh OR
Dr. Vaughan OR

FRIDAY

Conference @ 8 am
Dr. Singh Clinic

EPIC icon in the left upper corner of EPIC, selecting "SmartPhrase Manager" and searching his templates. You can add yourself to them or copy and paste the text of your templates to your own.

- Helpful order sets:
  - PEDS SURGERY: ADMIT: IP
  - GENERAL SURGERY: DISCHARGE ORDER SET
  - ED TRAUMA: PEDS P2 ORDERS PART B
  - ED TRAUMA: XR ORDERS RUE,LUE,RLE,LLE *(used for extremity film orders)*
- When discharging a pediatric patient use the general surgery discharge order set. Follow-up will be in general surgery POC (there is not option for pediatric surgery clinic). Specify the attending and that will get the patient into pediatric clinic.
- Do not order IV narcotic medications for a pediatric patients unless discussed with chief or staff.
- Be careful with pediatric dosing of medications. There are some auto populated dosages in the EMR, but if you're ever unsure ask a chief or pharmacy.
- TPN needs to be ordered or renewed by 1400 each day, call dietary, pharmacy or go through EPIC to renew TPN.
- 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)
- Staff preferences:
  - Dr. Shorter wants a hepatic function panel, amylase and lipase on just about all trauma patients.
  - Dr. Shorter will round at 10 am on the weekends (unless otherwise specified) and will meet at the "yellow wall" 6SE front desk

ROUNDING

- Floor rounding tips
  - Rounds typically start a little later (around 7:30/ 8 am, ORs permitting) because waking a sleeping pediatric patient or tired parents doesn't usually go over well.
- NICU rounding tips
  - You MUST wash your hands with soap and water before entering NICU pods
  - Remove jackets, roll-up sleeves and remove all jewelry, watches, etc.
  - You must use hand sanitizer between all patients (everywhere, but especially NICU)
  - Same considerations apply recently consoled or swaddled NICU babies, do not disturb! the NICU nurses will be very unhappy*
  - *Unless of course there is an acute, life-threatening pediatric surgery problem that needs addressed.
- PICU rounding tips
  - Try to have face to face communication with PICU team regarding plans to limit communication problems and resolve any differences in management.
  - PICU resident work room is just to the left of the PICU front desk.

CONSULTS

Per protocol we must see all patients where there is a concern for NAT, non-accidental trauma, regardless if a work-up has already been completed or not. These patients should receive a complete skeletal survey.

PLASTIC SURGERY

ATTENDINGS

Vidas Dumasius, MD
Aaron Mason, MD
Cristiane Ueno, MD

PLASTIC SURGERY INTEGRATED RESIDENTS

Katherine Carruthers, MD, PGY III
Mihail Climov, MD, PGY II
Joshua Henderson, MD, PGY I

MIDLEVELS

Zach Bragano, PA: 78707
Meredith Liddle, PA: 79492

CONFERENCES

-Wednesdays at 4 pm first floor HSC

TIPS FOR SERVICE

ROUNDING/FLOOR MANAGEMENT:

- Zach Bragano will round with you and help you get adjusted. He knows the service well and will be immensely helpful. Meredith Liddle is the same; she will sometimes come in later to stay later.
- Get numbers and review overnight notes on your patients in the morning and be ready to round at 6 am. Vital signs should be the first thing you look at, i.e. fevers? tachycardia?
- Dressing changes: place “dressing change” orders on all patients whether primary patients or consults. Specify whether cream/ointment/antibiotic will be

used, material, frequency of change, and miscellaneous notes for the nurse for when to call the service.

- Wound Vacuums
  - If your patient has a vacuum covering a skin graft or a wound, ask how frequently the vacuum should be changed. Usually they are changed M/W/F. If there are exposed tendons or major blood vessels, use white-foam to cover that first before using the black foam.
  - Dr. Dumasius will use irrigating wound vacuums. Familiarize yourself with its setup. You should be able to set it up independently mid rotation. The settings on it will ask about volume (100 cc), dwell time (10 minutes), frequency (Q1 hour). You may use 0.025 Dakin's or Sulfamylon (staff preference).
  - The Provena vacuum is a purple incisional vacuum that the patient can go home with. Dr. Dumasius will sometimes use those on top of FTSGs. Wound vacuum supplies may be found in materials on the fourth floor of Ruby.
- Drains
  - Always order, "JP drain care" in orders. Specify how frequently a nurse should empty and record output. This is to make sure drains are emptied in a timely manner and numbers are accurate.
  - Pay attention to drain output and quality: san guineous (bloody), serosanguinous (blood and serous fluid) or purulent (pus).
  - Learn how to strip the drains during rounds.

    - When is the plan to pull the drain? 30 cc for 2 days consecutive or special situation? Ask your attending.
    - Does the attending want antibiotic therapy for the duration while the drain is indwelling? No level 1 evidence, therefore it is surgeon specific.
- Flaps
    - Always thoroughly examine the flaps yourself.
    - Document flap color, capillary refill, temperature, signs of swelling (hematoma vs., seroma).
    - Daily flap examination with comparison is the only way to pick up a complication early.
- Pain medication
    - Understand the concept of combining analgesics with different mechanisms of action to control pain (multimodal pain control).
    - Non-opioid: Tylenol, ibuprofen, toradol. Can be scheduled or as needed. Use caution with the daily limits of Tylenol and the bleeding risk associated with toradol.
    - Opioid: (in order of strength) Norco, Percocet, Roxicodone.
    - Anti-spasmodic: Valium. Dr. Ueno and Dr. Dumasius like to schedule valium for muscle flaps, release or dissection. If you're unsure or not explicitly told, ask them at the end of the case if scheduled valium should be ordered.
    - Neurontin can be added for neuropathic pain.
    - Robaxin or flexeril can be used for muscle spasms.

    - Dr. Mason and Dr. Ueno will both review your pain control regimen to ensure pain is being adequately and appropriately controlled.
- Antibiotics
    - Always check culture and sensitivity results regularly if OR cultures were taken. Call the micro biology lab for questions on sensitivities.
    - Does the attending want antibiotic therapy for the duration while the drain is indwelling? No level 1 evidence, therefore it is surgeon specific.
    - Always place the end date in your initial order in EPIC. This will remind you to always ask about duration of antibiotic therapy.
    - If long-term IV antibiotics are planned the patient needs a PICC line. Talk with care management regarding home health services for antibiotic infusions.

DISCHARGES:

- Be specific with dressing changes when discharging patients. Communicate with the patient the plan, make sure they are comfortable performing the dressing changes or that home health is arranged for someone to help them. Be sure to provide supplies if needed.
- Be specific about when or if they can shower. It varies by attending/procedure. Ask them.
- Use the “Surg Onc” discharge order set.

FOLLOW UP

- All patients' discharged from the hospital should be seen in the next available clinic day within 7 to 10 days or as otherwise specified.
- All pediatric patients (less than age 18) are to be scheduled in Dr. Mason's Pedi Clinic/Craniofacial Clinic.
- General plastic and reconstructive surgery: follow up arrangements should be made at "Plastic surgery Cheat Lake."
- Hand surgery: follow up should be arranged at UTC (University Town Center).

STAFF PREFERENCES

- Dr. Mason: Know your 80's music.
- Dr. Ueno: Gentle with the skin. Touch nothing when the tissue expander is out and about to go into the pocket.
- Dr. Dumasius: Unpredictable. You will be asked about random trivia, its ok if you don't know.

SICU

ATTENDINGS

Surgery
Jim Bardes, MD
Connie DeLa'O, MD
Daniel Grabo, MD
Uzer Khan, MD
Jennifer Knight, MD
Gregory Schaefer, DO
Alison Wilson, MD

ANESTHESIA

Kathrin Allen, MD
Michael Russel, MD
Katherine Sproul, MD

MIDLEVELS

Trell Stowell, PA

USEFUL PHONE NUMBERS

SICU Resident	73743
SICU Chief	78620
Trauma Senior	78742
Trauma Junior	78740
Trauma Intern	76112
NSGY	75397
General Surgery Blue	73374
General Surgery Gold	78656
Ortho	78615
Surg Onc	78627

Vascular 75279
Anesthesia for stat pages and intubations 78663
CT scanner 74257
Xray 74258
Blood Bank 74023

TIPS FOR SERVICE

- Helpful order sets:
  - SICU: ADMISSION ORDER SET: IP
  - Trauma: SICU TRAUMA ADMIT: IP (USED FOR SICU ADMISSION)
  - TRAUMA: RIB FX PROTOCOL (USED FOR PATIENTS W/ RIB FX AFTER FVC OBTAINED)
  - TRAUMA: ACUTE SPINAL CORD INJURY (Acute spinal cord injury protocol)
  - TRAUMA: HYPONATREMIA (order set that orders all the serum and urine hyponatremia labs)
  - TRAUMA: TLSO - THORACOLUMBAR SACRAL ORTHOSIS DEVICE/BRACE (order set for skin care and other misc order for TLSO braces)
  - TRAUMA: VACCINES FOR SPLEEN INJURY
  - TRAUMA: TUBES AND DRAINS
- Typical Day:

  Arrive for the day around 530-600 usually. Chief should have divvied up the patients the day before, they will be on the board for you to see who your patients are. You will receive sign-out from the night resident at this time. Rounds start at 0830 unless otherwise changed by staff. Use the time between sign-out and rounds to lookup

and pre-round on your patient. You will typically have between 2-6 patients but can have more. Probably not at first but try to have your notes does as well by 0830 (more on notes later). Services should inform you of their plans in the morning early (except for trauma, will usually run the list with the trauma junior after trauma rounds). Rounding from 0830 to whenever. After rounds is time to run the list and divvy up procedures and tasks which include placing and removing lines and tubes, following up on labs and orders placed during rounds, and updating the list (more on the list later). After tasks are finished time to run the list again.

- If there is a night float, the night float person doesn't stay to round. Usually on their last day of night float they will stay and round (usually Saturday morning). If post call, can stay in round. Can only have a 28 hour shift though so usually no later than 10 AM (if arrived at 6 AM the previous morning). Should round on post call person's patients first so they can leave.
- Chief will either be a surgery PGY-2 or anesthesia PGY-3, they will make the schedule. Send day off requests to them and the academic chief by the 5th of the month prior. Ex. If you have a request for August, then it needs to be submitted by July 5th.
- SICU is an open unit, the SICU service is a consulting service. Primary teams determine when to transfer out.

- SICU manages vents, electrolytes, presssors, antibiotics, blood transfusions, etc.
- Primary team will usually manage diet, chest tubes, drains, and overall big picture plan.
- **Treat the whiteboard in the SICU workroom as gospel. Especially the red part about when to call staff.**
- **KEEP THE LIST UPDATED** – There is an excel list in the workroom. This is updated every day after round and at the end of the day. Has a list of all patients, their problems, what was changed that day and what needs to be done. This fulfills the ACGME requirements for a sign-out list as well.
- This is the one service which you will likely be calling staff by yourself first. Use this as an opportunity to get accustomed to this as you will be doing it more and more as you advance.

ROUNDING

- Rounding starts at 830.
- These are systems-based presentations. Typically head down (Neuro>Resp>CV>GI>renal>Endo>heme>ID>MSK> Lines).
- Takes practice. The SICU has computers for rounds for all residents usually. You can read from your notes for presentation so finishing notes prior to rounds helps with presenting.
- While one resident presents, another should be placing orders as the attending states what they want (Ex: new labs in afternoon, advance diet, change abx, wean pain meds, etc).

- Chief should keep up with tasks to be done after rounds: pulling lines, new lines to place, etc.
- Try to stay engaged, these can be tough rounds when there are 15+ patients on the service. Keep in mind they are the sickest patients in the hospital.

NOTES

- Two templates on EPIC: Type SICU in smart text box. Will get “SICU H&P, and SICU Progress note. These are essentially the same, only difference is H&P will have PMH, PSH, etc.
- Very data heavy notes. Write your note out as you go through patients in the morning, try to have them finished by 0830 for rounds. Sometimes you will not be able to do this.
- Notes are systems based, same as presentations.
- Make your plan for the day for the patient and just sign your note. The attendings will update the notes when they sign their notes with their plans.

STAFF PREFERENCES

- Staff cell phones are on the board in the workroom and on the list at the bottom of the sheet
- Allen will usually “keep the unit” which means she will take call all week for established patients. She will have you just talk to the Trauma staff on call for new traumas and same for general surgery. Can be a bit confusing.

CALL

- Will only be on call for SICU patients. Is nice because you'll only be in the SICU and maybe NCCU or MICU if you have patients over there, will not be walking around the entire hospital
- Stay in the SICU, don't wander around. Can leave to get food but shouldn't be down in ED or up on another floor. You are there to be close by incase something happens. Again, these are sick patients.
- You will be calling staff with new admits. Get used to this.
- Surgery Junior on call is there to help (78740). Should be calling them with questions first usually. They may be in the OR or down in the ED with a trauma so if unable to contact try senior (78742).
- Never hesitate to call staff. Better to call about something that may be stupid than not call about a serious issue and harm the patient.

SURGICAL ONCOLOGY

ATTENDINGS

Brian Boone, MD
Riaz Cassim, MD *(Wednesday and Thursday only)*
J. Wallis Marsh, MD, MBA *(Chairman of Surgery)*
Carl Schmidt, MD
Alan Thomay, MD
Nezar Jrebi, MD

MIDLEVELS

Christian Barill, PA
Adam Cosner, PA: 79493
Shannon Filburn, NP (Clinic)
Carly Likar, PA
Chris Nock, PA: 79494

USEFUL PHONE #S

Service Phone 78627
OR Front Desk 74150
OR Charge Nurse 76212
SICU: Resident 78743
SICU Chief 78620
Wound/Ostomy 74337
PICC Team 75215
Pharmacy 74177
Darby McDowell (Surgery Dietician) 73606

CONFERENCES

- Tumor Board in Cancer Center at noon on Thursdays

TIPS FOR SERVICE

- Helpful note templates:
  - Surgery Consult Initial
- Helpful order sets:
  - 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: ERP-CRS POST OP
  - SURG ONC: DISCHARGE ORDERSET
  - PCA ORDERS FOR ADULT PATIENTS
  - HEPARIN PROTOCOLS: (LOW INTENSITY OR STANDARD)
- Onc staff are very hands-on, they like to know about everything going on and don't like any major orders placed without their knowledge
- Order CBC, BMP, Mg, Phos, +/- hepatic enzymes (if anything related to the liver) on every patient unless they are awaiting placement
- Make sure DVT ppx is appropriately ordered – surg onc patients get a lot of DVTs and PEs
- Preferred resuscitative IVF is Plasmalyte or LR.
- Once patient no longer requires resuscitative IVF switch to D51/2 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.
- Clean up orders on all primary patients every day or every other 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 eliminate 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 your patients.
- Common complications to be mindful of are anastomotic leaks, abscesses, wound infections, ileus and delayed gastric emptying, hemorrhage.
- One attending is on call the entire week. Generally, all new patients go through that attending unless they are established with another attending in which case during normal working hours that attending will be called about the patient. If the patient has a liver issue, for example, and the colorectal surgeon is on call, then we will usually go through the on-call attending first and then staff it with the appropriate person.
- Try to get clinic notes done within 48 hours.
- 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)
- Staff Preferences:
    - Cassim is the most hands-on
    - Marsh likes to be in the OR early around 0645 if he has cases and wants you to be in the room when the patient is in the room
    - Thomay has a thyroid/parathyroid post-op calcium monitoring protocol (refer to protocols)

ROUNDING

- Rounds usually start around 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 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 a lot faster)
- Don't stand around like a statue while your senior changes the patient's dressings, be proactive and help them change the dressings

SURGICAL ONCOLOGY PROTOCOLS

WVU – Enhanced Recovery After Surgery (ERAS) for Esophagectomy

PREOPERATIVELY

- Epidural (thoracic) for perioperative analgesia, heparin 5000 units subcutaneously
- Perioperative antibiotics (Cefoxitin)
- NG, R IJ triple lumen, arterial line, foley catheter, TEDs/SCDs
- Start with single lumen ET tube; switch to double lumen ET tube following bronch
- Positioning
  - Ivor Lewis: supine to begin (tuck right arm, foot board), then left lateral decubitus (pillow between legs, tape to bed, upper arm board)
  - 3 Hole: left lateral decubitus, then supine (head turned to right)

INTRA-OPERATIVELY

- Order of the case:
  - Ivor Lewis: Bronch, EGD, abdominal, thoracic, repeat bronch
  - 3 Hole: Bronch, EGD, thoracic, abdominal, left neck, repeat bronch
- Steps of operation:
  - Ivor Lewis: 1) bronch 2) EGD 3) enter lesser sac 4) divide omentum (spare gastroepiploic) and short gastric vessels 5) dissect left and right crura 6) mediastinal dsxn 7) divide left gastric vessels 8) celiac axis LN dsxn 9) Kocherize duodenum

if needed 10) inject botox into pylorus 11) create gastric conduit 12) +/- j-tube 13) thoracic esophageal dissection 14) transect esophagus above azygous 15) mediastinal LN dsxn 16) bring gastric conduit into chest 17) create anastomosis 18) wrap omentum 19) drains 20) bronch

- 3-hole: 1) bronch 2) EGD 3) complete thoracic esophageal dissection 4) mediastinal LN dsxn 5) drain placement 6) enter lesser sac 7) divide omentum (spare gastroepiploic) and short gastric vessels 8) dissect left and right crura 9) mediastinal dsxn 10) divide left gastric vessels 11) celiac axis LN dsxn 12) Kocherize duodenum if needed 13) inject botox into pylorus 14) create gastric conduit 15) +/- j-tube 16) cervical esoph ageal dsxn 17) transect cervical esophagus 18) bring gastric conduit through chest into neck 19) create anastomosis 18) wrap omentum 19) drains 20) bronch

- Drains: NG (suture to nose), 28F chest tube, 15F round blake abdomen, penrose neck

POD #0

- Night of surgery spent in ICU
- Nasogastric tube (intermittent suction, flush gently), CT/drains to suction
- Labs in recovery room: include CBC, CMP, Ca, Mg, Phos
- CXR in recovery room (CTs, NG, R IJ TLC)
- IVF: D5 LR @ 150 mL/hr
- IV PPI (Nexium 40 mg IV daily), beta-blockade, dilaudid PCA if no epidural

- Respiratory protocol, vibratory bed, combivent nebs

POD #1

- Order daily CXR and labs: CBC, CMP, Ca, Mg, Phos
- Discontinue antibiotics, Lovenox 40 mg subcutaneous daily
- OOB to chair, ambulate in the halls, PT/OT, aggressive pulmonary toilet
- Continue SCDs, DVT prophylaxis, beta-blockade, and PPI

POD #2:

- D/C foley (if no epidural; if epidural, ok to remove in women or young pts)
- Change IVF from LR to D5 1/2NS +20KCL
- Transfer to step-down, increase activity, aggressive pulmonary toilet
- CTs to water seal

POD #3-6

- Initiate TFs at 10 mL/hour if J tube present; advance to goal as tolerated
- Keep all drains near anastomosis until taking PO
- Can remove CTs not near anastomosis if no PTX and low output (<300mL daily)
- Minimal all IV fluids – consider diuresis
- Start bowel regimen: docusate/sennokot via J tube
- D/C epidural and foley - start meds via J tube (Lortab)
- Change medications to J tube (except toradol), resume home medications
- Transfer to floor

POD #7

- Barium swallow (PO, not via NG; make sure to evaluate anastomosis, gastric emptying, and that contrast makes it past the J tube)
- IF no leak: remove NG, initiate sips of clear liquids
- Discontinue all IV fluids – consider continuation of diuresis until dry weight

POD #8-10

- Advance diet to full liquids (they will go home on this)
- Remove anastomotic drain if no change in output quantity/quality with PO
- Nutrition consult for post-esophagectomy diet teaching, need for home J tube feeds
- Repeat PT/OT evaluation - ? rehab, evaluate home health needs
- Distribute pre-printed discharge instructions
- Remember: intent to discharge the night before; discharge by noon the day of

DISCHARGE

- Criteria: no fever or leukocytosis for 48 hours, tolerating at least full liquid diet or goal TFs, passing flatus, ambulating, home care is arranged, J tube feeds
- Follow-up: 1-2 weeks
- Meds: Nexium, percocet (#60), docusate/sennokot, beta-blockade (if home med)
- Patient instructions: call or come to ED for fever > 101, rigors, severe/worsening abdominal/chest/neck pain, nausea/vomiting, drain color/output changes

POSTOPERATIVE MANAGEMENT ISSUES

MANAGEMENT OF CHEST TUBES

- Look at CT tubing and canister every day – monitor color, clarity, amount of drainage, and check for air leak
- Ensure that they are adequately secured (stitch)
- Do not remove anastomotic CT until patient is on full liquid diet, output serous, amount <200 mL/day
- Do not remove any CT without discussing with attending first

MANAGEMENT OF JP DRAINS

- Look at drain every day – monitor color, clarity, and amount of drainage
- Ensure that they are adequately secured (stitch)
- Do not remove until patient is on diet/TFs, output serous, amount <50 mL/day
- Do not remove any drain without discussing with attending first

MANAGEMENT OF ESOPHAGEAL ANASTOMOTIC LEAK

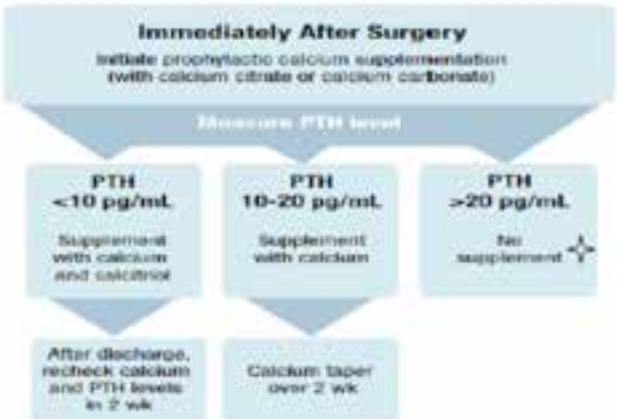
- CT scan to rule out undrained collections
- NPO, antibiotics (Zosyn) until SIRS/sepsis controlled
- Cervical anastomoses:
  - Open incision, control drainage, protect skin
- Thoracic anastomoses - evaluate size/clinical impact of leak:
  - If small – consider GI for possible covered stent placement

    - If large – thoracotomy, repair/redo anastomosis, intercostal muscle flap
- Nutrition: TF if J tube present, TPN if not

MANAGEMENT OF DELAYED GASTRIC EMPTYING

- NG tube (attending present for placement), IVF, correct electrolytes
- Barium swallow to rule out pyloric occlusion - ? need for repeat botox, pyloroplasty
- Reglan 10 mg IV QID
- Nutrition: TF if J tube present, TPN if not

THOMAY THYROIDECTOMY POST-OP PROTOCOL



1. Check PTH at least 6 hours after surgery.
2. If 6 hour post operative PTH is < 10, start calcitriol 0.5 mcg daily, calcium carbonate 1000 mg TID with meals (consult endocrine for patients with impaired renal function).
3. If 6 hour post operative PTH is between 10 and 20, start calcium carbonate 1000 mg TID with meals.
4. If 6 hour post operative PTH is > 20 and total corrected calcium is > 8.5, no supplementation is necessary.
5. If 6 hour post operative PTH is > 20 and total corrected calcium is < 8.5, start calcium carbonate 1000 mg TID with meals.

- All patients are discharged with clear and specific instructions regarding the signs, symptoms and treatment of hypocalcemia and are instructed to contact the surgery service if they experience symptoms that require additional doses of calcium.
- Calcium carbonate 1000 mg provides 400 mg of elemental calcium.
- Calcium, albumin, phosphorous, and intact PTH are checked 1-2 weeks after discharge.
- Calcium citrate is absorbed better in patients with achlorhydria (low gastric acid output) as is common in the elderly and patients on chronic proton pump inhibitor therapy. Calcium citrate 1000 mg provides 200 mg of elemental calcium (1/2 as much as calcium carbonate), therefore, twice as much calcium citrate is required to provided the same amount of elemental calcium as calcium carbonate.

THORACIC SURGERY

ATTENDINGS

Ghulam Abbas, MD
Jeremiah Hayanga, MD

MIDLEVELS

Forrest Olgers, PA
Christopher Burgan, PA
Missy, RN 51901
Suzanne, RN..... 70951

USEFUL PHONE #S

Midlevel's Phone 78474
Midlevel pager..... 1143
Cardiac APP 75260
Care Management, Beth 75282/71374
Physical Therapy pager..... 1854
Pharmacy 70744
OR 5N front desk..... 74150
OR 2SE front desk..... 74012
OR 35 74535
Nurse Coordinator, Jackie..... 70302
Fluoroscopy..... 73170
IR for pigtails 74729

TIPS FOR SERVICE

- Helpful Order sets:
  - SCT: Thoracic Post-op
  - RUBY: SCT thoracic surgery admit/pre-op
- Materials: PleurX atrium and tubing, 4th floor materials row 28 on right and left sides
- Sign out to Junior on call

ROUNDING

- PAs arrive at 6:15-6:30 am daily at office on 4th floor by cafeteria
- Attendings arrive at 6:50-7:00 to run the list; as it is now junior resident goes to the OR at 7 vs rounds with the PAs/other attendings if there are no cases. Senior resident at this time does not round but only operates.
- Double checks labs/orders/CXRs in the morning prior to table rounds.

STAFF PREFERENCES

- PCA for all patients with chest tubes
- Prefer dry suction canisters
- Daily CXR for all chest tubes
- Confirm water seal vs suction orders (will vary depending on surgery/attending)
- Patients with pleurX catheter should have consult to care management ASAP to arrange home health
- Post-op esophagectomy, heller and nissen should have dietician consult ASAP
    - POD#0 -> NPO/NGT (no reinsertion if dislodged and no NGT for Heller), PCA, incentive spirometer, heparin DVT ppx, fluids @100cc/hr, no pills, post-op abx for 3 doses
    - POD#1 -> DC foley before 7 am,
        - Barium swallow, clear liquid diet if no leak, decrease fluids, PCA (for heller/nissen)
        - NPO and G tube feeds 10 cc/hr (for esophagectomy), fluids, PCA.
- At discharge place follow-up in 2 weeks in HVI Thursday with repeat CXR.
- Dr. Abbas likes to be called personally about issues with his patients ie. Afib RVR, etc.

TRAUMA SURGERY

ATTENDINGS:

Jim Bardes, MD
Connie DeLa'O, MD
Daniel Grabo, MD
Uzer Khan, MD
Jennifer Knight, MD
Gregory Schaefer, DO
Alison Wilson, MD

MIDLEVELS

Ashlynn Bennett, NP 78774
Elena Climov, NP 75148
Lindsay Hutchinson, PA 79457
Claire Leinhauser, PA 75147
Holly Riley, RN (nurse manager) 73297/78085
Becky Ricards, RN (nurse manager) 78745
Trudy (trauma office) 74659

USEFUL PHONE #S

Senior 78742
Junior 78740
Intern 76112
SICU Resident 78743
OR Front Desk 74150
OR Charge RN 76212
OR Charge Anesthesia 76364
CT Scanner 74257
ED 74172
Xray 74258
Midlevel Office 70038
7E floor 74072

8NE floor..... 74620
SICU..... 74314
Neurosurgery resident..... 75397
Ortho resident..... 78615
Blood Bank..... 74023
Speech and swallow..... 76207
Weekend PT pager..... 0197
Christina Duesenberry, Pharmacy..... 79957

CONFERENCES

- **Tuesdays** at **8 am** in Trauma Office
- **pro tip*** on **Wednesdays** must see patients and give detailed sign out to PA's before you go to didactics, whoever is "on call" hand pager to PA
- **First Thursday of every month** combined ER conference at **noon** in HSC
- SIM lab **first Friday of every month** at **1 pm**

TIPS FOR SERVICE

- Helpful note templates:
  - TES H&P
  - TES progress note
  - TES discharge summary
  - TES clinic note
- Helpful order sets:
  - ED TRAUMA: Adult P2 orders PART B (used for CT scan orders)
  - ED TRAUMA: PEDS P2 ORDERS PART B
  - ED TRAUMA: XR ORDERS RUE,LUE,RLE,LLE (used for extremity film orders)

- ED RIB FX – FORCED VITAL CAPACITY :IP (used if patient has rib fx)
- TRAUMA: DISCHARGE ORDERSET ADULT TRAU MA :IP (used for discharges)
- TRAUMA: ROUTINE TRAUMA ADMIT :IP (used for obs/floor/stepdown admissions)
- TRAUMA: SICU TRAUMA ADMIT: IP (used for SICU admission)
- TRAUMA: RIB FX PROTOCOL (used for pts with rib fx after FVC obtained)
- TRAUMA: SPLEEN INJURY VACCINATIONS (used for post spleen vaccinations)
- TRAUMA: ACUTE SPINAL CORD INJURY
- TRAUMA: TLSO – THORACOLUMBAR SACRAL ORTHOSIS DEVICE/BRACE
- TRAUMA: HYPONATREMIA
- TRAUMA: TUBES AND DRAINS

ROUNDING

- Two staff daily: one on service and one on back up.
  - Back up sees discharges separately with PA
  - Midlevel will see all new patients from overnight and the discharges
- Daily patients to see listed under your name on white board on 7E
  - Junior/ Senior will see ICU patients – should pay attention on rounds so you know the patient when they come out of ICU to the floor
- **Update problems list daily** and thoroughly (complete problem list will win brownie points!)
- Home meds must be verified with pharmacy before restarting

- Table rounds with staff at 8am in trauma office.
  - Patients ideally should be seen with notes written by this point
  - Bring up any patient you think could be dis charged.
  - If patient is sick and needs attention, call senior/ junior/anyone PRIOR to 8am (ie ASAP).
- Rounds occur as a team with staff daily, traumas run by PA/back up staff during am rounds.
- Sample patient presentation:
  - *"Mr Smith 48 yo male post trauma day 3 s/p ATV crash, no acute events over night" then go into system/ injury based presentation ie neuro: subarachnoid bleed, repeat CT brain stable, NSGY has signed off, GCS 14. Pulm: rib fx 3-8 on the right, last FVC 1.7, currently on aggressive pulmonary toilet"* etc. try to come up with plans, this will get easier!

TRAUMAS

- P1 (highest level) full trauma team activation
- P2 partial trauma team activation
- P3/consult: must see within 30 mins of arrival (usually have been worked up elsewhere)
- Intern on call for the day (or day/night) responds to trauma pages. Go to ER on 3rd floor. Trauma bay on right (ED 14-20).
  - Get lead and protective equipment (gloves and gown), sign in with ED RN who is documenting the trauma
  - Responsible for primary survey, orders/ H&P/ calling consults/admission

- Perform primary survey (ABC, expose, get HPI information, roll) shout all findings out loud for nurse recording to write them down (i.e. breath sounds clear bilaterally, 3 cm laceration over right hand)
- Pro tip* Don't forget to add patient to the trauma rounding and trauma attending list (peds traumas go on ped surgery list this is 16 yrs of age and younger)
- Place orders for CT scans/imaging (see order sets) call CT and ask if they are ready for patient, go to CT scan with them. **Do not need to go to X-ray if stable. Do not need to go to CT with P3/ consults
- Once images back, page consulting services. Place admit orders using order sets (thoughtfully!! Ie only click what patient needs, pay attention to auto-clicked orders)
- All protocols are in handbook.
- Pro tip* if you don't have book, can be found online Google: WVU TRAUMA HANDBOOK
- If pt going to SICU call (78743) and tell them about patient
- If P1 lots more people, + staff, you still perform primary survey, junior will do lines/tubes

- Trauma H&Ps
  - TES HPI is unique. Use note template. MUST have times of page, initial vitals etc from trauma sheet.
  - Must get PMH, SX and FMH, if patient intubated/ unable to give must write "unable to obtain due to patient is intubated/unresponsive/sedated etc"

- MUST fill in problem list with problem and info (i.e. right tib fib fracture: ortho consulted, OR 4/23, non-weight bearing R LE) for all problems
- Important* On trauma transfers, must have copies of any XR/CT reads as well as making sure the images are up on image grid (call 7HELP to get image grid access). If no reads were sent with the outside records, have the ED clerk call the transferring hospital and fax copies of the reads. No release of information consent is needed as this is an acute transfer.
    - After finished with outside records, these need to go to medical records to be scanned. Typically the APP's will want them to go over the new traumas so I just take them to their room in the morning for sign out.
- Pro tip* should be able to complete H&P down to imagining results in CT scan. There is a computer in the back of the CT control room that you can use. Start by adding in times/ fluids/ vitals from nursing sheet then fill in the rest. If you don't have time in CT or it is a transfer can snap a picture of trauma sheet and/ or image reads from OSF to write note later.
- Pro tip* get sticker from trauma patient, write pertinent info next to sticker on paper to keep organized.
- H&P goes to trauma staff on call (i.e. may be different than person on staff that week if its night)

CALL

- Call is 6am – 6am. You will cover trauma and vascular surgery.
- Day call is 6am to 5:30pm (only cover trauma during this time) – you're responsible to go to all traumas paged during this time including peds trauma at night/ weekend.
- If multiple traumas come at once senior will delegate help.
- You will carry 76112 all night.
- Senior (78742) will be called with trauma related issues, Junior (78740) should be called for vascular issues on call.

STAFF PREFERENCES

- **Pro tip*** Dr. Wilson will ask "what did you read last night" every day she is on service. Make sure you've read something (trauma related) and can tell her about it
- **Pro tip*** Dr. Khan has an excellent hyponatremia flow sheet, try and obtain this, and use it (you will impress him!)
- **Pro tip*** the mid-levels are your lifeline, help them in any way possible and they will help you.

SIGN OUT

- Sign out to PAs in the morning, if you are on call the nights about the new traumas.
- Sign out to co-residents about on the floor events.
- Will also need to get/give sign out to the vascular intern/ team.

VA

ATTENDINGS

General

Riaz Cassim, MD
Frank Schiebel, MD
Arthur Patterson, MD

Vascular

Ossama Reslan, MD
Sonny Tucker, MD - Locums but has been around for years

MIDLEVELS

Jessica Shaw, PA

- Clinic PA who helps make sure surgeries are set to go.
- A fantastic resource for any random question.

USEFUL PHONE #S

Surgery phone.....304-476-9005
VA general hospital.....304-623-3461
ED.....304-623-7677
ICU.....304-623-7678
Other phone numbers listed on the wall in the workroom

TIPS FOR SERVICE

- **Don't lose the phone. Period.**
- You can roll the phone to another number (but don't lose the phone!)
  - *72 followed by the 10 digit phone number and then press call.
  - To roll back to itself: *73 and then press call

- Workroom code 2323. Locker room codes are the room number backwards (9033 and 8033)
- Amanda Carpenter is the resident coordinator (Amanda.carpenter2@va.gov). She makes sure you're up-to-date on training, gives you your meal card, etc. If you have questions, she's usually pretty helpful (unless she's on maternity leave). After you've been at the VA once and are coming back a few months later, send her an email the month before to make sure you are all set to start
- You get about $350 for food each month on a card
  - Cafeteria closes at 2pm (but in reality, you need to get there before 1pm)
  - The "Starbucks" opens at 6:30 but the employees are usually hiding
  - The store (Canteen) closes at 4pm. Good place to stock up on junk food. Anything edible can be bought with your meal card.
- You will get about $700 for gas each month. Check with Linda to be sure your paperwork is correct. If you don't get a deposit after a month, you may need to check with her again.
- Ask for orange lot parking sticker. Talk to Amanda Carpenter and then see security. You will probably need your vehicle registration and driver's license.
- Be nice to everyone. Otherwise they will probably talk about you behind your back.

DAILY ROUTINE

- Arrive 6:30-6:45
- Login to check for new consults
- **Sign in OR cases:**

- Green wrist band with name, last 4 SSN, procedure, date, initials
- Mark patient if able to be marked (yes residents can do this at the VA)
- Write Pre-op note: PRE OPERATIVE/PROCEDURE
- It will ask you about SCDs: not needed for local anesthesia or endoscopy
- If H&P over 30 days old, also do minimal update note: MINIMAL/UPDATE HISTORY AND PHYSICAL (this is brief, not a whole H&P)
- Consent patient if not done within 60 days

ROUNDING

- There are no lists that print like Ruby. You make your own list in CPRS and then handwrite a list (if needed)
- Patients are searched for by first letter of last name and last 4 of SSN (B1234).
- Cassim likes details. It's best to have a note card or piece of paper where you write down the patients H&P and daily vitals, labs, meds, imaging, etc. You keep all this info updated daily so if someone wants to know the bicarb 3 days ago, you can tell them. It is strongly recommended that you write down the last 4 of the SSN on your paper.
- Rounding note: GENERAL SURGERY NOTE (or there's vascular or Gyn notes if appropriate)
- Vitals:
  - For ICU numbers, need to open the patient in Critical Care Manager program
  - For floor patients, the cover sheet at the bottom has the most recent vitals. If you click on the number, it will pull up the trend for the date range

you select. These will also populate in your note under templates and "Todays vitals."

- Labs are found under "Lab" tab. To be able to copy labs into your note, "Cumulative" is the best and easiest for trends. "All tests by date" is good if you just want the most recent numbers. There are templates under "Items that pull into note" and then "lab values" but these are limited; it's quicker to either type it or copy and paste.
- I&Os
  - For ICU patients, again under Critical Care Manager program
  - For floor patients, there are nursing notes for each shift that list I&Os. You need to add them all together to get the whole day. BMs are found under "Nursing shift assessment" notes
- Overnight events
  - Check nursing notes in CPRS
  - In Critical Care Manager, there is an "events log" at the top
- Table rounds Mon, Tues, and Fri in Cassim's office at 7:30. Be prepared to present all inpatients and consults we are actively following. If you signed off on a patient, don't mention them but be prepared to say what happened to the patient if it comes up (ie they were discharged, sent to Pittsburgh, given antibiotics etc).
- Surgery start times are 7:45am or 8am but this may change to earlier
- Get orders done ASAP. Notes can be done later
- Before leaving, some people like to check with the ED before they drive 45min home and realize there was

someone being worked up for acute cholecystitis.
- Check on your inpatients before you leave and communicate the plans to the nurse. Make sure your orders are cleaned up. You can put in orders to save you phone calls like insert NG if patient vomits or straight cath if no void in 8 hours, melatonin, Zofran, etc. This will usually save you a couple phone calls at night.

POST-OPERATIVE CARE

- Most patients will go home same day. If patient is staying, place orders like any general admission after surgery
- Post op endo:
  - Surgery Menu- Post op Discharge Orders- Endoscopy Discharge Orders
  - Ask if follow up needed. If no biopsies, select "patient to receive post op letter." Most patients will not get follow up appointments
  - If diverticulosis, change diet to "begin high fiber diet"
  - If multiple biopsies and on blood thinners, ask how long to hold
  - Medications: "Per Anesthesia Provider"
- Post op surgery:
  - Surgery Menu- Post op Discharge Orders- SDS/PACU Discharge Orders
  - Include when to take off dressings, when to shower, activity restrictions, etc.
  - Order pain meds if appropriate.
  - If a patient needs follow up appointment, this needs to be ordered separately even though the

discharge order asks about follow up. This changed in early 2018 and may change again…
    - Click on “New RTC orders”- “Return to Clinic”
- Clinic:
    - CLA GENERAL SURGERY (CONSULT) - If they are specifically coming back to see you and not the PA
    - CLA GENERAL SURGERY POST OP – If they are post op surgery to see PA
    - CLA SURG-NURSE PRACT 2 – If they are post op endo (the #2 is important so it is scheduled with Jessica)
- You have to pick a date

CLINIC

- Every Thursday is clinic, no OR cases are scheduled unless emergent
- New consults use SURGERY CONSULT template
- Follow ups use SURGERY CLINIC NOTE
- You have a room and the nurses will bring you the patient when you are ready
- For patients you are signing up for surgery
    - Surgery Menu- Pre Op Orders - “Pre Op for General Surgery” or “Pre Op for Endoscopies”
    - If local anesthesia only- no pre-op workup needed
    - CXR within 12 months, EKG within 6 months
    - Labs depend on the procedure but generally within 60 days: CBC, package electrolytes, PT/INR, PTT for all. UA if inguinal hernia. Type and screen for certain bigger cases (colons)
    - Need to hold aspirin? Plavix? Other anticoagulation?

    - Antibiotics unless local or endoscopy. Ancef 2g if >70kg, 1g if <70kg
    - Get consent through iMed
    - Walk patient over to scheduling office
- Order follow ups under “New RTC orders”

CALL

- The phone is the primary source of communication for patient issues and consults.
- Some consults are ordered through CPRS and you will see them when you log in; these are usually non-urgent.
- Generally, the resident on call for the night will hold the phone during the day.
- You split home call with yourself and the second resident. This is coordinated the month before but can be flexible if there are last minute changes.
- If you get called about a potentially surgical patient, you should drive down to see the patient. Call your attending first before driving in case they have other thoughts
- If a patient does not need surgery, it may be appropriate for medicine to admit the patient and you can see them as a consult in the morning. If you aren’t sure, call your attending

VASCULAR SURGERY

ATTENDINGS

Alexandre d'Audiffret, MD
Sashi Inkollu, MD
Luke Marone, MD
Samantha Minc, MD
Lakshmikumar (Kumar) Pillai, MD
Eric Shang, MD
Pamela Zimmerman, MD

FELLOWS

Jared Feyko, DO, second year fellow
Jason Hwang, DO, first year fellow

MIDLEVELS (71400):

Thaddeus Dell'Orso, PA
John Kamzik, NP
Leah Nye, NP
Ashley Davis, PA

USEFUL PHONE #S

Service Phone	75279
Vascular Midlevel phone	71400
Care Manager, Beth Bedilion	75282
HVI Utility Room Code	#2017
Materials	74189
HVI OR Front Desk	74012
HVI OR Charge Nurse	75504
HVI Charge Anesthesia	76274/78310
Vascular Lab Tech	74003
Vascular Ultrasound	74127
Dialysis unit	74108

CONFERENCES

- Wednesdays at 3 pm in HVI 7th floor

TIPS FOR SERVICE

- Helpful order sets:
- HVI SVASC ADMISSION
    - HVI OR IR POST-PROCEDURE, POST-ANGIOGRAPHY
    - (used for bedrest and access site instructions after cath lab procedures)
    - HVI SVASC CAROTID ARTERY STENT POST-OP
    - HVI SVASC CAROTID ENDARTERECTOMY POST-OP
    - HVI SURG VASC INTRA-ARTERIAL THROMBOLYSIS
    - HVI SVASC EVAR
    - HVI SVASC OPEN AAA REPAIR POST-OP
    - VASC DISCHARGE ORDERS
    - HEPARIN PROTOCOLS: (LOW INTENSITY OR STANDARD)
- Every patient should be started on ASA and a statin (atorvastatin 10 mg) if they are not already - it is a Vascular Surgery quality measure.
- Consents for any IV sedation cases need both a procedure AND sedation consent.
- There are protective eye shields and thyroid shields available for all residents in the 5th floor workroom for endovascular cases. DO NOT LOSE THESE.
- Most patients who get a peripheral arterial stent should be started on Plavix with a load of 300 mg on the day of intervention and then 75 mg/day for three

months. Ask the staff if you're unsure.
- Different attendings have clinics at different locations which can be selected in the vascular surgery discharge order set. If you're unsure where a patient should follow-up always clarify.

ROUNDS

- Interns are to carry the vascular dressing bag on rounds and keep it stocked with supplies.
- DO NOT LOSE THE DOPPLER!
- Don't stand around like a statue while your chief or junior changes the patient's dressings, be proactive and help them change the dressings.

CONSULTS

- All consults from 8 am – 5 pm during the week should go to the patient's primary physician if they have an established provider.
- After 5 pm weekdays and on the weekends all consults and patient issues should go to on call staff.
- All vascular patients' allergies should be reviewed ESPECIALLY CONTRAST ALLERGY and REACTION.
- For wound consults, start with a detailed motor, sensory and pulse exam. If pulses are not palpable, but dopplerable, then we typically recommend ABI/PVRs. If the extremity is pulseless and there is concern for acute limb ischemia, notify a more senior resident. Different attendings will have different recommendations for local wound care. If ABI/PVRs return normal, then we typically recommend podiatry consultation for further follow-up.
- Try to take and upload wound photos to the EMR

when possible – staff appreciates this
- Niagras and TCCs should be place preferentially in the right IJ
- Obtain CXR post-operatively for a TCC placement and write an MD to nurse order stating it is cleared for use after this is reviewed
- All lines should be placed with junior or senior supervision and under sterile conditions.
- **Must know information for line consults:**
  - **Niagra:**
  - Is dialysis need urgent or emergent?
  - Are they on anticoagulation?
  - Review prior imaging to check for central stenosis or thrombus
  - Selecting lines:
    - Trialysis catheters (triple lumen, one can be used for other infusions):
      - Right IJ 12.5 Fr 16 cm
      - Left IJ 12.5 Fr 16 cm or 24 cm depending on pt size (needs to reach RA)
      - Femoral 12.5 Fr 24 cm
    - Double lumen catheters:
      - Right IJ 13.5 Fr 16 cm
      - Left IJ 13.5 Fr 16 cm or 24 cm depending on pt size (needs to reach RA)
      - Femoral 13.5 Fr 24 or 30 cm
  - **TCC:**
    - Can the patient lay flat?
    - How many lines have they had in the past?

    - Are they on anticoagulation?
    - Do they need it (i.e. does nephrology think they need)?
    - Do they have a fistula, is it mature, can it be used?
- **Must know information for IVC filter consults:**
    - Do they need it (i.e. what is the true contraindication to anticoagulation)?
    - Where are the DVTs and how extensive?
    - Are they allergic to contrast dye?
    - What are their renal function parameters (do they need to be done with IVUS)?

CALL

- 24 hour call is 6am – 6am. You will cover vascular and trauma surgery. You're responsible to go to all traumas paged during this time including peds trauma at night/weekend.
- You will carry 76112 all night.
- Junior (78740) should be called for vascular issues on call, Senior (78742) will be called with trauma related issues.

VASCULAR SURGERY PROTOCOLS

POSTOPERATIVE ORDER SET FOR CSF DRAINAGE FOR VASCULAR SURGERY

Vital Signs

- Neuro Checks. Call **Vascular Surgery Attending** immediately if any change in neuro status. **Q 1 hour**

Activity

- HOB Elevation < 30 degrees during bed rest
- Clamp drain for any patient turning/moving
- Strict bed rest while drain is actively draining
- Ok for OOB to chair once drain capped (must stay capped while in chair)
- Bed rest x 2 hours after drain removal

NURSING

Nursing - Monitoring

- Transduce and document CSF pressure using a flush-less transducer system and the bedside monitor **Q 1hour**
- Monitor and record CSF volume drained **Q 1hour**
- Transduce and monitor MAP, call **Vascular Surgery Attending** if MAP < 90 **Q 1hour**

Nursing – Wound and Drain

- Assess CSF drainage site/dressing every 4 hours until CSF drain discontinued; document and notify if change
- If CSF becomes blood tinged, immediately cap drain and call **Vascular Surgery Attending** and **Neurosurgery on call**

Nursing – Drain management

- Level zero-point of CSF drainage assembly to right atrium
- Set drainage set –point to 10 mmHg. Do not change level without speaking with the **Vascular Surgery Attending**
- a) If CSF pressure > 10 mmHg, open the drain and drain 10 mL CSF, then reclose the drain and check CSF pressure

  b) If CSF pressure remains > 10 mmHg, repeat step a) to a maximum amount of 20 mL CSF in 1 hour

  c) If CSF drainage is required more than twice in 1 hour and the total amount of drainage would exceed 20 mL in 1 hour, notify **Vascular Surgery Attending**

MEDICATIONS

- Phenylephrine in NS 100 mg/250mL (400 mcg/mL) IV infusion

25 mcg/min (3.75ml/hr), IV infusion, CONTINUOUS

To maintain MAP greater than 90 IF neuro changes occur in lower extremities. Call **Vascular Surgery Attending** prior to starting.

Recommended starting dose: 25 mcg/minute

Recommend to titrate/taper: 12.5-25 mcg/minute every 3 minutes to MAP greater than 90. If no response may titrate in increments of up to 50 mcg/min every 1 minute

Soft maximum dose: 300 mcg/minute

DRAIN REMOVAL

- CBC
- PT/PTT
- Transfuse platelets if platelets < 100
- Transfuse FFP if INR > 1.3
- Cap drain x 6 hours, if any neurologic changes occur, re-open drain and call **Vascular Surgery Attending**

SURGICAL/PROCEDURE FOLLOW UP FOR VASCULAR SURGERY

EVLT - 2 week f/u with duplex to r/o EHIT/DVT, if negative with no reflux then f/u prn

Phlebectomy/Open Vein Stripping - 1 week f/u for wound check, then f/u 1 month

AVF creation - 2 week f/u for wound check, 8 week w/ duplex for flow volume

AVF graft creation - 2 week f/u for wound check, 8 week w/duplex for flow volume

Fistula revision - 2 week f/u for wound check, 8 week w/ duplex for flow volume

Aortogram with runoff - 4 week f/u with arterial LE non-invasive study, *pt with intervention in SFA, popliteal, or tibial need additional repeat f/u with LE noninvasive study at each appointment at 3 months, 6 months, and then every 6 months

Angiogram Lower Extremity - 4 week f/u with arterial LE noninvasive study, *pt with intervention in SFA, popliteal, or tibial need additional repeat f/u with LE noninvasive study at each appointment at 3 months, 6 months, and then every 6 months

Fistulogram - no f/u needed unless specified by attending surgeon

IVC filter placement - f/u in 3 months to evaluate for removal

IVC filter removal - no f/u needed

TCC exchange - 2 week f/u for UE vein mapping for percutaneous dialysis access creation

TCC placement - 2 week f/u for UE vein mapping for percutaneous dialysis access creation

CEA/CFA - 4 week f/u with duplex, then additional follow up with duplex at each appointment at 6 months, 1 year, and then yearly

AKA/BKA - 2 week f/u for wound check

EVAR - 4 week f/u w/ CTA and abd duplex, the additional follow up with duplex at 6 months, 1 year f/u with abd duplex and CTA *if no endo leak or sac growth then follow up every year

Bypass - 2 week f/u for wound check and 4 week w/ arterial LE noninvasive study, then repeat at 6 months, 1 year, and then yearly

Iliac artery angioplasty or stent - f/u 4 weeks with arterial LE noninvasive study then repeat f/u every 6 months with arterial LE noninvasive study

NIGHT/WEEKEND CALL

- Trauma intern (76112): trauma and vascular
- General surgery intern (73374): both general surgery teams, surgical oncology, breast, plastics and pediatrics
- Junior (78740): thoracic, breast, plastics, vascular, and SICU
- Senior (78742): trauma, both general surgery teams, surgical oncology and pediatrics
- Night call/float starts at 5:30 PM and goes until 6:00 AM. You need to be at the hospital and ready to start working by 5:30 PM.
- Let the appropriate senior know as soon as you get a consult.
- For sacral decubitus ulcer consults, if there is concern for infection, it's a general surgery consult, otherwise, they should consult the wound care team in the morning (or on Monday if it's a weekend). It's always best if you're unsure of the severity to see the patient and determine the acuity after.
- For floor calls, see the patient and write a short note describing the situation and what you did. It helps the day team understand why certain things were done overnight.
- Any time you have a question about anything, don't be afraid to ask. It's better to ask what might seem like a stupid question than to not provide the best care for your patients.
- You can't refuse a consult, no matter how dumb it might seem. Just let your senior know.
- Do not hold consults or punt them to the day teams.
- Starbucks opens at 5:30 AM every day. It's open until

8 PM during the week and 5:30 PM on the weekend.
- The cafeteria closes at 8 PM during the week and 7PM on the weekends. It re-opens every night at 1AM until 3:30 AM.

COMMON FLOOR ISSUES

- First and foremost, the following are suggestions and should be taken as such.
- Because our patients usually just had surgery you should always be mindful that your intervention is what has changed with the patient and the surgery and/or complications related to the surgery are the etiology of the issues.
- Especially in your first few months you should see every patient with a new issue until you get more experience and can triage patient issues.
- Chest pain: EKG, troponin +/- chest x-ray when you get the call so they're being done by the time you see the patient.
- Hypotension: assume hemorrhage in a post-op patient until proven otherwise. Get H&H or CBC and find out urine output, heart rate and blood pressure trends. Ask if they checked a manual blood pressure, and let the service senior know about it. Be careful giving fluids to patients with known CHF.
- Tachycardia (including atrial fibrillation): EKG, troponin, BMP, magnesium, phosphorus. Find out if they have a history of atrial fibrillation. Check blood pressure, urine output, previous heart rates, and temperature. Don't assume the tachycardia is due to hypovolemia and drown them with fluids, this can worsen atrial

fibrillation. Notify your senior.

- Low urine output: have them bladder scan if they haven't yet, check I&O's, make sure they aren't end stage renal disease patients before you bolus them
- Wound VAC calls: grab a wound vac change kit from materials and have scissors of some kind. You will be a master of fixing leaks on wound vacs by the end of the year.

PHONE NUMBER LIST

RESIDENT PHONES WEEKDAYS

Gen Surg Blue	73374
Gen Surg Gold	78656
Pediatric Surgery	75729
Surg Onc	78627
SICU Resident	78743
SICU Senior	74620
Trauma Intern	76112
Trauma Junior	78740
Trauma Senior	78742
Thoracic	78474
Vascular	75279

RESIDENT PHONES NIGHTS/WEEKENDS

Senior (gen surg, surg onc, trauma, pediatrics)	78742
Junior (vascular, plastics, thoracic, SICU)	78740
Intern (trauma, vascular)	76112
Intern (gen surg, surg onc, pediatrics, plastics)	73374
SICU	78743

APPS

Kaitlyn Bates (breast)	79940
Ashlynn Bennett (trauma)	78774
Zach Bragano (plastics)	78707
Chris Carey (surg onc)	79494
Elena Climov (trauma)	75148
Adam Cosner (surg onc)	79493
Lindsay Hutchinson (trauma)	79457
Claire Leinhauser (trauma)	75147
Meredith Liddle (plastics)	79492
Kelsey Roetenberg (general)	70489

CT surgery PA 75260
CT surgery NP 75069
NCCU APP 79415
Vascular Surgery APPs 71400
Darby McDowell 73606

ER

ER 74172
CT scan 74257
MRI 114745
Ultrasound 73724

UNITS

ABG Lab 73406
Dialysis 74108/76022
EKG 76056
ECHO staff 73249
Microbiology 74234
BMTU 74127
NICU 74140
PICU 74328
SICU 74314
MICU 71570
MICU Resident 75454
MICC 74061
NCCU 74421
PACU 74123
ED 74172
2W Area A 72568
2W Area B 72565
2W Area C 72560
2W Area D 76129

2W Area F 72886
2E (obs) 74213
6 NE (obs) 74084
7NE 74704
8NE 74620
3SE 71383
6SE 71660
9SE 70962
10SE 71753/71754

For hospitals floors in the main building:
74- Floor -1 for west, 2 for east
Example, 10E 74-10-2: 74102
Example 8W 74-08-1: 74081

CARE MANAGEMENT

Weekend CM 76101
Pediatric surgery CM 75270

CHARGE RNS

2W Charge RN 76203
5N Charge RN 76212
HVI Charge RN 75504
Endo Charge 76217

2W/5N OR

Charge Anesthesia 76263
Anesthesia Resident 78662
Anesthesia Consult 75420
Blood Bank 74239

For the 5N ORs:
OR 1-16: 742-OR room #
Example OR 3 74203
OR 21-35: 745-OR room #
Example OR 33 74533

HVI

OR Front Desk 74012
Charge Nurse 75504
Charge Nurse Pre/Post 76373
Charge Anesthesia 76274
OR Pharmacy 70660
Lounge 72987
Supply/Inventory 72303
OR Hybrid 3 Control 72532
OR Hybrid 3 RN 72564
OR Hybrid 4 Control 72471
OR Hybrid 4 RN 72497
OR Hybrid 7 Control 71696
OR Hybrid 7 RN 72351
Vascular Lab Tech 74003

MATERIALS

Materials 74189
Wound VAC 75033
BIO MED 74194

MISC

WVU 304-598-4000
HSC ..... 11* (number)
Bed coordinator 76075
Medical Records 74111

Nuclear Medicine 74260
Housekeeping 75353
PT Discharge Phone..... 72126
Weekend PT Pager..... 0197
Speech and Swallow..... 76207
Chaplain 74185
Patient Advocate..... 74167
Security 74444
Patient Transport..... 76340
Wound care/Ostomy 74337

NOTES

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