The University of Pennsylvania Division of Gastroenterology

FELLOWS HANDBOOK

Third Edition
June 2009
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Dear First Year Gastroenterology Fellows:

On behalf of the outgoing first year fellows, upper year fellows and faculty, we would like to welcome you to the University of Pennsylvania gastroenterology fellowship program. Your first year, while quite a busy time, will provide you with the intellectual and procedural tools to become successful gastroenterologists. To make your transition from stellar medical resident to skilled gastroenterology fellow a smooth one, the current fellows have created a “survival guide.” This manual, filled with a wealth of useful information, will help you with the practical skills needed to survive the first year. In no way however is this guide meant to replace the knowledge and guidance that will be provided to you on a daily basis by your colleagues and attendings.

Briefly, we would like to explain the layout of the guide. The first part of this manual details your responsibilities while on the consult services, HUP Gut service, HUP Liver service, Presbyterian, and the VA. In addition to outlining the structure of a normal day on all of the clinical services, the manual will detail your clinical responsibilities including those while on call and when in continuity clinic. The second part of this manual covers additional areas including scoping pointers, common on-call questions, and frequently called phone numbers.

Again, we would like to say welcome. This year is going to be a fantastic one and this manual will be just one of the many tools you will be given at the beginning of the year to ensure your success at the University of Pennsylvania. If we can be of any help to you throughout the year, please don’t hesitate to ask. We are and always will be here to make your year an enjoyable one.

Sincerely,

Penn GI Fellows
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**ADMINISTRATIVE INFO**

**On Call/Overnight Responsibilities**
You have been assigned an upper year fellow to help with calls in the early part of the academic year. Feel free to give them a call when you have questions, concerns or problems. This person can help with any questions from how to fix a problem with the endoscopy cart to how to manage a patient with a specific clinical problem. When on call, you will take calls from 5:00 PM until 8:00AM the following morning if a weekday and 8:00 AM to 8:00 AM the following morning if a weekend day or holiday.

At HUP, this call includes all phone calls from the GI service including those from the attendings’ personal patients as well as those from the liver service. When on call for the VA or Presbyterian, you will take call for both hospitals. Regardless of where you will be taking call, an attending is also on call to serve as a supervisor during endoscopic emergencies or to serve as a “cognitive” guide if needed. The latter is referred to as cognitive call. The attending that functions in this role is usually the ward attending for the service in question and is noted on the monthly GI service next to the attending who is on call.

**Sick Days**
There is a jeopardy system for coverage of sick days and unforeseen emergencies. In the event that you are sick, please call the chief fellow either the night before or the morning of the day that you will be absent. The chief will in turn arrange coverage for you so that the clinical services will not be left short handed.

**Absences/Switches**
For absences that are known about in advance (interviews, personal obligations), it is your responsibility to arrange coverage on your own. To do so, contact your colleagues directly via email or phone. Jeopardy will not be used for these occasions.

If you negotiate a call switch, please email the chief as well as the administrative personnel (Lisa Hariegel, Mary Ipri, Anastasia Mylonas, Nancy Wells) so that the master schedule can be updated accordingly.

Please check in with the page operator (ask for the lead operator) that this has been updated in their system.

**Grievances**
During the year, conflicts will undoubtedly arise. If an issue arises that cannot be resolved between the parties, the chief fellow and/or program director, David Katzka, may be of assistance. Please feel free to talk to either of these individuals if such a circumstance were to arise.
What is it
- The flagship hospital of the University of Pennsylvania.

GI service structure
- There are two services staffed by our division, the GI/ luminal (Gut) service and the Liver service.

The Gut Service
- Two fellows staff the gut team with one attending. Each attending rotates every one to two weeks. The schedule is designed so that there is overlap between blocks through which the fellows rotate.

Patients
- This service is composed of private “service” patients, or patients who are seen routinely by one of the UPHS GI physicians (including fellows), and consults from the other services. The list is predominantly comprised of consults.

Jobs/Responsibilities
- Roles
  - The Gut 1 fellow, as designated by your master schedule, is the point person. He/she is the one who will be called for every consult and every new admission to the service. The Gut 1 fellow will also ultimately be in charge of distribution of new consults to the Gut 2 fellow and any other residents, interns, or students rotating on the service. In general, it is best to chronologically assign patients so as to not to preferentially give all the interesting patients to you and all the boring ones to the Gut 2 fellow. Of course, whenever you have a student or resident on the service, try to give them the more interesting patients. Even though the Gut 1 fellow may be fielding all of the calls, try to distribute the work as evenly as possible. It is quite easy for the Gut 1 fellow to “take ones for the team”, and this may be necessary every so often in the name of efficiency, but may not make for good morale.
  - Documentation
    - Admission Notes written by a GI fellow are required for all service patients despite the fact that housestaff will also write a full H&P. The note can be brief and does not need to include all elements of the H&P (ROS, SHx/FHx) and is written so fellows can “know the patients” on service and better learn. If a resident/intern rotating on the GI service writes one, then this counts and the fellow does not need to write a note.
    - Attending notes are required EVERY day for each service patient.
  - Rounds
    - Since there currently are no formal housestaff rounds AND given the fact that fellows are not allowed to write orders for patients (except in the endoscopy suite), it is essential that the housestaff/interns are told about the plan and orders for each patient as they arise (especially if a prep needs to be ordered). Preferably, this is done on the fly, while you are rounding with the attending; i.e. one fellow pages the intern while the other focuses on the next patient and so on. How you get in touch with the interns will be
covered later.
- In the spirit of learning, all fellows need to be present for attending rounds for each patient. All phone calls, page returns, etc should be returned while the attending writes his/her note.

- **Discharge Summaries**
  - It is the job of the fellows on service to dictate the discharge summary for each service patient who stays greater than 48h in house (more on this later).

- **Procedures**
  - All procedures to be performed the next day need to be scheduled (touched on later) the night prior – before 8 pm.
  - One of the fellows should call the endo suite charge nurse every morning at 7:30AM to make sure all procedures have been scheduled appropriately and to add on additional procedures called in over night.

- The service list needs to be updated before you leave for the night in case the on-call person needs to consult it.

- **Daily Schedule**
  - In terms of rounding, etc., this varies depending on the attending, which day of the week it is, and how busy the service is. In general, for a typical weekday, the schedule can go as follows:
    7:00AM: Arrive in office, get sign out from on-call person, print out lists
    7:15AM: Quick sit-down with attending for updates, go over list, prioritize patients and consults
    7:20--10AM: Round on patients (may be interrupted by procedures)
    10AM-3PM: Procedures, see new consults
    3PM-6PM: See and staff new consults
    6PM: Update the list and schedule all procedures
    6:15PM: Leave?
  
  - Of course, this is a highly schematized schedule, and almost all the time, never works out so neatly. All inpatient procedures are scheduled in when there are gaps in the schedule between outpatients, so you may be called at all hours of the day. Further, while we try to work with the endoscopy suite to secure gaps of time to efficiently finish all of the scheduled procedures, you will find that most of the time, you will get called down to the endoscopy suite 6-7 times a day. When they do call, one of the fellows and the attending absolutely need to staff the case as quickly as possible so as to keep the schedule rolling.

- **Essential Keys**
  - The key to an efficient Gut service is the ability for the two fellows to “divide and conquer”. In other words, multi-tasking and frequent communication is the key. While one fellow is scoping the other should be seeing another patient, preparing to scope another patient (travel or in the endo suite), or even updating the list in the fellow’s office. The fellows also should never waste the attendings time; goes without saying, right? Well, ideally, there should always be something for the attending to do in terms of the service, either seeing a new consult, looking at radiology, scoping, etc. Planning ahead is the key. In time, you and your fellow Gut comrade will mold into a well-oiled machine,
being able to complete each other’s sentences, reading each other’s minds, etc, but until you do, talk and write everything down.

**The Liver Service**

- One fellow is assigned to the Liver Service with one attending.

**Patients**

- All hepatology patients seen by a UPHS GI physician (transplant surgery included) are accepted on this service as a private or “service” patient. This service is predominately patients with end stage liver disease and patients who are being considered for, or already are, listed for orthotopic liver transplant. All transplant patients about 4 weeks out from transplant are also automatically accepted onto this service. You will receive requests for consults, but the vast majority of your patients will be service patients.

**Jobs/Responsibilities**

- **Role**
  
  - The fellow is in charge of the inpatient service with attending supervision. Communication with the housestaff is essential when plans change or when certain orders are not being entered as requested. On the liver service, more so than on any of the other services, one must check up on the housestaff to make sure things get done. As opposed to the Gut service, procedures are usually kept to a minimum on this service (not usually needed) so most of your time can be spent teaching and reviewing patients.
  
  - You are also charged with communicating with the transplant center certain key pieces of information. You will have active communication with the transplant coordinators. Examples of things that need to be communicated to the transplant center include:
    - Anything that may jeopardize transplantation in a listed patient
      - E.g., infection, evidence of alcohol or drug intake, development of co-morbid conditions such as hepatorenal syndrome, heart disease, etc.
    - Anything that may make a patient considered for OLT less desirable as a recipient
      - E.g., new psychiatric condition, evidence of nonadherence, substance abuse.
    - The transplant coordinators may ask you to have labs drawn to complete a transplant evaluation work-up.
  
  - You are also charged with aiding in the expedited listing and care of patients in fulminant liver failure. This usually entails communicating with the liver transplant coordinator on call and making sure a long list of labs and tests are ordered in a quick fashion. This is touched upon later.

- **Documentation**
  
  - **Admission Notes** written by a GI fellow are required for all service patients despite the fact that housestaff will also write a full H&P. The note can be brief and does not need to include all elements of the H&P (ROS, SHx/FHx) and is written so fellows can “know the patients” on service and better learn. If a resident/intern rotating on the GI service writes one, then this counts and the fellow does not need to write a note.
  
  - **Attending notes** are required EVERY day for each service patient.
• Rounds
  - Morning rounds with the attending begin at the discretion of the particular attending.
  - Formal attending rounds (Review of patients and teaching rounds) with the housestaff occur at 9:30 each day.
• Discharge Summaries
  - You are expected to dictate discharge summaries for all service patients with length of stay b/w 48 and 72 hours. Thereafter, the housestaff is responsible. The liver patients usually have long stays so typically, the responsibility will fall on the housestaff.
• Procedures
  - A feature unique to the liver service is the opportunity to perform percutaneous liver biopsies for OLT patients. These are frequently requested by the transplant surgery service. For such patients, a full note is not necessary. However, when requested, it is usually to rule out rejection which if present would require a change in management; as such, it is imperative to schedule these procedures before 10AM, and hand-deliver the sample to surgical pathology on Founders 6. Make sure to write “RUSH” on the path slip.

• Schedule
  - In general, the liver service, even with one fellow, is not as busy as the Gut service, given the relatively low number of procedures. One unique quality of the liver service is the opportunity to have rounds with the housestaff which allows for efficient dissemination of patient plans and teaching. A rough schedule is as follows:
    - 7:50AM: Arrive in office, get sign out from on-call person, print out lists
    - 8AM: Quick update of attending, triage patients
    - 8:10-9:30AM: Round, write notes on patients
    - 9:30-10:30A: Teaching and work rounds with housestaff
    - 10:30-11:30A: Finish rounds
    - 12PM: Lunch
    - 12PM-5PM: See new patients, procedures
    - 5PM: Update list
    - 5:15PM: Leave?
  - Of course, as is the case for the Gut service, your day is determined by many extrinsic factors and may not look as good as what is listed above.

• Essential Keys
  - Communication with housestaff is key.
  - Always schedule rule out rejection liver biopsies EARLY and make sure the schedule reflects this in the morning.
  - Always call the endo suite charge nurse at 7:30AM to make sure all procedures are on the schedule and necessary biopsies are early.
Conferences at HUP
• Monday 5:00PM Journal club, 7th floor conference room, CRB
- Tuesday 4:00PM Pathology conference, Path conference room, Founders 6
- Wednesday 4:00PM Clinical case conference
- 5:00PM GI Grand Rounds
- Thursday No Conference
- Friday 8:00AM Outpatient conference/didactics.

What to do when your co-fellow has clinic
- On the Gut service, the Gut 1 fellow gives his/her pager to the other fellow and vice versa. On the liver service, it is a little bit more complicated. The liver fellow must try to staff clinic AND his/her pager throughout the clinic session. Many times, if there is a new consult or pending hospital transfer, you can contact your attending.

Contacting Housestaff or Other Hospital Employees
• How to get in touch with Housestaff:
  • Medicine Housestaff
    - All service patients and many consult patients will be covered by the medicine housestaff.
    - If you don’t know who the intern is:
      ▪ Log on to Sunrise
      ▪ Find the patient in question
      ▪ Click the Summary tab
      ▪ Find the box showing the active providers (left lower corner) and scroll down to find the Signout Primary (the intern on service) OR Signout Covering (if they have signed out for the day).
      ▪ Often the beepers are not listed, so you must go to the UPHS home page, click on phonebook, type in the intern’s name, click enter to bring up the number/ability to text page.
      OR
    - If you know who the intern is:
      ▪ Type COAST in the internet browser
      ▪ Click on intern or resident
      ▪ Click on the name
      OR
      ▪ Open up the UPHSNET home page (this works for anybody in UPHS for whom you have a name)
      ▪ Click the search directory button on the upper right hand corner
      ▪ Type in the name and send a text message
      OR
      ▪ Go to bookmarks and click “Page Medicine housestaff” (most hospital computers have this bookmarked) or type www.geocities.com/pennmedicine.
    • Click on the appropriate name
OR
- Call the operator (type 0 or 662-4000)
- Ask for the pager number for the said intern

**Surgery Housestaff**
- Unfortunately, there is no organized computer system that will allow you to easily find the covering surgical housestaff. Further, patients are placed on service based on attending which may not be entirely intuitive. Your options:
  - Always get the phone/pager of the person who called in the consult
    - Call the operator (type 0 or 662-4000) and ask for the intern or resident covering Dr. X’s service
  OR
  - Go to the surgery website on the intranet site. There is a link for the on-call and housestaff schedules. You can search this rather large document yourself by attending.
  OR
  - Go to any surgery floor (Silverstein 10-12, Rhoads 4, or any SICU) and find a hard copy of the schedule which is usually at the nurses station.

**Other Housestaff Services**
- Usually calling the operator and asking the person on call for consults for that particular service works. Also, calling the floor where the patient is located and asking the nurse taking care of the patient who the covering housestaff works as well.

**Checking Labs, Radiology and Orders**
- This can be achieved by using either of HUP’s innumerable computer systems: Epic, Medview or Sunrise. However, only Sunrise gives you access to orders and medication administration records.
- **General Pointers:**
  - Trend current hospitalization labs: Sunrise
  - Need labs fast: Sunrise
  - Trend previous hospitalization labs: Sunrise OR Medview
  - Check when a med was given: Sunrise
  - Access previous hospitalization information: Medview (At HUP, you have access to all charts electronically from past hospitalizations using ChartOne—a viewer accessible from Medview. You can click on this tab once you have logged into Medview.
  - Need to see an actual film: Medview
  - Need to see previous clinic visit letter: Epic OR Justfordoctors.com
  - Check outpatient meds: Epic
  - Previous endoscopy report at HUP: Medview (search patient then hit Endoscopy tab)

**How to transfer a patient to the unit**
- While technically this job falls to the housestaff, for some reasons, you may need to take control of the situation and do it yourself in the case that your patient really is
crashing on the floor.

• Call a rapid response or code call
  • Rapid response is a pre-code call. This triggers a roving team of nurses and
doctors who will come quickly when paged overhead over the hospital to
prevent an actual code call from happening. A code call is your standard code
call. All nurses, CNAs, and unit secretaries will know how to activate this.

• Make sure someone calls housestaff and attending and family

• Stabilize the patient

• (During above): Call the SuperSAR phone: 215-847-2116. This person is in charge
  of bed distribution in the hospital.

• Call the MICU or CCU and ask for the admitting resident on call. Tell him/her the
  story. He/she can help find a unit level bed in the case that the MICU or CCU is
full.

**How to call in an admission**

• Sometimes, attendings will want to admit patients directly to the hospital either from
  clinic or from the endoscopy suite for a variety of reasons. To make sure this
happens smoothly, two things need to happen:
  • Call the SuperSAR, 215-847-2116
  • The SuperSAR will assign housestaff. Call the housestaff, give a quick doc-2-
doc, and convey any orders that need to be placed.
  • If the patient is at all unstable, send the patient to the ER. As a courtesy to the
    patient and to the ER staff, call the ER ahead of time and speak with an
    attending to tell them the problem, plan, etc.

**How to call in outside hospital transfer to GI/Liver service**

• Gather all appropriate information from the outside physician: Patient name, DOB, short
  hospital course and pertinent labs, reason for transfer, attending of record
  with contact number, hospital name and number.

• Call the appropriate HUP attending on service/call (GUT/LIVER) and tell them the
  story. The attending ultimately has to accept the patient onto their service and
give the final OK. (However, if the patient is in an ICU you must call the ICU
arbiter for that day at HUP to run the case by them and they will have to accept
the patient into the ICU and talk with the transfer center—we do not have the
authority to accept ICU transfers) call the MICU directly and ask for the arbitrators
contact info.

• Call the transfer center at 215-662-3555 and give them the accepting MD, patient
  name, DOB, originating hospital name/number, reason for transfer and expected
  procedures/hospital course and length of stay and urgency of transfer (<6 hours,
  <12 hours, <24 hours etc)

**How to dictate discharge summaries of service patients**

• In short, keep these short. The discharge summary needs to summarize
  presenting symptoms, any relevant tests and procedures, any notes that you want
the future admitting GI team to know about and follow up information.

• Usually it is best to dictate the chart before discharge, but you should also know
that you can use ChartOne (above) to review the chart and dictate at a later time.
• Another point: if the patient is not dictated after 30 days, your attending will receive a nasty note from Medical Records threatening suspension if not dictated soon.

The standard directions are shown below:
• From a touchtone phone dial: 1-888-278-7419
• Enter your physician ID number followed by the [#] key.
• Press [1] to dictate.
• Enter the work type [1] followed by the [#] key.
• Enter the Medical Record Number followed by the [#] key.
• Begin dictating at the tone.
• To complete dictation, touch ## to get job number or for multiple reports touch [8] and continue from step 2 above.

• KEY PAD CONTROL FUNCTIONS

  1  Pause, press 2 to resume dictation.
  2  Record/Pause. Toggle feature.
  3  Review/Playback. Short rewind and autoplay.
  44 Fast Forward. Forward to end of dictation.
  5  Disconnect. Ends dictation and plays job number.
  8  Multiple Dictations. Ends dictation, plays job number and returns to menu prompt.
  ## Play demographics. Pause mode. Plays all demographics. Press 2 to resume dictation or 5 to disconnect.

Scheduling procedures in the MSK software program

Double click on MSK icon
Type in your login and password
Expand the Programs window
Double click on Appointment Book
Select the New button from the top menu
Type in your patient’s first and last name (and DOB if you have it handy)
Select the patient by confirming the date of birth

In the Unit box, click on the magnifying glass and select HUP OR or CAM Endo depending on where your patient is scheduled (usually, it is in the HUP Or which is the inpatient endoscopy suite)
In the Procedure CPT4 box, type in the procedure code using the list on the wall above the computer; the list below; or search for it in the menu
In the box that lists the procedure, free text any additional information (i.e. patient
needs an afternoon appointment)
In the **Practitioner** box, type in the first few letters of the attending's last name and select the appropriate physician.
In the **Appointment Class** box, select None
In the **Anesthesia Type** box, select either IVCS or MAC (or general if applicable)
In the **Patient Type** box, select IP (for inpatient)
Then click **SAVE** from the top menu
**NOTE:** no other boxes need to be completed for scheduling

The “Please choose a visit” window will open.
Click OK.
In the next box, if you free texted anything, select Yes. If not, select N/A

Next, **MINIMIZE**, the Patient Focused window. The Resource Focused window will show.
Drag and drop your patient in one of the columns marked HUP-WL1 through HUP-WL4. The time is not important as this is a wait list. Procedures will be scheduled by the OR later that night for the next day. If you are able to schedule your cases prior to noon, then you can place them in a specific time slot.

You can **exit** the system if you don’t have other patients to add.

If you don’t want to schedule a patient, you can drag and drop the name into the wastebasket on the top bar that reads **Cancel**.

If you have additional patients, click on the **NEW** button and start again.

The **following day**, call the OR coordinator at 215-771-3650 prior to 7:00 am to go over all cases for the day and the times your attending is available. This is also a good time to confirm the type of anesthesia you would like.

**Pre-procedure protocol in the Endoscopy suite**
- Make sure you have the right patient
- Usually, the patient chart will contain all necessary forms inserted by one of the endo RNs
• Make sure patient ID stickers are on all forms
• Obtain informed consent from patient
• Have CNA witness
• Brief examination of patient
• Fill out brief ROS and examination form
• Sign orders form
• Test endoscope for suction, water, movement, presence of buttons, air.
• Make sure all other equipment is present: dilators, forceps, etc.

**Consults requiring advanced endoscopy (ERCP, EUS, stent placement)**

• If an advanced endoscopist is a current service attending (liver or gut), then all consults that may require ERCP, EUS, or stent placement will go to that service. If TWO advanced endoscopists are on service OR no advanced endoscopists are on service, then it is at the discretion of the 3 fellows which team should work up and staff the consult. Obviously, if the patient has ESLD, then it would be natural for the liver team to staff the consult, for example. Usually, because there are two fellows on gut and one on liver, such consult are alternated. However, if one team is particularly busy, then the other team could choose to “help out” and take the majority of these consults.

• When staffing these consults, first staff it with or run it by your attending. Then, call the advanced endoscopy fellow who is in general in charge of distributing such cases. However, if the patient has previously been manipulated by a particular attending in the past or is a private patient of a particular advanced endoscopy attending, then it is convenient to go straight to that attending for more information (then you can call the advanced endoscopy fellow afterwards).

**Reporting medical/nursing/staffing errors**

• Pursuant to Pennsylvania State legislation, UPHS has set up an reporting system for any and all errors that occur in the hospital. This program is called PORTS.

• It can be accessed off the UPHSNET intranet homepage; a link is located on the right hand side. While it is suggested that you enter in your own information so if any questions needed to be answered regarding an incident can be addressed, one can choose to report events anonymously.

• All health care providers are required to report any and all errors relating to patient care in this program without fear of repercussions. All complaints are investigated by a patient safety officer. Many positive changes have been enacted out of this system; it works.

**Seeing patients in the Emergency Room**

• ER physicians use another entirely different computer ordering and results system, apart from the inpatient service, called EMTRAC. However, all lab and radiology results will be posted on Sunrise and Medview, after posting on EMTRAC. One can arrive at the ER by taking the Silverstein Staff elevators (not patient elevators) to the ground floor. Alternatively, there is a back entrance via the Rad Onc corridor in Ravdin.

• In the ER, the center area holds a large patient census screen for you to locate
your patient. Under this screen is the patient assignment board: any patients receiving a bed assignment and pending transfer to an inpatient bed will be listed here.

• If you do see a consult or admission in the ER, it is advised that you make a copy of your completed H&P and place that copy in the chart and keep the original on your body. The ER has a bad reputation for losing key documents upon transfer.

• Further, if the hospital census is particularly full, you may be forced to perform a travel endoscopy in the ER. Most ER nurses will be resistant to the idea, but the final call is always up to the ER attending for the patient. Though the ER rooms are mostly sub-optimally planned for such procedures, it may be indicated to scope the patient in the ER if it is unknown when the patient will be able to be transferred to a bed OR if the patient needs scoping immediately.

Finding “lost” patients
• Many times during rounds, a patient will not be in the bed you thought he/she would be. Many times, the floors will juggle room assignments; other times, the patient will be off at a test or dialysis. To check the room, one can either look up the patient on Sunrise or Medview. Once the room assignment has been confirmed, you can refer to the large LCD screens at the nurses’ station. These screens show the output from yet another computer system, Navicare. On these screens, you will be able to see exactly where your patient is in the hospital, listed by room number. Output will say something like, “GI Radiology, returning”, or “Inpatient dialysis”.

Private or service patients in the Unit
• When any patient is in the MICU or CCU, the attending of record becomes the unit attending. However, this does not relieve the GI team from rounding responsibilities of their own patients. Further, when the patient is ready to be transferred to the floor, the patient will go to the GI or Liver service.
PENN-PRESBYTERIAN MEDICAL CENTER (PPMC)

Overview
• PPMC is a hospital in the University of Pennsylvania Health System. Initially created as a community hospital to serve West Philadelphia, PPMC has become an extension of HUP.
• Many primary UPHS services can be found here, such as the Scheie Eye Institute (Department of Ophthalmology), Vascular Medicine, the Pulmonary Hypertension clinic, and much of the Orthopedics and Cardiology divisions. The inpatient unit of the Geriatrics division of the Department of Medicine is housed at PPMC (Scheie 3). However, the hospital will always serve as a community hospital, as it has a large and busy general medicine service as well.
• Hence, the GI consultation service is skewed towards the needs of the Cardiology, Geriatrics, Orthopedics, and Surgery sections. You will find many IBD patients followed here, as well as general GI patients.

Service Structure
• The service is staffed by one fellow and one attending. It certainly is not as busy as either of the HUP services, but it can get busy at times.

Jobs/Responsibilities
• You are in charge of staffing all consultations in Gastroenterology and Hepatology.
• GI no longer has an inpatient service. If the patient is a PPMC GI Clinic patient, they are admitted to the hospitalist service and you will promptly consult. You will follow the patients daily with the inpatient GI attending, but it is helpful to discuss the case with their outpatient PPMC gastroenterologist and they appreciate updates about their patients. Patients with GI complaints who are not followed as outpatients are admitted to the teaching medical service.
• On the weekends and certain weekdays, you will also be required to round on the private patients of Dr. Julius Deren, a renowned IBD specialist, who usually runs his own private service when present.
• Clinic: When you are at PPMC, you have no clinic.
• Discharge summaries: You are NOT responsible for discharge summaries at PPMC.

Sample schedule
• 7:45 AM: Check in with overnight call person, update the list, check labs
• 8:00 AM: Start Attending Rounds
• 8-12 PM: Rounds, Procedures, and Consults
• 12:00 PM: Lunch with attendings in the café (Very important at PPMC)
• 1-5:00 PM: Procedures and Consults

Conferences
Monday: 5:00PM Journal Club, 7CRB
Tuesday No Conference
Wednesday: 7:30AM IBD Journal Club, Medicine Conf. Rm (@ PPMC)
  4:00PM Clinical Case Conference, Flyers-Sixers Theater, HUP
  5:00PM GI Grand Rounds
Thursday No Conference
The Fellows Room

- The fellows room is in W207 – The code is 3-7-1
- The master key is on a whale keychain that hangs on the corkboard. This key opens all the doors in the GI division including the endoscopy suite and scope cleaning room.
- Signout is kept on the desktop of the fellows office computer as a Microsoft Word file.
- The signout prints out in the clinic office across the hall behind the check-in desk. The code to the office is also 3-7-1.
- You will always meet your attending in the fellows room in the morning.

Scheduling Procedures

- There is no scheduling program. There is a whiteboard in the endoscopy recovery unit next to the double doors. On a blank magnetic bar, write the name of the patient, their birth date, and room number. Also indicate whether the patient is on contact isolation, as this affects patient scheduling and room assignments. Place the bar under the add-on list and place a magnetic identifier above it to denote what procedure is to be done and if anesthesia needs to be present.
- At PPMC, there are no pre-allocated inpatient endoscopy slots. You will need to speak to the charge nurse every morning when you come in to “run the list” as they want to get as many inpatient cases done when the time is available because the outpatient schedule is usually full.
- An anesthesia attending (Dr. Schwab) and nurse anesthetists are available on weekdays. Dr. Schwab can assist you in determining whether a patient will require anesthesia support (propofol) rather than IV conscious sedation administered by the endoscopy nurses.
- Prior to 2008, all advanced endoscopy was performed at HUP. Now, Dr. Panganamamula and Dr. Ingis both perform ERCP at PPMC. After discussing the case with the attending on service, talk with Dr. Panganamamula or Dr. Ingis to determine if they are able to do the ERCP. If they agree, speak with the endoscopy charge nurse in order to schedule the case. They prefer notice the day before in order to arrange for fluoroscopy.
- Patients who require other advanced procedures (EUS, balloon enteroscopy, complex ERCP cases) will need to be transferred to HUP, and then transferred back after the procedure. Once you have discussed the case with the PPMC attending, talk with the advanced endoscopy fellow and HUP attending. Then call the advanced endoscopy attending’s secretary to help you schedule the case. Once scheduled, then the housestaff assigned to the patient must make arrangements with social work for transport.

Endo Suite Pre-Procedure Protocol

- Make sure you have the right patient
- Usually, the endoscopy RN will have labeled all of the necessary forms:
  - Informed consent: Obtain from patient. If the patient is not consentable, obtain a witnessed telephone consent before the patient is called to the endoscopy suite. Write the name and phone number of the person from whom you obtained consent so that the anesthesiologist can use this number later.
• Pre-procedure H&P form: Fill out the diagnosis and planned procedure. The attending needs to complete the bottom section. Perform a brief exam of the patient and document any changes to the exam.
• If you do not have anesthesia support, complete the anesthesia section of the nursing sedation form (anesthesia history, Mallampati and ASA class)
• Order form: Complete the diet order and sign
• Test endoscope for suction, water, movement, buttons, air.
• Make sure all other equipment is present: dilators, forceps, etc.

**Travel Endoscopy Cases**
• In general, the same as HUP, with some minor differences. The cart is housed in room W221 (Clean Utility Room) across the hallway from the GI clinic. The code is 1-3-5. The cart is usually stocked with all you need, but still double check. The scopes are usually hanging on the cart already with buttons so you don’t have to worry about finding the appropriate scope. If you need to use more scopes during the night or the weekend the endoscope room is in the back of the scope cleaning room (accessible with the whale key located on the corkboard in the fellows room).
• When you come in for a late night or weekend travel case **make sure that the scope cleaning machine is turned on**. The instructions are written on the wall in the scope cleaning room. If the machine is not turned on it will take at least 30-40min for the fluid to heat up to an adequate temperature and delays the cleaning process.
• Travel endoscopy cases are done only in the MICU, SICU, CCU or ED. You will find a procedure log book on the cart—place a patient label, type of scope used, room number, date and time of procedure, procedure done, supplies used, your name and the attending’s name. You will also find an accordion folder on the cart that contains consent forms and an endoscopy billing form. Place a patient label on the billing form, check off the procedure performed and write in any other therapeutic supplies used (gold probe, biopsy forceps, Carr-Locke injection needle, etc). Leave the billing sheet on the cart for the endoscopy staff to collect in the morning.
• Travel cases at PPMC are done in ICU mode. When you are done, wheel the chart to Room 2 in the endoscopy suite to download the case. Alternatively, you can return the cart to the supply room and ask the RN to download the case in the morning. In that case, write a preliminary procedure not in the chart until you complete the formal report the next day.
• Cleaning the scope
  • Be sure to ask the staff to show you the cleaning process during the daytime before your first call. There are also instructions in the cleaning room. Leave a note or patient label on the outside of the machine so the staff knows which scope was used on which patient. If there is a problem with the machine, perform the pre-cleaning process (leak-testing, cleaning out the channels and buttons) and then leave the scope to soak in the cleaning room sink.

**PEG Consults**
• These usually come in 2 flavors:
  • **Patient needs a PEG** – PEG consults are more frequent at PPMC, and are a
good opportunity to learn this procedure. It is tempting to weigh in on the ethics of such procedures, but most of the time, such cases fall into a gray zone. Furthermore, once the primary team has decided to place one, it will be placed, by IR, surgery or GI. Contraindications include ascites or large scars that may impair placement without fluoroscopy. Make sure cefazolin 1 gram IV is given immediately prior to PEG placement.

- **PEG is not working or came out** - If the tube is not working, one can perform a PEG study by injecting gastrograffin into the tube and taking a KUB to confirm placement. In patients where there still exists a problem in confirmation of placement, a fluoroscopy study done by IR is then suggested. If the patient or someone else accidentally pulled the PEG out, if the PEG was placed greater than 1 week prior, have the RN place a Foley catheter into the cavity and inflate the balloon. The PEG tube can then be reinserted using a replacement PEG. In the supply closet you will find a plastic carrying case containing all of the supplies you will need. Always reconfirm placement with a gastrograffin study.

**Practical Issues**

- The Presby ER is located on the 1st floor of the Cupp building. If your ID does not work, you can call the security phone in order to enter.
  - The computer system is exactly the same as HUP
    - EMTRAC login – guest; Password – guest
  - When doing travel cases in the ED, the ED nurse taking care of the patient will assist in sedation.
- **How to admit a patient**
  - PPMC GI Clinic patients: The outpatient clinic physician should arrange for the direct admission, but occasionally will ask for your assistance. The protocol is to call the hospitalist, who will accept the patient. You should also call the PPMC Admissions Office at 662-9212. Then, send the patient to the admissions office. If the patient is at all unstable, send the patient directly to the ER. When you do, it is courteous to call the ER attending in advance.
  - Non-GI Clinic patients: If the ER calls you about a patient with a GI complaint who has never been seen in GI Clinic, the patient will be admitted to the teaching medical service. The ER will arrange for the admission.
- **How to check labs, radiology, etc.**
  - Same as HUP
- **Past Endoscopies**
  - Until recently, endoscopies done at PPMC were not uploaded to Medview. You can usually find the endoscopy reports in EPIC if they are not in Medview. Reports prior to 2007 that are not available in EPIC or Medview can be found on a computer in the dictation room (on the right as you walk in). Hence, the PPMC fellow may be called upon multiple times during the rotation to check the endoscopy computer to see if a certain procedure was done and to convey or fax the results over to HUP or the VA.

**Essential Keys**

- One of the biggest differences between HUP and PPMC is the frequent interactions you will have with the private cardiology service. Most cardiology
services at PPMC have nurse practitioners rather than housestaff. While some consultations may seem basic to you, it is important to understand that the NPs lack medical knowledge outside of the field of cardiology. If the NPs are unable to provide you with the appropriate information, you can often find the cardiology attending and politely ask for further information.

• When on call, you will cover both PPMC and the VA hospital. Communication with the VA fellow is important, especially if there is a pending procedure coming your way. You do not round at the VA on the weekend but will need to go to the VA to see consults if called.

• There are no defined rounds with the housestaff or hospitalist service. Hence, it is important to call them with your daily recommendations (in addition to chart documentation by the attending) to make sure that the plan is executed.

• Often the inpatient attending will have a few outpatient clinic patients to see or endoscopies to perform. If you are free, you can ask to participate in the outpatient endoscopy cases.
PHILADELPHIA VA MEDICAL CENTER (VA)

The VA Medical Center is located on the corner of University and Woodland Avenues, within walking distance from HUP and PPMC. The VAMC is a tertiary referral center for the eastern half of the VA Stars & Stripes Healthcare Network. The Medical Center provides health care for more than 370,000 veterans living in seven counties in Pennsylvania, New Jersey and Delaware. The Medical Center has 135 operating beds, and supports a 240-bed Nursing Home Care Unit. Dr. Martin Tobi is the GI division chief at the VA and the one full-time clinic faculty member in the GI division. In general, your experience at the VA is a welcome break from the high-paced environment at HUP. You will quickly realize that things happen slowly at the VA and you should have time to catch up on reading and necessities of daily life that may be put off on other services.

VA Parking
• Technically, you cannot drive and park in the VA parking lot. You will have to park in Lot 7 at HUP and walk over. However, if you arrive early (usually before 7 am) you may sometimes be able to get through the lighter security and slip into the parking lot. Also, when on call after hours, you are permitted to park at the VA. The parking lot is accessed through the front entrance where you will need to present your ID to the guard.

GI Division Location
• The GI division is located on the 8th floor of the VA Medical Center in the South Building. Take the south elevators to the 8th floor, walk out and make a left and continue down to the end of the hallway.

Fellow Work Room
• The fellow’s room is shared with the cardiology fellow and the pulmonary fellow. It is located in room 8B-106 which is located in a small hallway near the entrance to the MICU on the 8th floor. There is a key to enter the fellow’s room – it is kept in the secretary’s front desk drawer in the GI division.

Service structure
• The inpatient service is staffed by one fellow and one attending. Occasionally you will have a medical student. All patients are seen in consultation for other services, ie, there are no GI service patients at the VA.

People in the GI Division
• Attendings
  - Chief: Dr. Martin Tobi x 4451, x 6920 pgr. 215-894-1070
  - Dr. Dave Kaplan 215-306-3503
  - Dr. Kyong-Mi Chang 215-581-7936
  - Dr. Jonathan Lynch 215-312-8958
  - Dr. Rebecca Wells 215-308-0292
  - Dr. Ben Stanger 215-577-1121
  - Dr. John Chang 215-894-1070
  - Dr. Linda Greenbaum 215-980-1923
• Nurse Practitioners
  - Melissa Crandall, ext: 6183, pager: 215-894-0504
  - Jordan Hopchik, ext: 4282, pager: 215-894-0827
Schedule
There is no set schedule due to attending variability. A general schedule:
7:50 AM: Signout from on-call fellow.
8:00 AM – 1:00 PM: Outpatient procedures
1:00 PM – 5:00 PM: See new consults, performing inpatient procedures, rounding on existing patients. You should be able to leave by 5 pm each day.

Conferences
Monday: 5:00PM Journal Club, 7th floor Clinical Research Building.
Tuesday: 12:00PM Pathology Department, VA
Wednesday: 4:00PM CCC, Flyers-Sixers Theater, HUP
5:00PM GI Grand Rounds
Thursday No conference
Friday: 8:00AM Pre-clinic conference in Dulles 3 at HUP.

Jobs/Responsibilities
• As the fellow, you are responsible for seeing all inpatient consults, performing all inpatient procedures, and performing many outpatient procedures. You run the entire GI service with the aid of an attending. You are in charge of staffing all consultations dealing with gastroenterology or hepatology.
• You are responsible for submitting all cases for path conference by Friday to Dr. Eugene Eihorn of pathology. Fax/Call (x 6301) the list in for path conference later in the week.
• At the end of each month the fellow needs to submit a time card sheet for your work hours. This is a formality to ensure VA funding.
• Like PPMC, the VA does not have advanced endoscopy capabilities at this point in time. Hence, any patients that require such procedures will need to be transferred to HUP for the procedure and then transferred back to the VA.

Transfer of Patients to HUP for Advanced Procedures
• Usually, on the fellow’s end, this is done by first checking with the advanced endoscopy fellow and attending first, getting the okay for scheduling, then scheduling through the advanced endoscopy attending secretary.
• Once scheduled, the pt will need to have a 7078 form filled out by the unit secretary and signed by the medical director prior to leaving the VA or have this formed faxed to the admissions center at HUP prior to arrival. This form ensures the VA will pay for the procedure and if not completed, the pt WILL be sent back without undergoing any testing. Usually the completion of this form is the responsibility of the housestaff.
• Travel arrangements will need to be made through social work on the floor and the pt should arrive in admissions on the 1st floor of Silverstein 1 ½ hours prior to the procedure.
• The housestaff will do all of the legwork but it is always best to remind them these things need to be taken care of.

Outpatient Procedures
• The VA provides a great opportunity to improve your endoscopic skills.
• The fellow along with either, the inpatient attending or Dr. Tobi, are expected to perform outpatient procedures. However, if emergencies arise on the inpatient service, these should take precedence. Otherwise, the fellow is expected to participate in the outpatient procedures.
• The fellow needs to write a quick pre-procedure note in CPRS with the basic hx, PE if not recently performed in clinic, relevant labs, and indication for the procedure. After the procedure, the fellow needs to write a procedure note.
• Each Tuesday and Thursday, Jordan Hopchick, one of the NPs in the GI clinic, performs colonoscopies along with Dr. Tobi. On these days, the fellow may assist in these cases but will not be expected to perform the entire procedure.

Keys/ID access
• There is a universal key for the fellows room and other offices in the top, right draw of the desk at the clinic reception area. During off-hours, the endoscopy room is electronically locked and you will need to ensure the security office provides you adequate access on your VA swipe card to access this endoscopy suite.

Scheduling procedures
• There is no scheduling program for inpatient procedures. You should notify one of the nurses, either Cheryl or Joy, in the afternoon the day prior to planned procedures so they are aware. Otherwise, if urgent inpatient procedures come up throughout the day, just notify the nurses and they will arrange for transportation of the patients to the endo suite.

VA Emergency Room
• Located on the first floor of the VA. You will occasionally receive calls from the ER attending to see a patient or recommend further evaluation.
• It is at the fellows discretion to see pts in the ER but not expected if the pt is not going to be admitted to the hospital.
• You may also be asked to arrange appropriate follow up for a procedure or clinic visit for a patient who the ER plans to discharge. Once you have this information, you can ask the divisional secretary to schedule the appropriate follow up.

How to get in touch with housestaff
• No clear system for contacting housestaff or determining who is a patient’s primary intern. It is generally helpful to keep contact information on the signout sheet. There is a resident conference room on the 5West – you can stop by the conference room to find the housestaff or to get their phone numbers off the blackboard.

Computer System
- CPRS is the main computer system at the VA contains all laboratory data, orders, radiologic data. You will be trained on this prior to starting. Access codes expire
every 90 days so it is worthwhile to log in before 90 days to prevent this from happening.

**Clinic**
- When you are at VA, you have no clinic. However, there is a liver clinic on Thursday mornings on 1 South staffed by Dr. Dave Kaplan and Dr. Kyong-Mi Chang. You are welcome to attend this clinic if interested, just contact either attending.

**Travel endoscopy**
- The cart is stored outside endoscopy suite on the 8th floor.
- During off hours, if you need an additional scope, you will need to gain access to the endo suite. If needed, you should call security; security will open the door.
- During working hours, the techs will help set up travel cases if they are free, just ask nicely. The travel cart does not record pictures so there is no need to download cases once the procedure is completed. You may print pictures on the travel cart to include in the paper chart and complete a report in CPRS like usual.
- It is useful to review the travel cart with one of the techs when you first arrive; they can show you the ‘ins and outs’ of the cart.
- To open the drawer to the cart, there is a key that is usually stored under the keyboard. All the supplies for travel cases are located on the cart. Setting up the cart is very similar to setting up the cart at HUP except there is no Endoworks and the patient name/info gets directly entered onto an old-fashioned computer/screen.
- After you complete your scope, the scope needs to be processed; if it is a weekday/weeknight or Sunday night, you can let the techs know about your dirty scope and leave it submerged in a tub of water in the sink, in the processing room for the techs to process. If it is Friday night or Saturday night – you must process the scope yourself! Instructions on how to process the scope are hung on the wall in the processing room and involve brushing the scope through in the sink and then hooking it up to the necessary machine and starting the processing. It is a good idea to review the steps with one of the techs on your first day at the VA – this will reduce a lot of late night stress/time.

**VA GI Division Phone numbers**
- GI Fax 215-823-4179
- Administrative Assistant – x 5122
- Trinia Holden x 6437
- Tech Office (Robin and Pat) x 3525
- Nurse Office (Joy and Cheryl) x 4261, 4011
- GI Chief Office (Dr. Martin Tobi) x 4451, 2271
- GI Corridor Physician office x 3233
- Hepatitis Clinic 1 South x 4108, x 5966
- Procedure Rooms x 2840, 2845
- Flex Sig Room x 2842
- Scope cleaning Room x 3428
- GI Recovery: x 6989
- Procedure Hallway Phone x 6447
- Cardiac Clinic Copier: Room 8A 116, Access Code: # 6324.

**Inpatient Units**
- MICU: 8th Floor, x 6476 Bronch x 6329
- ER x 6003/6004
- Short Procedure Unit (5th floor) (SPU – for liver bx, remicaide infusions) x 3153
- 5 East: x 3497
- 5 South: x 6480, 2432, 2303
- 5 West: x 6579 or x 6720
- 6 West: x 6797 or x 6789
- 6 East: x 6505 or x 6480
- 7 West: x 6990
- 7 South: x 6613, 4107
- SICU: 6th Floor x 6650
- Nursing Home: x 4500, 4514

**Pathology**
- Dr. Paul Howlett: x 3909, mobile 215-350-1059
- Dr. Eugene Einhorn: x 6301
- Pathology Secretary: Julia Alvarez x 6640
- Pathology Techs: Val or Mona: x 6300 or x 2979

**Lab**
- Chemistry x 6307
- Hematology x 6294/6455
- Breath Test and Liver Tx send out labs: Charlotte Alston: x 4155
- Immunology/Hep C VL: Michael Hurd: x 3911

**Radiology**
- General Radiology x 6313
- CT scheduling: x 2155
- MRI: x 6298/4129, scheduling x 6313
- Interventional Radiology: Melanie Banks, RN x 3550. Main: x 6327/6328
- Radiology Reading Room: x 6262
- Radiology Filing Room: x 6323
- Nuclear Medicine: x 5895
- Nuclear Tech: x 6372

**Outside VA numbers**
- VA Coatsville: 610-384-7111
- VA Fort Dix: 609-562-5426, Fax: 609-562-5426
- VA Cape May: 609-898-8700
- VA Pittsburg Liver Transplant: 412-688-6155
  - (Lois Keyes, Debra Mayher, Cheryl Wannstedt)

**Additional Numbers**
- Main VA number: 215-823-5800
• Admitting: x 5802
• Outside Line: Dial 81 first, then full phone number with area code.
• Central Registration Desk /Admissions x 5802, x 6800
• Employee Health x 2363
• Blood Bank x 6305
• Cardiology x 6421, 4105
• Travel x 5810
• Anesthesia on-call beeper 73-591

**Pharmacy phone numbers**
• Out patient pharmacy x 6360, 6361, 3534
• Inpatient Pharmacy x 6366, 6364
• Pharmacy Lester x 4118
• Lester: 73-475 need right away 911
• Marian Pharm. Manager: Pgr. 610-541-1171

**CPRS Application Assistance:**
• Computer Help Desk x 4357
• Michelle Krajewski: ext 4554, pager: 877-323-6384
• Joyce Askew: ext 6269, pager: 877-327-3739
COMMON CALLS

Approach to Upper GI bleed
Questions to ask when you get the call:

[ ] hemodynamic stability: BP, HR, RR, sat's

[ ] NGL performed or needed?
  - BRB from NGL vs coffee grounds?
  - Does the NGL clear and how much fluid did it take

[ ] rectal exam?

[ ] does the patient have abdominal pain/tenderness of physical exam?
  - t/c AXR to r/o perforation
  - t/c CT scan

[ ] is the patient on NSAIDS, ASA, antiplatelets, anticoagulants?

[ ] has the patient had GIB in the past?

[ ] has the patient had an EGD/colonoscopy in the past?

[ ] risk factors for liver disease (ETOH) or evidence of cirrhosis (thrombocytopenia)?

[ ] history of thoracic or abdominal aortic aneurysm/recent TAA/AAA surgery?

[ ] does the patient need blood products or intubation?

[ ] CBC, coags, chemistry panel screen (clue to upper source: BUN/Scr) type & screen

[ ] where is the patient going: ICU/floor?

Key factors to determine for ICU:
  - hemodynamic stability
  - If you think that you need to scope after endoscopy hours

What advice to tell them until you get to see them:

[ ] Resuscitation is first rule – no scope can be performed without relative stability:
  - Volume resuscitation: is blood infusing, IVF wide open
  - Does the patient need to be intubated for airway protection? (especially important with variceal hemorrhage)
  - Adequate IV access (Two 18 or larger IV access or MAC line)
  - Blood transfusion – should be hanging by the time you scope
  - Correcting coagulopathy
  - Discontinue all antihypertensives/beta-blockers
  - Frequent CBC (q4-6h, especially if in ICU)

[ ] potentially PUD:
  - lansoprazole drip (HUP/VA: 60mg IV bolus, 6mg/hr IV infusion – you need to call pharmacy to approve so team can order)
  - pantoprazole drip (PMC: 80mg IV bolus, 8mg/hr IV infusion – you need to call pharmacy)

[ ] potentially variceal:
  - octreotide drip (100mcg IV bolus f/b 50mcg/hr IV) 
  - abx: Levaquin IV (20-50% incidence of infections a/w VB)
  - FFP (at least 4u)

[ ] for any bleeding:
• can give Erythromycin at dose of 250mcg IV + cold water NG irrigation at least 30mins prior to EGD
• always consider early surgical consultation
• Always err on the side of caution

When to come into the hospital for UGIB
• This is probably the most anxiety-provoking part of the decision for you and unfortunately, it is very variable depending on the patients, person giving you the information and the attending you are working with.
• Early in the year both for you as a new fellow and in light of the new residents, would encourage more aggressive and frequent evaluation and management.
• Getting to know which patients can wait until scope during regular hours and which patients need to be scoped emergently takes experience.
• Do not hesitate to call the on call attending AFTER you get essential information and/or see the patient for further advice regarding management.
• Definitely need to come in for and request ICU admission (if not already done)
  ▪ GIB a/w cirrhotics
  ▪ GIB w/persistent hemodynamic compromise despite IVF
  ▪ GIB w/active hematemesis
  ▪ GIB w/recent thoracic aortic surgery (suspicion for AEF)
  ▪ GIB w/ischemia (usually LGIB cases)
• Probably need to come in for:
  ▪ GIB w/coffee ground emesis which does not clear
  ▪ GIB w/ melena
  ▪ GIB w/significant hemoglobin drop in known short period of time (this is variable)

APPROACH TO LOWER GI BLEED
Important point to remember is that 20% of BRBPR is an upper source in the setting of a negative NGL, therefore more caution is needed in these cases and would refer to all of the questions in UGIB section.

Data to gather over the phone:
[ ] history of LGIB/potential lower source such as hemorrhoids/diverticulosis
[ ] history of vascular disease, such as CAD, AAA, PVD to suggest mesenteric ischemia
[ ] recent hypotension to suggest ischemic colitis
[ ] history of inflammatory bowel disease
[ ] history of recent infectious diarrhea illness

What advice to tell them over the phone:
[ ] Resuscitation is first rule – no scope can be performed without relative stability:
  ▪ Volume resuscitation: is blood infusing, IVF wide open
  ▪ Adequate IV access (Two 18 or larger IV access or MAC line)
  ▪ Blood transfusion – should be hanging by the time you scope
  ▪ Correcting coagulopathy
  ▪ Discontinue all antihypertensives/beta-blockers
  ▪ Frequent CBC (q4-6h, especially if in ICU)
[ ] If there is significant hemodynamic instability/compromise and no definitive known
evidence of lower GI source, should perform EGD first to rule out upper GI source despite negative NGL
[ ] Tagged RBC scan +/- angiogram: controversial whether to obtain this vs colonoscopy first since bleeding usually obscures source and typically not useful for therapy. Exceptions to these rules include:
  ▪ vascular lesion or recent polypectomy
  ▪ Localizing bleeding for potential surgical resection
  ▪ In these cases, would discuss with individual attending

[ ] Early Surgical consultation

When to come in to the hospital for LGIB: (same thoughts apply as above for UGIB)
• Lower GI bleeds to come in for after hours:
• Active BRBPR a/w recent polypectomy
• BRBPR a/w hemodynamic compromise and necessary to rule out UGI source
• GIB a/w ischemia and hemodynamic compromise
• GIB a/w diverticular bleeding if surgical resection likely necessary
• GIB a/w recent AAA surgery or question of abdominal enteric fistula

APPROACH TO PATIENT WITH DECOMPENSATED CIRRHOSIS

Important questions:
[ ] Does the patient have cirrhosis? And if so, what is the evidence (imaging, bx)
[ ] What is the etiology of liver disease (ETOH, autoimmune, HCV, etc)
[ ] Is the patient known to the liver service?
[ ] Is the patient on the transplant list? (usually need to confirm this as patient’s status varies)
[ ] What is there history of decompensations, e.g., hepatic encephalopathy, variceal bleeding, ascites/SBP, coagulopathy, jaundice, etc
[ ] Does the patient have a TIPs in place?

• The 2 most common presentations are hepatic encephalopathy and/or worsening ascites

• Important advice to give:
• Establishing etiology for current decompensation
  ▪ Infection
  ▪ Bleeding
  ▪ Medication noncompliance
  ▪ Dietary noncompliance
  ▪ Cancer (HCC)
  ▪ Dehydration
  ▪ Electrolyte abnormalities
  ▪ High protein load (especially in the setting of TIPs)
• Standard labs:
  ▪ CBC
  ▪ Chemistry panel
  ▪ LFTs
- Albumin
- Coagulation labs (PTT/INR/PT)
- Type and screen

**All patients** should have full infectious work-up PRIOR TO ABX ADMINISTRATION including
- CXR
- BLOOD CULTURES
- Urinalysis/ URINE CULTURES
- Diagnostic paracentesis!! (especially in the setting of HRS)
  - Send for Cell count, gram stain, cultures, albumin, total protein, +/- cytology

**All patients** should have an evaluation for bleeding:
- Hemoglobin trend (typically performed already)
- Rectal exam for melena
- If warranted, assessment for UGIB with NGL

**Management:**
- IVF resuscitation: NSS
- Lactulose (if too sedated, t/c DHT – better than PR administration)
- If lactulose not effective, can try neomycin orally vs flagyl orally
- Albumin IV for therapeutic paracentesis
- Can obtain US if not already done
- If there is a suspicion for autoimmune flare – may consider steroids

**Treatment for spontaneous bacterial peritonitis (SBP)**
- IV abx (broad spectrum, typically fluoroquinolone or 3rd gen cephalosporin) x 5 days total
- IV albumin 1.5g/kg on day #1, then IV albumin 1gm/kg IV on day #3
- May consider repeat paracentesis on day #3 to confirm efficacy of treatment
- After 5 days of treatment with antibiotics, patient will need to be on SBP prophylaxis – typically with FQ 1x/week.

**Treatment for hepatorenal syndrome:**
- Confirmation of HRS (from [www.uptodate.com](http://www.uptodate.com))
  - Chronic or acute hepatic disease with advanced hepatic failure and portal hypertension
  - A plasma creatinine concentration above 1.5 mg/dL (133 µmol/L) that progresses over days to weeks. As noted above, the rise in plasma creatinine with reductions in glomerular filtration rate may be minimized by the marked reduction in creatinine production.
  - The absence of any other apparent cause for the renal disease, including shock, ongoing bacterial infection, current or recent treatment with nephrotoxic drugs, and the absence of ultrasonographic evidence of obstruction or parenchymal renal disease. It is particularly important to exclude spontaneous bacterial peritonitis, which is complicated with acute renal failure that may be reversible in 30 to 40 percent of patients
  - UNa< 10 meq/L (off diuretics), a urine osmolality above that of the plasma, and
protein excretion less than 500 mg/day.
- Lack of improvement in renal function after volume expansion with 1.5 liters of isotonic saline and, if pertinent, withdrawal of diuretics.

Treatment of HRS:
- Midodrine 2.5-10mg po TID which can be titrated up with octreotide to goal increase in SBP10-15mmHg
- Octreotide 100-200mcg SQ TID
- IV albumin 50g QD x 3 or more days
- Renal Transplant consult for potential concomitant renal transplant (particularly if there is chronic renal disease a/w another underlying reason, such as DM)

Acute Cholangitis

When to suspect it:
- Think Charcot’s Triad: RUQ pain, jaundice, fever
- Complete triad only seen in 50-75% of patients with acute cholangitis

What you want to know:
- History:
  - Does the patient have risk factors or a history of gallstones?
  - Does the patient have a history of alcohol abuse or chronic liver disease
- Physical Exam:
  - VITALS-Is the patient febrile? Septic appearing?
  - Jaundice/icterus?
  - RUQ abdominal tenderness?
  - Mental status changes and hypotension (+triad=Reynold’s pentad)
- Labs:
  - Elevated WBC
  - LAE’s- Usually cholestatic liver pattern with an elevated bilirubin (conjugated), alkaline phosphatase, and GGT
  - Elevated amylase/lipase-A CBD stone or stricture can give you pancreatitis also
  - PTT/PT/INR/Platelets-Will likely be needing ERCP with sphincterotomy in very near future
  - Draw blood cultures

What imaging we want:
- Ultrasound or CT scan
  - Can be done quickly and may show CBD dilation or CBD stone
  - Not perfect: can miss small stones and CBD may not be dilated yet in an acute obstruction, so don’t be fooled if it is normal
- MRCP- Not usually able to be done in an acute setting

Treatment:
- Antibiotics ASAP- need to cover Gram negative bacteria, enterococcus +/- anaerobes (e.g. Levo/Flagyl, Zosyn, Unasyn)
- ERCP
• Never hurts to discuss it with the on-call attending (usually before the therapeutic on-call attending)
• Need to assess the urgency for ERCP. In general, the sicker the patient is, the sooner (true meaning: middle of the night or weekend) it needs to be done. Convincing findings include sepsis, high fevers, mental status changes, persistent pain etc....
• Percutaneous cholecystostomy tube is an alternative option for decompression of biliary system if can not perform ERCP (e.g. previous bowel surgery that will make it difficult to access ampulla via ERCP)

INPATIENT PRE-LIVER TRANSPLANT WORK-UP

Inpatient fulminant liver failure:
• If called regarding a fulminant hepatic failure case that will need immediate listing for OLT, you need to call the liver transplant coordinator on-call (during business hours, 662-4716, off hours, call the HUP operator).
• Assure patient’s condition is stabilized (always feel free to call the liver attending on call). Things to keep in mind (but definitely NOT exhaustive):
  • Bleeding: Vitamin K, FFP
  • Obtundation: intubation for airway protection
  • Encephalopathy: lactulose
  • Hypoglycemia: q2h FSGlu, may need D5 gtt
  • Declining mental status, Cushing’s response: possible cerebral edema - to consider mannitol.
  • Fevers: full infectious work-up, empiric antibiotics
  • Hypotension: pressors, antibiotics
  • Renal failure: renal consult, HD?
  • ARDS: ventilation on low-stretch protocol
  • Suspect Tylenol OD: N-acetylcysteine (low risk profile → low threshold to give)
  • Always obtain full drug toxin screen
  • Previous medical records
  • Call family: other members sick? Think possible poisoning (Amantia, etc)

• STAT labs to be ordered for **immediate OLT listing**:
  • Type and screen * 2
  • STAT HIV (Call micro lab @ 662-3406 for permission)
  • Send signed consent form, purple top, red top to Micro lab, not central receiving: 4 Gates tube #3.
  • CMV IgG
  • 12 lead EKG
  • 2-D transthoracicechocardiogram (may need to call cards fellow on call)
  • Abd u/s w/ Dopplers (to evaluate portal vein)
  • Transplant surgery consult
  • MELD labs: TBili, INR, Creatinine
  • Panel, albumin, LFTs

• **Chronic Liver Inpatient Transplant Evaluation**: Need to send/obtain:
- 12 lead EKG
- 2-d Echo
- Abdominal imaging: MRI abd w/ Gad or CT abd w/ IV contrast
- CXR PA and lat
- MELD labs (TBili, INR, Cr) and Panel and CBC q48, at least
- Type and screen * 2
- HIV status
- LFTs
- Iron/transferrin/ferritin
- LDH
- GGT
- TSH
- ANA/AMA/ASMA
- CMV IgG
- RPR, VZV, HSV, Toxo Abs
- HAV IgM
- HBcAb, HBsAb, HBsAg
- HCV Ab
- AFP (non pregnant)
- Full drug screen
- U/A
- PPD and anergy panel

Consults Associated With Liver Transplant:
- Cardiology (Usually, Dr. Litwack, 265-2676)
- Transplant Surgery
- Social Work (L. Kotler-Klein, 698-3324)
- Transplant Psychiatry, if indicated (Dr. Weinreib, 961-3337)
- Transplant ID, if indicated (Dr. Blumberg, 812-4564)

May also need:
- F: pap and mammography within last year
- M: PSA for > 50yo
- Smokers: PFTs
- PSC: CA 19-9, CEA
- Pts w/ HCV: HepC PCR quant and HepC genotype within yr
- Pts w/ HBV: Hep B quant DNA
- Pts w/ liver mass: HRCT chest

PREPS FOR ENDOSCOPY (THE QUICK AND THE DIRTY):
- **Pre-procedure:** NPO for at least 4-8 hours (longer if the patient has any history of abnormal gastric emptying.
  - It is ok for patients to continue “essential medications”
  - If diabetic:
    - HOLD oral hypoglycemics;
    - if on insulin—if short-acting, halve the dose
• If on anticoagulation: low-risk procedures for post-procedure bleeding include
  DIAGNOSTIC EGD/colonoscopy (+/- biopsies); ERCP without sphincterotomy;
  biliary stent without sphincterotomy; EUS without FNA; enteroscopy.
  - No need to stop ASA/NSAIDs unless taking an excessive amount
  - Will need to stop coumadin 3-5 days pre-procedure: this will require an
    outpatient clinic visit (if your outpatient) with in-clinic phone call to patient’s
    PCP or coumadin clinic
  - There is no need to necessarily stop low-molecular weight heparin (ex
    Lovenox) or antiplatelet agents (ex Plavix)
• Document if patient has pacemaker/defibrillator
  - For electrosurgical equipment:
    ▪ no contraindication in pacemakers
    ▪ deactivate implantable defibrillators
• Make sure patient has transportation home (if outpatient)
• There is no need for routine pre-procedure labwork unless there is another
  reason to check labwork.
• Preps:
  - Golytely: iso-osmotic agent
    - 4 liter prep
    - Safe in ALL patients (if you have to pick a prep for a hospitalized patient, this
      is it!)
    - need 4-hour fast pre-drinking; drink entire contents WITHIN 2 HOURS
    - start prep within 6-11 hours pre-colonoscopy
    - If hospitalized and unable to tolerate prep PO, can place NGT and give 250cc
      every 15 minutes until patient has completed prep
    - Can mix with diet-clear agents (lemon crystal lite, diet ginger-ale, diet sprite,
      etc).
  - Half-lytely: iso-osmotic agent
    - 2 liter prep
    - Use with a laxative (duculox)
    - Same concept as Golytely; not available for in-house patients (only as
      outpatient)
  - Fleet's: hyper-osmotic agent
    - Absolutely contraindicated in CHF, CRI or any history of electrolyte
      abnormalities/issues
    - Relatively contraindicated in DM using an ACE-I/ARB; if unable to maintain
      adequate PO intake; if any history of dehydration; if high suspicion of colitis;
      or if taking (or history of taking) diuretics
      ▪ Basically, not for any hospitalized patient!
    - 45ml the night before procedure; another 45ml 3-hours pre-procedure
    - Patient must drink LOTS of fluids (per package insert)
  - Visicol: hyper-osmotic agent
    - 28-40 tablets (each tablet roughly the size of a KCL tablet (think horse-pill))
    - Associated with rare but idiopathic ARF, so no longer advocated by
      HUP/Penn
• Some HINTS for patients having a tough time with preps:
  ▪ Try and talk patients through it a bit:
    - putting prep on ice can alleviate some of the taste
    - starting prep in late afternoon can ensure that all diarrhea is over by midnight
      and patient can get some sleep the night before
    - Mixing prep with diet-CLEAR-liquids can help with taste (although it does
      increase volume of prep, which is sometimes an issue with patients)
    - If the patient is NOT clear from below, GIVE MORE GOLYTELY
      ▪ It’s safe; it’s not absorbed
  ▪ Bottom line: it tastes horrible, it’s a horrible night. If they’re calling in the middle
    of the night to tell you they can’t do it, save yourself some sleep and just have
    them call the office in the morning to cancel their procedure and re-prep with
    some alternative method

THE TRAVEL CART/TRAVEL ENDOSCOPIES

• This section is organized by hospital site. Since you’re most likely to do a travel at
  HUP, this section is given the most detail, and should be referenced when at the
  other hospitals as well, since the basic mechanisms are the same.
• The sections on the affiliates highlight primarily the ways in which these carts are
  different from the HUP one.

HUP TRAVEL CART
• The travel cart is housed and managed by the OR. It will be delivered to
  wherever you need, 24/7, by calling 215-771-3650, the out of OR coordinator
• During the day, the cart will be brought anywhere, usually within 20 minutes
• At night, it may take longer, but usually within 30 minutes
• If you are coming from home at night, call ahead, as the it makes it easier for the
  OR coordinators to pull a nurse to deliver it
• When calling, you must have the patient’s name, room number, procedure, scopes
  needed, and attending
• During the day, the OR staff will usually set up the cart for you, and sometimes
  load up the computer. On the night, you usually are on your own.

Travel cart (Figure 1)
• The travel cart is supposed to be fully stocked by the OR staff, but sometimes you
  may need to get some extra materials from the supply closet
• If the cart is missing supplies, call the Technical Officer on call (TON) at 215-771-
  3496 after 7:00pm and someone will meet you at the supply closet [ 3rd door on
  your left as you come off the Ravdin staircase on the 4th floor ]
Supply closet
- The supply closet has everything you will need. If you have a possible variceal bleeder, always get an extra banding kit, as there is only one on the cart.

Scopes
- There are separate scopes for the travel cart (these scopes housed in the OR) and scopes for the endoscopy suite (housed in the 4 Ravdin Suite). However, if you need an extra scope, like the peds endoscope for someone with a stricture, you can use it. Just get it from the endoscopy suite, using the key from the fellows room. But if you use the scope, make sure to tell the OR that it is one of the endoscopy unit scopes. These scopes do not have buttons attached, but extra buttons are in the blue bin, packed together.
- What you will most likely need for a travel is a regular endoscope (GIF 160) and a (GIF 1T-140). Always tell the OR coordinator to bring both for an EGD.
- The 1T has a bigger suction channel, and we bring it along if we’re worried there will be a lot of blood to suck up. Generally, if you’ve come in at night, you’re also worried there is a lot of blood, so always have it brought to you. There is also a 2T in the endoscopy suite, with 2 suction ports, but we rarely use it, but it is there if you need it. You can tell the 1T (or 2T) quickly apart from the other scopes because the dangling end, at the bottom as it’s hanging is the closet, has a white ring around the channel (all the others are just black).
- If you’re doing a variceal bleed, bring the GIF 140 instead of the 160, because the rubber band kit fits better on it.
- Rarely, we get called to do lower scopes at night. You can ask the attending what scope they want, but most commonly we’ll use the same scopes we would’ve used for the upper (GIF 160 or 1T). However, if you are doing a travel colon, ask the OR to bring a standard peds colonoscopy, the PCF-160. For flex sigs, use any upper scope. Please refer to (Figure 2) for location of scope label, as well as buttons positioning.
Blue Bins
- There are 2 types of blue bins on the travel cart, one with scopes, and one with materials
- The scope blue bins have plastic tops with 2 sides, one has a green sticker (=clean), one has a red (=dirty). After using a scope, put back in blue bin, and flip lid over (green->red)
- The other blue bin should have all the materials you need, i.e. the umbilicus, sterile water, mouth guards, enzyme solution, gauze, blunt tips. However, if many scopes are done in a day, it may not be fully restocked. Before the OR staff leaves, always make sure the umbilicus, enzyme, mouth guards, water bottle (if not already attached), and blunt tips are there. Everything else can be scrounged up from the ICU/ED.

Black Bags
- There are two black bags on the side of the cart, they contain the therapeutic things you will need, banding kit, gold probes (bicap), clips, epi needle. Always make sure there is one of everything before the OR staff leaves. There also is a binder with consents.

Final assembly
- You need to make sure, before the OR staff leaves, that the basic set up is done, or at least, the basic materials are there for you to set up.
  - Water bottle for scope (Figure 3)
    - For all procedures, the cart needs a water bottle for the scope, which is a grayish plastic bottle with a large white top. It can either be found clipped right on the cart, or in the blue bin.

  Figure 3. Water bottle

  Figure 4. Umbilicus

- Umbilicus (Figure 4)
  - This is a black cable with 2 attachments at either end, which connects the scope to the image capture device. It should be in the blue bin.
- Mouth block
  - This is usually in the blue bin.
- 4x4 packet
  - In the blue bin, but if not, just grab a bunch of gauze from ICU/ER.
- Consent forms
  - In a binder in one of the black bags. If needed during the day, the endo staff can tube you a consent, or at night, you can always just fill in a general UPHS surgical consent.
- Detergent
  - The detergent bottle is in the blue bin. It is a small plastic bottle with a blue
If you think you might use cautery (although you should always have this set up in case)
The cautery machine is on top of the cart, it has the dials and the pedals. It requires
- A plastic white water bottle with a small cap—there are spare ones in the scope cleaning room in the 4 Ravdin endoscopy suite
- A 10F (or 7F, for the GIF 140) cautery probe—these are in large flat square paper boxes, which say 10F on the top, and are in a the black bag.

If you think you might inject epinephrine
You need
- An injection needle, which is in the black bag. It is in a clear plastic bag and has a green tube attached to a syringe.
- Ask the ICU/ED staff for a box of the 1:10,000 epinephrine, the type used in a code. It screws in directly to the epi needle.

If you think you’ll be banding
- There is a banding kit, called the Speedband Superview Super7, which has a blue base with bubbles and a white top. It should be in the black bag, but if you think you may band, go to supply closet, and get an extra set.

If you’re doing a food impaction
- Bring an overtube, (it protects the trachea from aspiration). This should also be in the black bag (see Figure 1).

Setting up in the patient’s room
• Generally:
  - All scopes are done with the patient on their left side. Most attendings prefer the cart (and the screen on the opposite side of the patient, although this causes the scope to coil). What that means is that for an upper, the cart goes on the patient’s right, and a lower on the patient’s left.
• Caveat:
  - Some attendings prefer doing the procedure with the screen on the same side of them, to avoid coiling. Always ask, but some attendings may just say to do what the others do, which is with the cart on the opposite side of the patient.
- Always be prepared to stop a bleed, so always move the foot pedal for the bicap to a position where your feet can access it.

Ask the RN for:
1. A separate suction container for the scope, with the wall suction turned all the way up.
2. A kidney basin (the small pink one) to check your scope in
3. Sedation (usually I’ll have them draw up 8 mg versed and 200 mcg fentanyl just in case, we might not use it all)
4. Suction with a yankauer for the patient (sometimes they will need to set up 2 suctions, but don’t too tandem suction, too weak for the scope)
5. Make sure the patient is placed on supplemental oxygen.

Scope preparation (Figure 5)—This usually will be done for you during the day
• Plug the cart in (there is a grey plug in the back).
• Usually it will turn on, as all the buttons are depressed. If not, press the two buttons on the two Olympus machines, and the button to turn on the computer.
• It will ask for username and password—endouser & endouser (easy enough)
• Plug the scope into the power source.
• Connect the scope to the image capture device using the umbilicus (Figure 4).
• Attach the water bottle to the scope.
• Attach the suction to the scope.
• Turn on the light using the IGNITION button on the power source (Figure 6)
• White balance the scope by wrapping the tip in some gauze and hitting the white balance button.
• Fill the container from the RN with water (tap or sterile saline off the cart are both fine).
• Check your buttons in the container (air/water/suction)
• You’re done with the scope!

Entering the patient info
• When you plug in the cart, the computer should turn on. If it doesn’t, there is a hard drive on the cart (see Figure 1), hit the power button.
  • Sometimes Endoworks doesn’t open, usually because where you are there is no internet access. There is a little icon in the right lower corner of the screen which tells you if there is access where you are. If there isn’t, you can first try to move the cart a little. If that doesn’t work, you can try starting Endoworks offline as below. As a guide, Endoworks 80% of the time in the Founders 9 MICU, 50% of the time in the ER, and almost never in the Rhoads SICU.
  • ICU Mode
    - This allows you to take pics, but does not allow you to write the report at the bedside, and requires an upload of the images into endoworks, either in the endoscopy suite or in the OR
    - There will be folder on the desktop that says ICU mode
    - Double click this
    - First click the ICU start-up icon. Some things will flash on the screen, it will then say system available.
    - After this, click ICU mode icon.
    - An endoworks-like screen will open. Click start
    - Enter the ID #, which is also the MRN.
    - Enter the Last, First name.
    - Enter the attending.
- Enter the exam type.
- Save.
- Make sure to click save and exit once done with the procedure.

**Regular Endoworks** (remember, endouser & endouser to log on to computer)
- Click the Endoworks icon in the middle of the screen.
- The login and password are dr and dr.
- Click on Patient File.
- Enter the patient’s last name, first name.
- Click on ID, drop down MRN and enter number (off patient sticker).
- Click Go in the top right-hand corner.
- Patient’s name will appear. Click the box with the arrow to the left of the patient’s name.
- Click Next in the top right-hand corner.
- Click New Visit at the top of the next screen – a screen with several fill-in boxes should appear, only some of them have to be filled in as below:
  - Patient class – inpatient.
  - Exam – EGD, flex sig, etc.
  - Attending – fill in
  - Room – Travel.
- Click the Procedure tab at the top – a small window should appear.
  - Referring physician – enter attending from patient sticker
  - Nurse – fill in
  - Fellow – you!
- The patient should be logged in now. Most importantly, when you move the scope, the image should move on the screen, so you know you’re online.

**Procedure log**
- There is a clip board on the cart with patient stickers and dates.
- Get a sticker, paste it on and write down the date, the procedure, your name and the attending’s name. This is for billing purposes, and the endo suite will call and ask you where the sticker is after you used the cart.

**Setting up for potential therapeutic interventions**
**ALWAYS BE PREPARED and SET UP FOR an INTERVENTION**
- Wheel one of the patient tray tables to the side with the cart. On it, put
  - The kidney basin, full of water, to check your scope, and to be a source for flushes
  - A full large bottle of sterile water
  - A 60cc luer lock syringe (the one with a twist top)—usually in blue bin
  - Grey top blunt needle (in blue bin), but if none, the red top blunt need from ICU/ED. The red top is smaller, thus a weaker flush
  - Gauze
  - Lubricant
  - Mouth Guard
  - Epinephrine
- Epinephrine needle
- Box of code cart, 1:10,000 epinephrine

**Cauterization**
- A 7Fr or 10Fr probe—DO NOT OPEN UNLESS YOU WILL USE—they are expensive
- Move the pedal to your feet prior to the procedure

**Clips**
- Get a few sets of clips (only difference between lower GI and upper GI are the length, same size clip)

**Banding**
- If you think you may band, have a kit ready, but don’t open

**Food impaction**
- Overtube
- Roth net (to extract foreign object)

**Cautery**
- Generally this isn’t set up until you’ve looked first inside the patient’s GI tract and determined there is something that can be cauterized, because otherwise you waste the kit. But have the probe on your table, and the pedal by your feet.
- To set up the cautery (Figure 7)
  - open the 10F probe box and remove the wire from the protective sheath
  - the wire has a bifurcated end, which will be attached to electricity and water, and a single end, which will be inserted into the scope
  - connect the water bottle to the pump, then the probe to water and electricity, as shown in the drawing
- Testing the cautery
  - put the pedal on the floor
  - push the water pedal for several seconds, holding the 10F probe – water should squirt out after a little while
  - take some gauze, squirt some surgilube on, and hold the probe into it while pushing the current button – little bubbles should form.

**Screen set-up**
- The screen is articulated in 2 places. To position it in the desired position, you need to pull out the black screw at each articulation, adjust it in the desired position, then let the screw go.

**Procedure report**
- If Endoworks opened, you can do the report at the bedside.
• To print a color report, you need to go to endo, but the report immediately goes into medview, so you can print a black and white copy in the interim.
• If done in ICU mode, the pictures need to be uploaded in the OR or endoscopy, usually the following morning, so a procedure note will need to be written. If during the day, have the cart brought to endoscopy after you are done, and nicely ask the staff to upload the report for you.
• Some attendings will do the report themselves at the bedside while you’re cleaning up, in which case you just have to make sure a copy of it gets in the chart.
• Irrespective of who does the report, however, the responsibility for the report being signed and in the chart is ultimately yours (this might mean paging the attending the following day and asking them to sign the report).

Clean-up
• Save and Exit Endoworks.
• Shut down the computer.
• Fill the kidney basin you used to check the scope/flush again with water.
• Pour the detergent bottle in the water container.
• Suction the detergent water through the scope until the suction tubing is clear.
• Disconnect the water, air and umbilicus.
• Place the end cap over the scope.
• Unplug the scope and put it in the blue bin (flipping the plastic top over)
• Pick up all the stuff you left around the room (esp. the epi box)—MAKE SURE TO NOT LEAVE A MESS IN THE ROOM
• Call 215-771-3650, and someone will come shortly to get the scope.

THE VA TRAVEL CART
The cart is on the hallway in the GI suite, on the left as you enter the suite.
Room set-up
• The cart here, like the one at Presby, needs to be set up opposite you as you’re scoping.
• Also, there is no computer set-up, this cart only has a TV set to visualize the procedure, not to record.
• When you have everything set up, you will need to enter info into the computer. This is very easy, just fill in the required info, SS#, name, age of patient, sex, birthdate, your name and attendings name using the keyboard. Just scroll to each spot and fill in the info.
• The cart usually has everything, but may sometimes not have a kidney basin, syringe (the syringes at the VA are special, and have their own blunt tips).
• Also, you may sometimes need extra things, like an overtube, banding kit, extra clips, roth net. If you need something, there is a supply closet across from Dr. Tobi’s office. You VA card needs to be swiped to open it, but if it does not work, call security and they will come within 5-10 minutes to let you in. Same goes if for some reason you need to get an extra scope. They are housed in the main endoscopy room, and your swipe card gets you in, but the master key gets you to
the room where the scopes are.

Clean-up
• Suck up some tap water through the scope before leaving the patient room, until the suction tubing runs clear.
• Put the cap on the scope.

In the scope-cleaning room
(key in the secretary’s drawer, same key that opens everything there):
• Plug up the sink with some tissue paper. Fill the sink with water.
• Connect the scope to the pressurized air device next to the sink and test for leaks by submerging the scope in water and turning the device on. Then, squirt in some detergent and scrub, using the nearby brushes.
• If it’s a weekday, put the scope in a bassinette with detergent and leave overnight.
• If it’s Fri or Sat, you have to wash the scopes using the washing machines.
• The washing machines to your left as you’re standing at the sink are for colonoscopes and 1T, and the ones on your right are for endoscopes (the former have an extra nozzle, as drawn below).
• Please refer to Figure 8 for instructions on attaching the scope to the washing machine.

THE PRESBY TRAVEL CART
• The cart is in room 221, the code is like the one for the fellows’ room
• There usually are scopes attached, but additional ones are found in the back left room of the scope reprocessing room in the endoscopy suite. To access this room, use the key with the whale keychain in the fellows rooms.
• This cart has well-labeled drawers, and is probably the most user-friendly of the 3.
• The one difference is that if you get a scope that is not on the cart and is in the back room, you will need to get your own buttons. They are next to the scope closet. Make sure to try them on, as not all buttons are the same. You need red for suction, blue for air/water, and a biopsy channel cap.

Room set-up
• The cart is set up opposite the side you scope on. If you’re doing an upper, the cart goes on the patient’s right, and if you’re doing a lower on the patient’s left.
Procedure report (see ICU mode for HUP, but ICU mode is only option)

- When the computer turns on, it will ask for a password.
- The login and password are both endouser.
- Click ICU start-up.
- Click ICU mode.
- Click Endoworks, then Start.
- Enter the ID #, which is also the MRN.
- Enter the Last, First name.
- Enter the attending.
- Enter the exam type.
- Save.
- When done, make sure to hit save and exit.
- Also, there is a red logbook for procedures, put a sticker in there for billing.
- The endoscopy staff will upload your report the next morning, so you need to do a paper report if scoping overnight. There are special forms in the large accordion file on the cart.
- Done!

Scope cleaning
The scope cleaning room is W280, next to the endoscopy suites. There is a corkboard above the washing machines, which has all the instructions for turning on the machine (entitled “Cheat sheet for fellows”), as well as a great drawing of the scope hook-up. You have to wash the scope any time at night, or on the weekends. To get into the room, use the whale key. Even though we process it, it has to be reprocessed the next day, as it is not dried after we wash it, but it still needs to be washed in the machine.

Scoping pointers for the First Year
The Patient:
- Always know the indication for the procedure you are about to perform. Endoscopy, be it upper endoscopy or colonoscopy, has may risks and in some situations, the benefits do NOT outweigh the risks
- Common indications for upper endoscopy include:
  ▪ Diagnosis in the setting of upper tract symptoms
  ▪ Clarification or assessment of known disease
  ▪ Biopsy of a lesion or for other clinical indication (i.e. r/o celiac sprue)
  ▪ Screen for malignancy (i.e. FAP)
  ▪ Therapy (i.e. treatment of upper GI bleeding, dilation of a stricture, PDT, etc.)
- Common indications for colonoscopy:
  ▪ Anemia/bleeding/occult blood loss
  ▪ IBD assessment
  ▪ Genetic cancer risk
  ▪ Abnormality on imaging
  ▪ Therapy (i.e. treatment of GI bleeding, dilation of a stricture, APC, etc.)
- Other (lower yield indications include diarrhea, constipation, flatulence and abdominal pain)
- Knowing your patient’s history is essential not only to assess whether a procedure is indicated but also to plan ahead for such a procedure. A complete history should include the following information:
  - Major co-morbidities including a complete GI history with notation of prior endoscopic procedures, respiratory or cardiac history and history of bleeding diatheses
  - History of surgical procedures (particularly those involving the GI tract)
  - History of prior procedures and sedation received/ adverse reactions to sedation
  - Current medications including anticoagulants or anti-platelet agents
  - Allergies
  - History of or current alcohol use
  - History or current drug use
  - History of or current tobacco use
- After deciding that a procedure should be performed, inform the patient of your recommendation and discuss any preparation that will be necessary for the procedure (i.e. NPO after midnight the night before upper endoscopy or PEG/clears the day before colonoscopy with GoLytely the evening before the procedure).

**Preparation:**
- Review indications for procedure
- Informed Consent
  - This is an **active** process and should **always** be witnessed.
  - Familiarize yourself with the consent forms in the endoscopy suite and develop your own technique for obtaining consent.
  - The major risks of upper endoscopy include bleeding (less than 3/10,000), perforation (less than 1/1,000), and aspiration (less than 1/1,000)
  - The majors risks of colonoscopy include bleeding and perforation (2/1000)
  - The risks of anesthesia (Fentanyl and Versed are used at Penn) include phlebitis, hives, wheezing, anaphylaxis, arrhythmia and hypoxia. Needless to say, some of these may occur frequently but most are rarely encountered.
  - Always discuss alternatives with your patients!
  - Always allow time for questions!
- Patient Positioning/ Set-up
  - Patients should be positioned on their left side
  - 2 L on oxygen via NC should be placed on the patient prior to starting the procedure
  - Suction should be available (if doing a travel case, 2 suctions set ups should be available in the room: 1) one for the scope as an attachment for your suction port and 2) one to suction the patient)
  - A cardiac monitor should be cycling to obtain vitals q 2 minutes
  - Sedatives on hand (If in the endoscopy suite, this will be taken care of by your nurse. If this is in the MICU, you will need to request that the nurse taking care of the patient obtain the medications and be on hand for the procedure both for administration of the drugs and monitoring of the patient).
• Bite block should be positioned near patient or just around the patient’s neck without being fastened.

• Physician Set-up
  • In order to ensure your protection, you should observe universal precautions. This includes gloves, gown and eye protection (goggles or full face mask).
  • Be sure to check that the endoscope is functional:
    - Make sure that the light source is on
    - Make sure that the suction works (submerge the tip of the endoscope in water and depress the top RED button until you confirm that the water is moving through the suction hose into the vacuum container)
    - Make sure that the water and air are working (submerge the tip of the endoscope in water and depress the bottom BLUE button lightly for air. You should continue pressing the button until bubbles are visible. Remove the tip from the water and depress the BLUE button completely until water is released).

Sedation:
• Preparation
  • Place bite block in mouth at this time for upper procedures. The bite block not only protects the patient’s teeth but also protects the endoscope from injury if biting were to occur.
  • Make sure that a set of vitals are taken prior to starting the procedure
  • It is always prudent to have benadryl on hand for the occasional patient who is difficult to sedate.
  • If you have concerns about whether a patient will be able to be sedated or you have concerns about a patient’s airway or baseline vitals, you may need to consider anesthesia assistance. Anesthesia is available in the endoscopy suite on Mondays and Thursdays and should be scheduled when the procedure is put into the system initially.

• Sedation Process
  • The key word here is CONSCIOUS sedation!
  • Short acting benzodiazepines as well as opiates are used for sedation in the endoscopy unit at HUP, Presbyterian and the VA. The drugs of choice are versed (at a starting dose of 1 – 2 mg up to a total dose of 8 mg) and Fentanyl (starting dose of 25 mcg up to a total of 200 mcg).
  • Remember to start low and slow!
  • Titrate drugs every 2 - 3 minutes always remembering to check a set of vitals as you give more doses of medication.
  • If you suspect that a patient will be difficult to sedate, you can supplement the above meds with benadryl (start with 25 mg and may give a total of 50 mg over the entire procedure)
  • Flumazenil and Narcan are available to reverse these meds if necessary. Make sure you have these available (not an issue in the endoscopy suite).

Procedure:
• The Endoscope
  • All endoscopes include a control head, flexible shaft, maneuverable tip and ports
  • The umbilicus joins the endoscope with the power/ light source
• The large wheel controls movement of the tip in the vertical plane (i.e. up and down movements)
• The medium size wheel moves the tip of the endoscope in the horizontal plane
• The small wheel locks the 2 larger wheels when indicated
• The top RED button controls the suction on the instrument
• The bottom BLUE button controls water and air
• The biopsy channel allows not only for the insertion of biopsy forceps but other functions including brushing, flushing, therapeutic injections, etc
• The tip can be fixed in any direction but is torque stable meaning that the shaft can be manipulated to turn the tip in any orientation in the field

**EGD**

**Insertion**
- With the control head positioned in the left hand, pick up the shaft with the right hand
- Check the controls to make sure that the tip moves freely in all four directions (up, down, left and right). At this point, you can also check the suction, water and air if you haven’t already done so.
- Lubricate the distal 20 cms of the endoscope with surgilube (DO NOT put lubricant on the tip as this can interfere with the lighting source/ optics)
- Insert the endoscope through the bite block into the patient’s mouth. On the viewing screen, you will be entering the mouth with orientation “upside down”, i.e., the chin will be at the top of the screen and the nose will be at the bottom.
  ▪ There are 3 techniques (direct vision, blind, and finger assisted). By far, the direct vision approach is the most recommended.
  ▪ Once the tip of the endoscope is in the mouth, follow the tongue along the midline (raphe) into the pharynx.
  ▪ Point the tip of the endoscope posterior to the epiglottis

• Go posterior to the vocal cords
• Ask patient to swallow as you advance the endoscope past the cricopharyngeus (left or right of the midline)

**Advancement**
- Always advance the endoscope under direct vision! DO NOT push if you cannot see the lumen!
- Continue to advance the shaft of the endoscope as you inspect the mucosa in the esophagus
- You should encounter the EG junction at 38 – 40 cms
- Often one has to angle to the left to enter the stomach
- Upon entry into the stomach, any gastric contents should be documented (with a photograph) and then aspirated/suctioned.
- Use a clockwise rotation of the endoscope as the antrum is approached.
- After inspecting the mucosa in the antrum, advance the shaft of the endoscope through the pylorus.
- To view the descending duodenum, the shaft and sometimes the control head of the endoscope will need to be rotated to the right and then up. This should bring this region of the duodenum into view.

**Withdrawal**
- After entering the descending duodenum, the endoscope should be withdrawn slowly to view all areas of the duodenum including the bulb
- Once in the stomach, retroflex to see the cardia. This maneuver involves rotating the shaft of the endoscope 180 degrees at the angularis.
- After retroflexing, suction any significant residual air in the stomach and then withdraw the endoscope.

**Colonoscopy**

- **Preparation**
  - Start with 2 gloves on the right hand
  - Perform a digital rectal examination to check for pathology as well as provide lubrication for the instrument

- **Insertion**
  - With the control head secured with the left hand, gently insert the tip of the colonoscope through the anus with the right hand
  - Once in the rectum, red out may be seen. To correct this, pull back slightly and rotate the shaft of the colonoscope gently to get the lumen in view. Before advancing, aspirate fluid or residue from the rectum to avoid leakage during the remainder of the examination.
  - **Remember, DO NOT advance unless the lumen is clearly in view!**

- **Advancement**
  - Use as much air as is necessary to maneuver through the colon. As the colon inflates, it becomes longer and much more difficult to navigate. Using a minimum amount of air will make the procedure more comfortable for the patient and easier for you to complete.
  - Use the markings of the colon as your map! Aim for converging folds when the next turn is not completely obvious. Following the teniae coli can also be helpful.
  - Do not be afraid to pull back. This maneuver can often help you to get your bearings and plan your route.
  - Steer carefully
  - Loss of one to one during insertion or paradoxical movement in the colonoscope means that there is a loop present
    - **Sigmoid loops**
      - Some degree of looping in the sigmoid is unavoidable
      - Reduction at the end of the sigmoid may be helpful
      - Short (20-30 seconds) of abdominal hand pressure to the lower abdomen may be helpful
- Torque steering is helpful to navigate through the turns of the sigmoid
- Passage of the colonoscope through the splenic flexure includes the following maneuvers:
  - Pull back to straighten the colonoscope
  - Deflate the colon
  - Use clockwise torque on the shaft
  - Push SLOWLY
  - Apply hand pressure if and only if necessary
- Once the transverse colon is reached, the triangular pattern of this portion of the colon can be appreciated. In most cases, the transverse colon can be navigated easily with one continuous advancement of the colonoscope shaft. If the transverse appears relatively straight, the stiffener can be put on to assist in advancement.
- Passage of the colonoscope through the hepatic flexure may include the following maneuvers:
  - Deflate the colon
  - Angulate the tip around about 180 degrees
  - Withdraw the colonoscope
  - Aspirate air to pull the colonoscope tip around flexure
- Passage of the colonoscope into the cecum may include the following maneuvers:
  - Deflate the colon
  - Advance into the center of the cecum
  - Verify position with transillumination and or right lower quadrant indentation
  - Remember to identify landmarks (appendiceal orifice, ileo-cecal valve and/or crow's feet should be identified
- Passage of the colonoscope into the ileum may include the following maneuvers:
  - Pass the colonoscope tip past the IC valve
  - Deflate the cecum partially
  - Pull back the colonoscope and angle upward so the the tip of the colonoscope brushes the opening of the IC valve
  - Administer small puffs of air to open the edges of the IC valve
  - Once in the ileum, take photo documentation of the region

Withdrawal
- Better views of the colon are able to be obtained on withdrawal
- Withdraw slowly and don’t forget to investigate all turns or bends
- The length of the withdrawal should be longer than insertion (at least 6 minutes in length)
- Retroflexion should be performed in the rectum at the end of the examination
  - When at the level of the anal verge, advance the instrument to the center of the rectum
  - Turn both knobs upward maximally
  - Rotate the shaft of the colonoscope 180 degrees and focus the instrument
  - Take photo documentation of the rectal findings on retroflexion
  - Reverse the retroflexion maneuver and remove it from the patient
• **Post-Procedure**
  - Type your procedure note on Endoworks (more on this during orientation)
  - Give the endoscope to the tech for cleaning/ reprocessing
    - After hours, you will have to clean and reprocess the endoscope yourself.
      - This includes high level disinfection:
        - Wipe down the endoscope with enzymatic cleaner immediately after removal from the patient
        - Suck the enzymatic cleaner diluted in water through the suction channel at least for 15 seconds
        - Put the air/ water adapter into the air/water channel. Submerge the endoscope tip under water and depress the air/water adapter button until bubbles are seen
        - Transfer the endoscope to the scope cleaning room
        - Place a cap over the umbilical connection and remove all buttons
        - Submerge endoscope in water to completely cover all parts of the instrument
        - Once submerged, attach the leak testing devise to the appropriate port. Turn on the leak testing device and look for bubbles. If bubbles are found, place the endoscope in a bag and write broken on the label. If not, proceed to the next step.
        - Add enzymatic cleaner to the water and wipe down endoscope again
        - Brush all ports on the endoscope
        - Flush all ports on endoscope
        - Flush accessory channel if a therapeutic endoscope is being cleaned
        - Suck the cleaner through the suction channel again
        - Place endoscope in reprocessor and attach to the appropriate channels and place buttons, forceps, etc. in reprocessor as well.
        - Start reprocessing
        - Always wear protective equipment as the enzymatic cleaner is hazardous!
      - More on this during orientation

**POST-PROCEDURE PHONE CALLS**
• Easy rule to remember: Anything that sounds remotely serious, assume a serious complication and SEND TO ER!!!!
• Abdominal pain hints:
  - Differential diagnosis includes benign pain, perforation, post-polypectomy syndrome, post-ERCP pancreatitis
  - You don’t want to miss a perforation!!!
  - Perforations more common after polypectomies and dilations
  - Standard ER work-up should include a cbc(? leukocytosis), a KUB/CT-scan(? free air), and a possible gastrograaffin study
  - Look for alarm symptoms such as worsening or severe pain, fever, vomiting
  - Post-polypectomy syndrome can present similarly to a perforation with abdominal pain, fever, leukocytosis (a localized peritonitis, but with no free air on imaging)
  - Post-polypectomy syndrome may need hospitalization for IV antibiotics, IV fluids
• Slight discomfort can be expected after some procedures, for example esophageal dilation, variceal band ligation
• Post ERCP pancreatitis occurs in 3-7% of cases. Work-up includes amylase, lipase, and Ct-scan
• Melena or hematochezia hints:
  • Often post-polypectomy and can occur days after the procedure
  • Should be evaluated in the ER
  • Often requires endoscopic evaluation
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**LABORATORIES**

- Autopsy Reports: 3215
- Blood Bank: 3448, 3468
- Blood Bank Resident: 980-9873
- Chemistry: 6830
- Coagulation: 2512
- Cytogenetics: 898-8066
- Cytology: 3209, 3216
- Endocrine: 6830, 3420
- General: 6830
- General Phleb: 3426, 319-0128
- Hematology: 6990
- Immunology Lab: 3424
- Microbiology: 3406, 3404, 3415
- Path/Surg Path: 6526, 6226
- Path Reports: 6886
- Path Lab: 6526, 6503
- Serology: 6024
- Stat Lab: 3724
- Toxicology/Drug levels: 3475, 3474
- Rapid HIV Screening: 215-506-0151

**PHARMACY**

- Inpatient - Central: 2907, 2909
- Inpatient - Founders 11,12,14 (Team 5): 308-1678
- Inpatient - Founders 5: 2574
- Inpatient - Operating Room: 2983
- Inpatient - Rhoads 6,7 (Team 2): 3078, 1666

**SPECIALTY CLINICS**

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**VA Phonebook**

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<td>Urology</td>
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<tr>
<td>Women's Health Clinic</td>
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### RADIOLOGY

<table>
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<tr>
<th>Service</th>
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<tbody>
<tr>
<td>After Hours Scheduling</td>
<td>4258</td>
</tr>
<tr>
<td>CT</td>
<td>6313, 2155, 3386</td>
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<tr>
<td>CT Appointments STAT</td>
<td>2155, 6313</td>
</tr>
<tr>
<td>File Room</td>
<td>6323</td>
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<tr>
<td>General</td>
<td>6313, 6314, 4103</td>
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<tr>
<td>Interventional Radiology</td>
<td>6328</td>
</tr>
<tr>
<td>MRI</td>
<td>4129, 6298</td>
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<tr>
<td>MRI outpatient scheduling</td>
<td>6313</td>
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<tr>
<td>Nuclear Medicine</td>
<td>5865, 6585, 6368 (reading room)</td>
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<td>Nuclear Medicine Tech/STAT</td>
<td>6372</td>
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<tr>
<td>Ultrasound Tech/Scheduling</td>
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### LABS

<table>
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<tbody>
<tr>
<td>Blood Bank</td>
<td>6306, 6305, 73-737</td>
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<tr>
<td>Blood Culture Team</td>
<td>2341</td>
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<tr>
<td>Chemistry/Blood Gas</td>
<td>6307, 2362, 2464</td>
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<tr>
<td>Cytology</td>
<td>6284, 2979</td>
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<tr>
<td>General</td>
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<tr>
<td>Hematology/Coags</td>
<td>6294, 6295</td>
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<tr>
<td>Immunology/Serology</td>
<td>3911</td>
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<tr>
<td>Micro</td>
<td>6289, 6290</td>
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<td>Path Reports</td>
<td>6284</td>
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<td>Pathology</td>
<td>6300, 6299</td>
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<td>Urinalysis</td>
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### PHARMACY

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<tbody>
<tr>
<td>Inpatient Pharmacy</td>
<td>6365, 6366</td>
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<td>Outpatient Pharmacy</td>
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### GENERAL

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<th>Service</th>
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<tbody>
<tr>
<td>Admissions</td>
<td>5802</td>
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<tr>
<td>Main Hospital Number</td>
<td>215-823-5800, 800-949-1001</td>
</tr>
<tr>
<td>Nursing Home</td>
<td>4500</td>
</tr>
<tr>
<td>Social Work - Reggie</td>
<td>73-840</td>
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<tr>
<td>Social Work - Ryan</td>
<td>73-841</td>
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<tr>
<td>Supply Room</td>
<td>6222</td>
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Travel Office 5810, 2545

**OTHER VA FACILITIES**

<table>
<thead>
<tr>
<th>Facility</th>
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<tbody>
<tr>
<td>Cape May</td>
<td>(609) 989-8700</td>
</tr>
<tr>
<td>Fort Dix</td>
<td>(609) 562-2999</td>
</tr>
<tr>
<td>Willow Grove</td>
<td>(215) 823-6050</td>
</tr>
<tr>
<td>Gloucester</td>
<td>(856) 262-4140</td>
</tr>
<tr>
<td>Regional Office</td>
<td>(800) 827-1000</td>
</tr>
<tr>
<td>Vet Center Arch Street</td>
<td>(215) 627-0238</td>
</tr>
<tr>
<td>Vet Center Olney</td>
<td>(215) 627-0238</td>
</tr>
<tr>
<td>Wilkes-Barre</td>
<td>(877) 928-2621</td>
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</tbody>
</table>

**CAM Numbers**

**CLINIC:**

Perelman Center for Advanced Medicine  
3400 Civic Center Boulevard  
Philadelphia, Pennsylvania 19104  
Appointment/Scheduling - Phone (215) 349-8222  
Fax (215) 662-7620  
Nurse's emergency line is 615-5504

Lisa Hariegel 349-5900 Practice Manager  
Amanda Mastrangelo, RN, BSN 662-4886 Clinical Nurse Manager  
Rhoda Redulla, RN, MSN 662-6082 Clinical Nurse  
Petra Sullivan, RN, BSN 662-3623 Clinical Nurse  
Barbara Weaver, RN, BSN 662-6349 Clinical Nurse

**ENDOSCOPY:**

Nursing Stations:  
Main - Nurse's Station 615-5561  
Prep/ Recovery Nurse's Station 615-5590

Pathology Room 615-9973
Physiology Nurse Office 615-5563

PROCEDURE ROOMS:
  Room 70  615-5570   Room 75  615-5575
  Room 71  615-5571   Room 76  615-5576
  Room 72  615-5572   Room 77  615-5577
  Room 73  615-5573   Room 78  615-5578
  Room 74  615-5574   Room 79  615-5579

SCOPE PROCESSING:
  Decontamination  615-9970
  Reprocessing     615-9971
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