Guidelines for the Vascular Surgery Service

The UTMB House Officer Handbook

Glenn C. Hunter, M.D.
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Guidelines for the Vascular Surgery Service

I. The Service Structure

A. Faculty

1. Glenn C. Hunter  Pager 643-4857/ 124580
   Cell 409-771-4817

3. Lois Killewich  Pager 942-6302/153797
   Cell 409-771-6585

3. Lori Pounds  Pager 643-4868/ 57311
   Cell 409-771-0018
   Home 409-744-3668

B. Residents

1. Chief Resident: _______________________
2. Senior Resident: _____________________
3. Junior Resident: _____________________
4. Intern: _____________________________

The function of the chief resident is to run the vascular service and to operate. The chief will operate on all major vascular cases, with specific focus on the attending’s cases who is operating that day. The chief resident is responsible for everything that happens on the service. (S)he should be expediently informed of changes in patient condition and all matters concerning the status of the patient’s care (e.g. recommendations from consultants, results of procedures and diagnostic studies). This means that you must come down to the OR or call the room to communicate this information. Do not wait until the chief is out of a long case to inform someone that a patient is sick. (See “Faculty Notification” section). All patients should be discussed with the chief prior to making a disposition to the faculty. This includes all consults seen by the junior residents. When the chief resident is out for the day, the next highest ranking resident assumes these responsibilities. The chief should be informed of all important events occurring while (s)he was away, including complications.

The senior resident is a PGY-3 or PGY-4, who is second in command, will run the service when the chief is post call or unavailable. Operative cases not covered by the chief will be assigned to the senior resident. When the chief is on call, the senior resident must be available to manage service emergencies after 5 pm,
meaning that if a case goes late on a day that the chief is on call, the chief’s responsibility is to the trauma admissions. If this situation occurs on a day prior to the senior resident being on call, and there is risk of violating the 10 hour rule, or when then the junior resident is post call on a day that the chief is on call, the junior resident will stay to operate.

The junior resident is a PGY-2, who will be responsible for seeing ICU patients and consults. (S)he will keep a list of all consults and present them to the chief and faculty after they are seen. The junior resident will be asked to round with faculty on the consults, which may be done independently from formal evening rounds, and should be prepared to discuss these patients at any time. This means that consults should be seen every day with an update as to what is going on with the patient. The junior will also oversee the intern and assist in any problems they are having (eg. writing notes, making sure the pre-ops are complete, printing pre-op films for the OR, discharge summaries, etc.).

The intern will be responsible for all floor patients, including TDC inmates. Each patient should be briefly seen in the morning before meeting in the SICU at 06:30. Any problems overnight should be noted (eg. chest pain, fever, decreased urine output, bleeding or pus from a wound, etc) and discussed on rounds. The intern will work closely with the medical students to assimilate the information. A standard daily soap note will be written in the morning. The efficient intern will figure out how to do this as we round, so that all notes are written by the end of morning rounds. All discharges will be completed by the intern before 10 am, including a dictated discharge summary before the patient leaves. “Pending” discharge orders should be placed on P.M. rounds to facilitate am discharges.

C. Physicians Assistant

Jean Clarke. Jean attends clinics and makes rounds with the housestaff. She will assist with patient evaluations, writing referrals, prescriptions and ensuring continuity of care. She also assists in scheduling diagnostic studies.

D. Medical Students

The third year medical students will be responsible for obtaining vital signs on each floor patient (See “Vitals” sheet) and taking down dressings prior to rounds at 6:30. Any problems identified by the students should be reported to the intern (eg. fever, tachycardia, low urine output). The students will also be responsible for documenting medications and labs on the daily note. They will work closely with the intern to assimilate information so that a concise presentation can be made in the morning.

The fourth year medical students will be expected to follow SICU patients, which includes seeing them, writing a note in the morning, and presenting them on
rounds. If there are no SICU patients, the fourth year will help the third year with the floor patients.

All students are expected to scrub in the OR. If a student has been assigned to a faculty, they will scrub primarily on their cases and be expected to come to their clinic. Otherwise, cases will be assigned by the chief. You should prepare for the OR by reading about the case the night before. Be prepared to answer questions that might be asked during the case (e.g., anatomy, indications for operation, pathophysiology, etc). No student should come to work before 6 AM. All students are excused at 6 PM. It is best if you let your chief know you have to leave early for small group or lecture.

E. Ancillary Staff

1. Senior Administrative Secretary
   Cindy Hendren x 26366 Main
   x 26369 Back Door

2. Vascular Nurse
   Pager 643-4084
   Office 747-1926
   Attends all vascular clinics and takes care of out patient problems such as refilling prescriptions, and answering patient questions. She is an important person to get to know. She will help you with dressing changes in the clinic (UNNA boots, skin grafts, etc), and will help schedule out patient diagnostic studies.

3. Clinic Staff x 77357
   Diane April

4. Vascular Lab Technicians x 27373 or 24950
   This is where we order venous/ arterial duplex scans (e.g. DVT, carotid stenosis, ABI’s, etc.). Please take the time to introduce yourself to the staff. You will be working closely with them and should develop a good relationship. You are welcome to observe them if you have free time. Our lab director is Kathleen Gill, the receptionist is Velinda and the technicians are Bill, Allen and Darlene

5. Case Management: Our case manager is Arlene Josey-Allen. She can be reached at 772-4150 or pager 44964. It is VITAL that you talk with her each day and develop a plan of discharge. You will need to anticipate ahead of a discharge date things that need to be arranged. This includes possible Rehabilitation, Skilled Nursing Facility (SNF), the need for home PT/OT, long-term antibiotics etc.
II. Clinics

A. UTMB Faculty Clinics

Monday 8AM Killewich x 27451
Tuesday 9 AM Pounds x 27451
Wednesday 9 AM Hunter x 27473

B. TDCJ

Every other Wednesday Service Attending

Students, interns, and junior residents are expected to arrive to clinic promptly. Attendance is mandatory. There will be no exceptions. All residents are expected to attend clinic on Wednesday, as this is a non-operative day.

C. Off Campus Clinics

Dansforth Geriatric Clinic, Texas City Killewich
1st, 3rd, and 5th Wednesday
Contact: Jessie Seelbach (409) 948-8862

Santa Fe Killewich
Contact: (409) 927-8130

Patients seen by Dr. Killewich on these days may be admitted to the service directly from this clinic. When the patient arrives, a resident from the team (usually the intern or junior resident) will be expected to admit the patient, write an H&P and order any important diagnostic studies. The chief should be informed of the patient’s arrival, and the patient should be seen on evening rounds. If the patient comes in after the team has left for the day, the intern or junior should sign the patient out to the intern on call with the proposed treatment plan so that (s)he can complete the direct admission.

D. Clinic Notes

A new Vascular Surgery Clinic Form has been instituted. It is similar to the general surgery printed clinic form. It is focused on cardiovascular issues. It is imperative that it be filled out as completely as possible on all new patients. *It can also function as a HISTORY and PHYSICAL for the Day Surgery Unit.* Clinic notes are intended to provide an accurate representation of the physician-patient encounter. They serve valuable purpose when trying to get quick information about the patient, especially when they present to the ER with acute problems. The notes should be accurate, thorough, and legible.
Each note should have the physical exam and assessment/plan documented by the resident. Medical students may (and should) write clinic notes, but these do not substitute for a note written by a medical doctor. All pertinent labs and/or radiographs should be written in the note, as well as treatment options and recommendations. There should be a written diagnosis and signature with doctor number on each note and billing sheet.

E. Assigning Patients to the Appropriate Clinic

Service patients are assigned to the faculty who was on service when they were seen while in-house. All future follow-ups should be scheduled for that attending’s clinic. In order for this to happen, the correct information should be entered on the yellow-bordered discharge sheet for all hospital admissions and day surgeries.

III. Patient Care

A. Rounds

Work rounds begin in the SICU for the chief, senior, and junior resident, and 4th year medical students at 6 AM. All SICU patients will be seen. When the service has many SICU patients, we may not have enough time to write the notes as we go along. This can be done by the junior resident after rounds are over. The most important goal is to review vitals, the physical exam, labs and meds, and place orders as needed in a timely fashion. The SICU “Daily Goals” form will be filled out as well in order to facilitate communication between the primary team and the SICU.

Faculty rounds will be performed by the service attending for the week. They will write notes and examine wounds. The plan of care will be determined by the faculty who admitted the patient. The service faculty will also follow all consults and any clotted access patients assigned to them during the week they are the service attending.

B. The Vascular History and Physical

The admitting H&P should be timed and dated, and follow the standard outlined format, with focus on vascular related issues (ie. claudication, exercise tolerance, rest pain, impotence, TIA, amaurosis fugax, etc).

Chief Complaint: What is the patient complaining about?

History of Present Illness: Why is the patient here?
Medications: What medications is the patient on? Be exact. Call for the old chart if the patient does not have a list of them. Do not just write the names down without exact doses.

Allergies:

Past Medical History: Most vascular patients have a past history of coronary artery disease, hypertension, hyperlipidemia, diabetes, renal failure etc. All patients should be asked if and when they have had a cardiac work-up such any type of stress test (exercise, MIBI, persantine), cardiac echo, or cardiac cath. The dates and results of these studies can be found in ClinWeb, and should be documented as a part of the medical history.

Past Surgical History: All past surgeries should be documented, especially vascular procedures. Check the old charts for op notes- look for faculty post op notes which are usually hand written immediately after the procedure in the progress notes if there is any confusion. It is imperative to document specifically what bypass they had done- not just a “fem-distal” which is a generic term. Additional information (ie. PTFE, distal anastamosis in situ) can be obtained from old charts, calling the transcription services (x 21840) and having them faxed to the office (x 70966) or reviewing the shadow chart in the vascular office.

Social History: All patients should be asked about smoking, and encouraged to stop if they are actively smoking. Other behaviors such as drugs and alcohol use should be screened for.

Review of Systems:
General: Weight loss/ gain.
HEENT: Vision changes, head aches, etc.
CV: Chest pain, palpitations, dyspnea on exertion
Pulmonary: SOB, asthma, pneumonia, bronchitis. (Many of our patients have COPD, and will need PFT’s and nebulizers ordered before going to the OR- or a pulmonary consult. Please document this information).
Gastrointestinal: Changes in bowel habits, constipation or diarrhea, bloody bowel movements, gastritis, etc.
Genitourinary: Changes in bladder, dysuria, frequency of urination, impotence, eth
Endocrine: Hot, cold flashes, palpitations
Neuro: Focal or generalized dysfunction, weakness. Specifically the patient should be asked if they have had any evidence of unilateral weakness, numbness or paresthesias. Have they had amaurosis fugax or dysphasia
Psychiatric: Depression, anxiety

Physical Exam:
Temp  **BP in each arm**  HR  RR  Weight (Please do not forget this one)  
General: 
HEENT: 
- Neck: Document JVD/ carotid bruit 
CV: Document rate, rhythm and presence of murmurs 
Chest: Auscultate- Listen for basal crackles (signs of CHF or fluid overload in patients with renal failure) 
Abdomen: Listen for abdominal bruits, palpate for pulsatile masses 
Rectal: ALL vascular patients need to have a rectal examination with guaiac of the stool. It is common to administer heparin postoperatively, which can turn into a major GI bleed if they have occult gastric or colonic disease.
Extremities: Inspect for pallor, cyanosis, rubor, ulcerations, gangrene, atrophy, temperature, and varicosities. Trophic changes of PVD need to be identified (shiny thin skin, interosseous muscle atrophy, thickened toe nails, loss of hair). Palpate pulses of the carotid, radial, femoral, popliteal, dorsalis pedis, and posterior tibial pulses. A full motor and sensory examination needs to be documented, especially in cases of acute ischemia. Documentation should be as follows:

<table>
<thead>
<tr>
<th>Carotid</th>
<th>Radial</th>
<th>Fem</th>
<th>Pop</th>
<th>DP</th>
<th>PT</th>
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Where ++ = increased pulse 
N = normal pulse 
↓ = decreased pulse 
D = Doppler signal 
0 = absent pulse and signal

If the pulse is absent, the Doppler needs to be used to try to find the signal. If you cannot find it, an upper level needs to be informed.

Laboratory and Diagnostic Studies (CT, EKG)

Assessment and Plan:

C. Admitting Orders

A template for admitting orders exists for the vascular surgery service. To get there, click on “admitting orders” under Order Options, then click on “protocol” which will get you to “SVC Admit Orders Template.” Click on that followed by a click on “include.” Then click on all orders you wish to include for this admission. The template looks like this:
ADMIT TO: SVC=SVC TEAM=VASC

PRIMARY DIAGNOSIS:
SECONDARY DIAGNOSIS:
TERTIARY DIAGNOSIS:
QUARERNARY DIAGNOSIS:
ALLERGIES:

CONDITION:
DIET: LOW SALT LOW FAT/ RENAL/ ADA/ REGULAR

NSG: VITALS WITH NEURO VASCULAR CHACKS Q4H
NHO: SBP> 180 < 100/ DBP > 110 < 50
NHO: RESPS > 30 < 10
NHO: PULSE > 120 < 50/ TEMP ≥ 38.5°C/ GLUCOSE > 300

ACTIVITY:  OUT OF BED TO CHIAR TID
TURN PATIENT SIDE TO SIDE Q 2 H
PATIENT MAY SHOWER
AMBULATE TID

CATH PLACEMENT: FOLEY TO GRAVITY DRAINAGE (GD) WITH SUCTION
NG TUBE TO GRAVITY DRAINAGE (GD) WITH SUCTION

WOUNDCARE:  0.9 NS WET TO DRY DRESSINGS TID
ALWAYS KEEP GROIN INCISIONS COVERED W/ DRY 4X4 GZ
PAINT WITH BETADINE BID AND APPLY DRESSING
PANAFIL OINTMENT TO OPEN WOUND QD W/ DRY DRESSING
SILVER SULVADIAZINE CREAM 1% TO OPEN WOUND TID
ACCUZYME OINTMENT TO OPEN WOUND QD, AND APPLY DRY DRESSING

EQUIPMENT:
FOAM HEEL LIFT BOOTS TO FEET
BED CRADLE
TRAPEZE TO BEDFRAME
BEDSIDE COMMODE
WALKER TO BEDSIDE
MULTIPODIS BOOTS- PRAFO TO ? LEG. R L RITCHIE TO FIT
DYNAMIC ORTHOTIC TO ? EXTREMITY, R L RITCHIE TO FIT

DECUBITUS PREVENTION: SHEEPSKIN TO BED
GEOMATTRESS TO BED
ROHO MATTRESS TO BED
CONSULT: SKIN WOUNDCARE TEAM, C. WALSH RN, RE: SKIN CARE

ADMISSION LABS: CBC W/ DIFFERENTIAL
- SERUM WITH PIDS
- BLOOD CHEM SCREENING HOMOCYSTEINE
- BLOOD LIVER SCREENING
- URINALYSIS (UA), CLEAN CATCH/ VOIED

CARDIAC: BLOOD CARDIAC SCREENING (LIPID PANEL)
- CKMB W/ TOTAL CK
- TROPONIN I QUANTITATIVE
- LIPO PROTEIN A LEVEL
- HOMOCYSTEINE PLASMA TOTAL

COAG: PT/ aPTT
- FIBRINOGEN
- D-DIMMER QUANTITATIVE

HYPERCOAG: FACTOR V LEIDEN
- PROTEIN C (TOTAL)
- PROTEIN C (FUNCTIONAL)
- ANTI-PHOSPHOLIPID ANTIBODY
- APC-RESISTANCE
- FACTOR II DNA (PROTHROMBIN GENE MUTATION)
- ANTITHROMBIN (ANTITHROMBIN III ACTIVITY)
- ANTITHROMBIN III ANTIGEN
- HIT ASSAY

PHARM: METOPROLOL (LOPRESSOR) ?
- CLOPIDROGEL (PLAVIX) 75 MG PO QD
- BUPROPION (WELBUTRIN) 150 MG PO BID
- ATORVASTATIN (LIPITOR) 20 MG PO BID
- CYANOCOBALAMIN (VITAMIN B-12), 50 MCG PO QD
- PYRIDOXINE (VITAMIN B-6) 25 MG PO QD
- NIACIN (VITAMIN B-3) 100 MG PO QD
- THIAMINE (VITAMIN B-1) 100 MG PO QD
- ASPIRIN EC 325 MG PO QD
- NICOTINE (7MG/24H) PATCH, APPLY TO SKIN Q 24H
- NICOTINE (14MG/24H) PATCH, APPLY TO SKIN Q 24H
- NICOTINE (21MG/24H) PATCH, APPLY TO SKIN Q24H
- CILOSTAZOL (PLETAL) 100 MG PO BID; NOTE: NON-FORMULARY
- HEPARIN 25000 UNITS IN D5W 250 ML (100U.ML) _____ ML/H _____
HEPARIN-LOW MOLECULAAR (ENOXAPARIN), (LOVENOX), ? MG BID SUBCUTANEOUS
WARFARIN (COUMADIN), ? MG PO QPM
VICODEN 1-2 TABLETS PO Q 4-6H PRN PAIN

Other orders required are 12 lead EKG, chest x-ray, type and screen/ cross if patient is preop (see next section). All patients usually require a functional cardiac exam such as MIBI or DSE. This needs to be ordered early during the hospital admission. The study ordered will be determined by the responsible faculty. The decision for a cardiology evaluation will also be made by the faculty. Other cardiovascular risk labs should be ordered if the patient is new to UTMB or have not had them checked in the previous 6 months. They include a lipid panel; hemoglobin A1C level; homocysteine and lipoprotein A levels.

D. Pre-op

A copy of the OR schedule for the following week, will be e-mailed to you at the end of the preceding week, which will give the intern an idea of how many pre-ops there are to do (unless there is an add on). The following is a guide for the pre-op check list:

1. As a general rule of thumb, all preops should have a cardiac evaluation, which includes a stress test and a carotid artery duplex evaluation.
2. All vascular patients should be on prophylactic beta-blockade preoperatively unless there is a contra-indication for its use (eg. Bradycardia, severe reactive airway disease, allergy). We usually start them on 12.5 mg of metoprolol BID and increase the dose as needed. The goal is for a HR < 70. Should be commenced as soon as the surgery is scheduled.
3. All major cases need to be typed and crossed for the appropriate amount of blood to be available in the OR. Any questions about this should be deferred to the senior, chief, or faculty.
4. All vascular patients should have an order for Hibiclens shower the night before the procedure.
5. All patients undergoing abdominal procedures should have a bowel prep.
6. All patients undergoing aortic or distal revascularization procedures are to receive or 1 gm Vancomycin and 2 gm cefotaxime (claforin) on call to the OR as a one time only dose. It is the operating residents responsibility to make sure the antibiotics are administered at least one hour before the incision is made (Vancomycin must be
administered over one hour). In house patients should have an order for them to be administered on call to the OR. DSU patients should have them started at least by the time they are in the holding area.

7. Vascular studies (angiograms, CT scans) are to be requested at least the day before the OR by calling x 21110. The smart intern will request all films of posted cases one week in advance, when the OR schedule is out.

8. Standard pre-op labs: CBC, Chem 10/60, PT/PTT; liver panel

9. A recent CXR and baseline EKG

10. If the patient is having any IV contrast for a CT scan or angiogram, Mucomyst should be given 24 hours before and after the procedure (600mg po q12).

A pre-op note should be written in the chart that serves as a checklist confirming that all the data has been gathered. The note should have the following components:

- Date: The patient is preop for procedure _________.
- CBC:
  - Chem 10/60: 
  - PT/PTT:
- EKG:
- CXR:
  - T&S or T&C 2,4,6 units, or whatever
- Consent signed and on chart
- Anesthesia to evaluate patient

E. Post-ops

All vascular patients should be post-operative examination by the operating surgeon within 4 hours after the surgery. This includes a vascular check upon coming out of the OR and another check by a resident on the team within 4 hours after coming out of the OR.

F. Daily Notes

All patients will have a daily note on the chart following the standard SOAP format. Notes should be brief and to the point. If the patient is post op, the POD should be indicated. If the patient is on antibiotics, the antibiotic day should be indicated.

Faculty Notification

1. Daily Patient Care
There are three faculty members on service. Each will rotate as the in-patient service attending on a weekly basis. A new vascular patient that is admitted or seen as a consult will remain that attending’s patient even after they are off service. Each attending should be informed of their patient’s progress on a daily basis, which is usually done by the chief or senior resident. The service is at times chaotic. As a junior resident, you may be asked by the service attending to “round” without the chief or senior, who may be in the OR. It is your responsibility to communicate the decisions made on rounds to your upper levels.

The chief or resident who operated on a case should talk with the faculty the next morning to see what the plan is if it has not been discussed the day before.

2. Problems

Should there be a problem with the patient, the chief or senior on the service should be notified ASAP as well as the attending so a treatment plan can be discussed. This means that any change in the patient’s condition that will require diagnostic studies or changes in the management must be reported in a timely fashion. Should the problem happen at night while on service call, and the patient sounds “unstable” (eg. having respiratory distress, chest pain, hypotension, altered mental status, etc.), the following steps should be taken:

1. Notify the chief on call in house that you have an unstable patient
2. Get out of bed and come to the hospital
3. Notify the chief of the vascular service that there is a problem
4. Notify the attending that there is a problem
5. After you have spoken to all of the above, notify the family members of the patient that there has been a change in medical condition.

IV. The OR

A. Posting

Posting will be done by the faculty through the vascular surgery office, unless there is an emergency. In order to post an emergent case, the charge nurse in the OR needs to be called at x 75002. Anesthesia needs to be notified after that at x 75003 or pager 00777.

B. Assigning the Cases

This will be done by the chief on service or the faculty. All residents and students should read about their cases before hand. Interesting cases may be presented for further discussion during Friday conference. (see below).

Generally, the chief is with:
Monday: Glenn C. Hunter
Tuesday: Louis Killewich
Thursday: Lori Pounds
Friday: Glenn C. Hunter

V. Conference

A Vascular surgery conference is held Friday mornings on weeks when no operative cases are scheduled. This averages about once a month. It is held at 8:00 am in the Surgery Lecture Hall at McCollough 6.106. Drs. Killewich and Pounds usually facilitates this conference, but it is predominantly resident driven. An interesting case is selected and presented, including the diagnostic studies and operative intervention. This is followed by a brief discussion of the disease and didactic question and answer session. All residents and students are expected to attend.