CT/VASC

THE BASICS:

Attendings:

Vascular	CT
Donovan	**Weaver**
Chawla	Kukuy
Brookes	Vallero
Unruh	

SCHEDULE:

Mondays	Tuesdays	Wednesdays	Thursdays	Fridays
+/- cath lab +/- Weaver cases	Weaver clinic in the AM	Donovan clinic (all day) +/- Weaver cases	+/- cath lab +/- Weaver cases	+/- cath lab

LIST:

- Have students thoroughly update at end of every day and then in am
- Grey out pts we are not primary over by pressing "discharge"
    - Put Consulting team (Medicine, Neuro, etc) then DONOVAN or WEAVER under that
- Components:
    - Weight: put date of admit
    - DOB after 1st name under patient name or in place of MRN
    - HISTORY: c/f, PMH, PSH
    - MEDS: abx, AC
    - RESULTS: Cx, HA1c, Echo
    - LABS: leave blank for daily labs

CLINIC:

Donovan Clinic:

- Wednesdays, all day
- 6th Floor Surgery Clinic
- Nurse: Lisa Williams

Weaver Clinic:

- Tuesday mornings
- 4th floor Cardiology Clinic
- Nurse: Amanda

CATH LAB:

- LOCATION: at the end of the hall on 2nd floor, to the right through the double doors then first double doors to the left (have to swipe in)
    - Immediately go to sink to put bouffant on before you get yelled at
    - Or go through door at end of main hall on second floor, code 1721*, bouffants and masks available in this area
        - Can leave jacket here too
        - Is where the conference/break room is- in case attending says emet there
- LEAD: needed for everyone in room, **make sure also have thyroid shield**
    - Can use any lead that doesn't have someones name on it

PRE OP:

- Check in for outpatients: in CVRA (see below)
- Docs needed for all non-outpatient scheduled cases:

  1. Cath lab add on form (place on cath lab white board)
  2. ASA form (always class 3 or less or else requires real anesthesia consult, place in chart)
  3. Consent (procedure, place in chart)
  4. Moderate Sedation consent (light sedation for the procedure, place in chart)

CVRA- Pre op area for outpatient cath lab cases. 2nd floor, just follow the signs

- Will need to fill an ASA form (copies are in CVRA, just ask)
- Stamp and sign the H&P
- Mark side for AVFs, not needed for LE angio bc usually go in opposite groin
- Stay with patient until roll to cath lab (or have med students bird dog)

PROCEDURE:

- Pt only under light sedation so will be awake and can hear everything you say
- Prep: usually done by cath lab tech
- Need to pull gown and gloves for everyone except Donovan, keep package so RN can scan in
- Lido the area prior to introducer needle (warn pt of stick and burn)
- Small syringes: 4 cc contrast + 4 cc heparinized saline

    - Keep refilling these throughout procedure so filled ones always available
    - Donovan will state when she wants full syringe of contrast
- Large syringe- heparinized saline flushes; also keep these filled
- Floor pedal buttons:
    - Left- "spot"... tap to spot, hold to show image in real time
    - Middle- fluoro… step and hold, inject contrast quickly once screen goes white and hold until all vessels are filled with contrast, let go once starts to fade
    - Right- room lights

POST PROCEDURE:

- **Lie flat order**: "post op activity" order in Meditech, then edit comments
    - fistulograms- 1 hr
    - LE angio- 4 hrs
- Discharge:
    1. Brief dc summary doc (only need to fill out post op dx)
    2. discharge order
    3. no pain meds rx needed unless otherwise stated by Donovan

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VASCULAR:

- Aortas: Our attendings don't do surgery on arota at TUMC period. transfer to UMC (Donovan can directly accept there so no need to spend time figuring out who will accept)
- PHYSICAL EXAM: **NEED TO CHECK PULSES ALWAYS AND EVERY DAY**
    - Doppler any non-palp pulses
        - Present these as dopplerable SIGNALS not pulses (or you'll quickly be corrected)
    - LE pulses : femoral, DP, PT, +/- AT (if no DP)
    - AVF/AVG pulses: AVF, radial
        - Feel for presence of thrill in fistula
        - Also ask about steal syndrome sxs (UE numbness, pain, swelling)
        - Check grip strength in AVF extremity, or bilateral if unsure if grip normal

CONSULTS:

- Always find out if pt is on anticoag and/or antiplatelet and *why*.
- Know what all your pts are on daily as far as anticoag/platelet wise

- Always make sure the following have been ordered by any new consult:
    1. ABI and TBIs (< 0.7 ABI = limb ischemia, < 0.3 for TBI)
    2. US:
        - PAD: Arterial US of bilateral lower extremities
        - AVF/AVG- Vascular US
- Depending on the above, may need CT angio aorta w/ BLE runoff
    - Meditech order: CTA LE: CT abdomen/aorta w/runoff
- Adding on endovascular/cath lab patients requires the following:
    1. Add on form for *cath lab* (see "Shared Clinics Folder -> General Surgery -> CT/Vasc)... **place immediately on white board in cath lab**
    2. Moderate sedation consent (place in pt paper chart)
    3. Procedure consent
    4. ASA form filled w/ date of procedure (place in pt paper chart)
- OR (not cath lab) pts likely need blood consent and T&S for morning of
- Order pre op COVID for day before so doesn't hold up surgery

ED CONSULTS:

- need vascular US, if no tech in house that day then needs immediate transfer to UMC (don't admit)
    - Look at end of images for hand report written findings

******Friday pm ED consults******

- can d/c from ED if needs cath lab intervention that can wait til Monday.
- For AVF make sure:

  1. no s/s volume overload
  2. CXR w/o lot of fluid
  3. K WNL
- Plan:
    - NPO Sunday night
    - Hold eliquis/ AC on _____
    - Return to ED over the wknd if: s/s volume overload (AVF), worsening pain/ numbness in extremity (PAD)
    - Get good phone #. Will call Monday am to let them know once insurance approved vs have them come to ED again if not/approval taking too long
- Monday am:

- contact Lisa first thing, bring her pre op packet (like the ones you fill out in clinic if can find them)/ get from her and fill… nicely ask SICU RN to print stickers if not busy if find packet before Lisa arrives
- Add on to cath lab

<u>CANNULATION OF NEW AVF</u>:

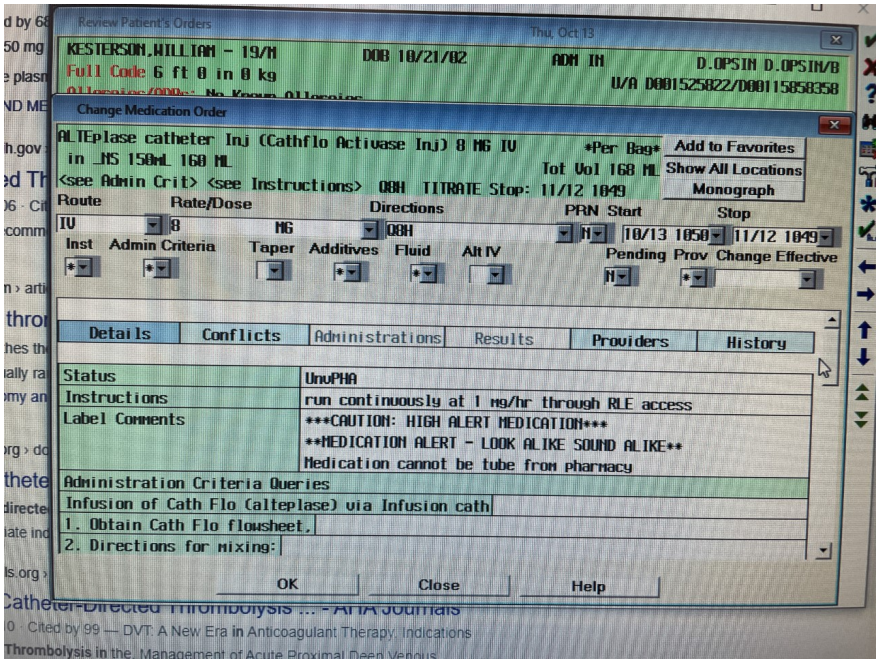
WEEK1: one needle in HD cath and one one fistula x1 week

WEEK2: 2 needles in fistula x 1 week

TEMP CVC REMOVAL TIMING: after successful completion of WEEK 2

<u>ANTICOAGULATION, HEPARIN GTT, tPA:</u>

Cath lab tPA:



- 8mg tPA in 160 mL NS @ 1 mg/ hr (or wtv rate Donovan says)

HEPARIN GTT:

- Meditech: ORDER SET —> heparin DVT/PE
  - Donovan for tPA drip: 500U flat rate through sheath, cardiac dose with bolus heparin gtt IV + tPA (see above)
  - Xa: use if it was on eliquis up until starting gtt, switch to PTT after 48hrs

PLAVIX- 300 mg loading dose, start 75 mg next day

AC for OR/ cath lab: no need to hold plavix, lvx, SQH, heparin gtt

- eliquis- needs to be held 2 days prior to surgery. Switch to lvx or SQH OR 2 doses prior to any bedside tunneled line removals (half life is 12 hrs, usually BID dosing)… see what attending prefers

LINE REMOVAL CONSULTS:

- Chart check:
    - AC: IF ON DOAC, Brillinta, Plavix… needs to be held prior to removal
    - Who placed line (IR vs Vasc), when, and why
    - Culture results
- C/f line no longer needed: donovan prefers to remove right before discharge so they don't call back for another one
- C/f Bacteremia:
    - ID: review ID recs to make sure medicines plan matches theirs
    - Nephro: Also make sure line removal okay with nephro, plans for HD while pt without access
    - Rec TEE to r/o endocarditis
- Supples:
    - Consent
    - Lac repair kit
    - Suture removal kit
    - 10 cc syringe
    - Needles:
        - 18 gauge x1
        - 25 or 28 gauge 1.5 inch x1
    - Chloraprep stick
    - Chuck pad
    - Gauze
    - Pressure/foam tape
    - Sterile gloves
    - Lidocaine w/ epi to bedside (call nurse before heading up for procedure to make sure it's arrived)
    - Post op procedure note

CT:

- STS risk score for CT surgery and put in notes for pre op planning
- TAVR consults- just need us on standby in case concert to open
- Pre op AC post op: ask cards for recs on any eliquis, brillinta, etc pt was on pre op on whether needs to be continued
- Look at daily am CXR on all post ops
- Text Amanda to set up post op follow up apts, make sure done on Friday for any anticipated wknd discharges

OR:

- HEARTS: always prep groins in case pt crashes and need more/emergent access; always prep twice; don't prep legs in CABG until pillow is placed under them. Sternal incision: running deep dermis/subQ; run it back through meat of the dermis; close on each end with small ass monocryl; exofin dressing
- CABG: make sure clips are up and loaded after sternum opened up and when doin IMA dissection

D/C INSTRUCTIONS:

- no submerging in body of water (bath, pool, lake etc) x 6 weeks
- No overhead lifting, using arms to push or pull
- No driving for 6-8 weeks (bc of risk to sternal injury if hits steering wheel)
- Use pillow or hug elbows to cough/sneeze for next 6-8 weeks

WARFARIN BRIDGING:

- all PROSTHETIC valves (looks like a circle on CXR, tissue valves look like mountains)
- Heparin gtt *OR* lvx 1mg/kg BID + warfarin (pharm to dose order) until INR 2
    - lvx works faster at gettin INR up from wat I've seen
    - tissue (bio prosthetic valve): will only need warfarin for 3-6 mo then can do monotherapy with ASA 81 daily (uptodate)…. WEAVER DOES NONE
    - INR goal: 2.5-3.5, call 988-6113 prior to discharge to set up for Coumadin clinic (see below)

POST OP:

- Let SICU know in advance so they can reserve room/ make sure have enough nursing
- Attendings will ask about PA, SVO2, CI, PA on monitors

- Will likely want blood transfusion for post op hearts w/ HCT < 30

POD 0:

- LUNGS: notice air leak (normal) post op so can let him know if improving next day
- HEARTS: Check how much is in chest tube as soon as pt arrives to SICU post op
- Cards consult on all post op hearts
- Order sets —> post op heart
- Not in set:
  - PT/OT
  - Acapella, IS, pulm toilet
- EXTUBATE
- Cardene (hearts):
  - POD 0: SBP 90- 120 POD 0-1 (enter SBP: 90-120 in the goals box under the cardene gtt order even though it's in the SBP box bc this tells this which parameter SBP vs MAP va DPB to follow) cardene vs nitroglycerin gtt
  - POD 1: advance goal to 150

*** use the same SBP parameter for all pressors too or RNs will complain and keep asking you to change

******POST OP HEARTS (VALVES, CABG)******

POD 1:

- d/c:
  1. foley (ASAP 1st thing in am)
  2. A- line (RN can do, just place order)
  3. CVC, swanz (nursing can DC CVC, we have to remove Swanz (flip switch to unlock, twist yellow cap where it meets the white tubing)… Keep swanz/cordis as long as on milronone
- SBP goal 150 on cardene (try to wean on POD1 since restarting home bp meds)
- B- blockers- restart home dose (re cards if not already on one)
- Home meds
- ASA 81 (if needed/ home med)
- Up in chair, OOB, ambulate, PT/OT

POD2:

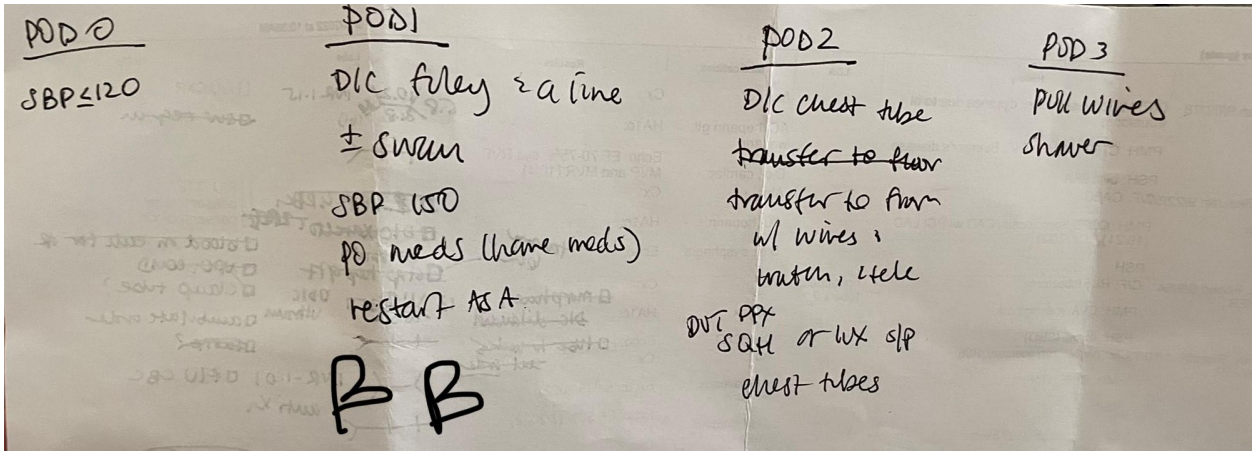
- Mediastinal drains out

- Start DVT ppx after drains out
- Step down to floor
- Warfarin on POD2

POD 3:

- Pacing wires out
- Ok to shower

CABG post op:



OBJ

AORTIC STENOSIS (AS):

- normal valve area: 3-4 cm2
- normal peak velocity 1.0 m/s

Table 1: Classification of Aortic Stenosis Severity

Severity	Valve Area (cm^2)	Maximum Aortic Velocity (m/sec)	Mean Pressure Gradient (mm Hg)
Mild	1.5-2.0	2.5-3.0	<25
Moderate	1.0-1.5	3.0-4.0	25-40
Severe	0.6-1.0	>4.0	>40
Critical	<0.6	—	—

- Severe stenosis:
    - valve area ≤1.0 cm2
    - aortic velocity ≥ 4.0 m/s
    - and/or a mean transvalvular gradient ≥40 mmHg
- stage a- at risk of AS
- stage b- progressive AS
- stage c- asymptomatic severe AS

- stage d- symptomatic severe AS

TUMC Coumadin clinic instructions:

there's a coumadin referral form in a folder next to dr. weaver's computer in his clinic. it's also probably in CT/vasc desktop folder to print. Fill it out and print h&p and med list. staple it and put it in the "referral" folder that is behind dr. weaver's computer. the nurses office is across from his desk and Sydney is the coumadin nurse that will help if you need it!

Topics to know:

- Acute mesenteric ischemia
- Carotid disease
- Signs and symptoms of acute v chronic limb ischemia
    - And workup and treatment for these
- Normal vs abnormal physical exam findings of an AVF
    - Know the potential complications associated with AVF/AVG and what to look/ask for (i.e. steal syndrome)