Cardiothoracic Anesthesia resident Checklist
Step-by-step Set-up Guide

Step 1: Check machine, Ambu bag, GlideScope, bougie, suction, the basics...

Step 2: Draw up induction agent based upon ejection fraction
- Etomidate – 10 ml (20 mg)
- Fentanyl – 10 ml (500 mg)
- Midazolam – 10 ml (10 mg)
- Propofol – 20 ml (200 mg)
- Lidocaine – 10 ml (100 mg)

Step 3: Draw up depolarizing / non-depolarizing agents
- Succinylcholine – 10 ml (200 mg)
- Rocuronium bromide – 10 ml (100 mg)
- Cisatracurium – 10 ml (20mg)

Step 4: Draw up vasoactive medications – Draw three 10 ml syringes of each
- Epinephrine 10 mcg/ml (5 ml from bag, 5 ml NS)
- NTG: 50 mcg/ml (2.5 ml from bag, 7.5 ml NS)
- Norepinephrine: 6.4 mcg/ml (1 ml from bag, 9 ml NS)
- Phenylephrine: 100 mcg/ml (10 mg in 100 ml NS bag)
- Vasopressin: 1 unit/ml (100 units in 100 ml NS bag)
- Nipride (sometimes): 50 mcg/ml (2.5 ml from bag, 7.5 ml NS)

Step 5: Draw up anticoagulation / reversal medication
- Heparin 1000 unit / ml
- Draw up based upon the following formula: Patient weight in kg x 350 (Note: Use IDEAL weight, NOT ACTUAL weight)
- Protamine 10 mg/ml – 1 ml protamine for every 1 ml heparin (1 mg for every 100 units) – Inject into a 100 ml bag of NS with a micro-dripper and place in anesthesia cart

Step 6: Setup A-line
- Have two arrows, guidewire, 5 cc of lidocaine with 23 gauge needle, bunch of 4 x 4 gauze, rolled up towel, silk tape, IV starter kit, AND the end segment of the A-line transducer line with the stopcock flushed with NS

Step 7: Turn on Echo machine
- Click Patient Data button and enter Patient Information and Study Type (Adult Echo)
- Leave Sonographer name blank; Referrer is surgeon operating

Step 8: Enter patient’s weight and height into cardiac output monitor

Step 9: Check pacer box
- Turn on pacer box, check battery, check to see if the asynchronous mode is working, turn off

Step 10: Vasoactive drips
- ASK UPPER LEVEL to show you HOW TO SET UP PRIMARY IV PLUMSET first time
- SPEAK WITH YOUR ATTENDING REGARDING WHAT DRIPS TO USE FOR THE CASE
- Pharmacy will make all the drips and put them in the Pyxis (search “CT” to open the door in the Pyxis that has the CT trays and box of drips). You will pull out the narcotics from the Pyxis yourself.
  **Exception: On Mondays, the pharmacy will make the drips that morning and have them ready @ 6:30 am. You will pick up the CT trays and narcotics from them at that time as well.
- Tranexamic acid 5000 mg / 250 ml (Bolus 30mg/kg over 30 minutes then convert to 16 mg/kg/hr in patients.
  *In patients with renal failure, starting bolus is 10-15 mg/kg then convert to 1-2 mg/kg/hr
- Amicar: 5 gm/hr (1st hour- 250 ml/hr) then 1 gm/hr (50 ml/hr)
- You will use EITHER tranexamic acid OR Amicar, NEVER BOTH. The same drug should also be communicated to the perfusionist, so they can prime their CPB circuit.
- Epinephrine: 0.01 mcg/kg/min (5 mg in 250 ml) = 20 mcg/ml
✓ With epinephrine you need to select “no drug selected” on drug library as the concentration is incorrect in the drug library
✓ Norepinephrine: 0.01mcg/kg/min (16 mg in 250 ml) = 64 mcg/ml
✓ NTG: 0.05 mcg/kg/min (50 mg in 250 ml) = 200mcg/ml
✓ With NTG you need to select “no drug selected” on drug library as the concentration is incorrect in the drug library
✓ Insulin: 1 unit/hr (100 units in 100 ml) = 1 unit/ml
✓ Vasopressin: 1-4 unit/hr (100 units in 100 ml) = 1 unit/ml
✓ Amiodarone: 450 mg/250 ml (1 mg/min)
✓ Amiodarone bolus 150 mg (vial in tray, dilute per attending preference) then start infusion
✓ Milrinone: 0.25-0.375 mcg/kg/min (20 mg in 100ml) = 200 mcg/ml
✓ Dopamine: 2 mcg/kg/min (400 mg in 250 ml) = 1600 mcg/ml
✓ Nipride: 0.05 mcg/kg/min (50 mg in 250 ml) = 200 mcg/ml

Step 11: Initiation of the case
✓ Draw an ABG, ACT, and TEG after induction. Check with CT attending before sending for TEG, because the pre-CPB TEG can be omitted in selected patients.
✓ Connect 2 temp probes – Foley (core) and nasopharyngeal. Make sure these are labeled appropriately on the monitor.
✓ Connect 2 pulse oximeters on contralateral extremities
✓ Make sure SVO2/CO/CI shows up on the Phillips monitor (or it won’t be recorded in CompuRecord)
✓ Start Amicar/tranexamic acid immediately before incision. Check with the CT attending, because in some CABG cases, antifibrinolytics may need to be started after heparin bolus.

Step 12: Intraoperative management
✓ Deepen the anesthesia and supplement with narcotics before incision
✓ Hold ventilation for sternotomy
✓ Check and document urine output hourly and while on bypass every 30 minutes.
✓ Avoid giving more than 1 l of crystalloids to the patient prebypass.
✓ If collecting autologous blood, then infuse albumin as needed.
✓ Give additional dose of relaxant, narcotic and benzodiazepine at initiation of bypass (at CT attendings’ discretion) and during rewarming (give to perfusionist to administer directly to the CPB circuit).

Step 13: TRANSPORT / END OF CASE
✓ Page your anesthesia tech for help with transport
✓ Take vasoactive drugs, Versed, fentanyl, propofol, etomidate with you for transport
✓ Use PEEP valve with Ambu bag
✓ Fill out line report before the end of case

Tips
✓ MAKE SURE—REPEAT—MAKE SURE TO BE NICE TO EVERYBODY
✓ You can scrub in the morning and then use alcohol based hand rub when it comes time to scrub for central line to save time
✓ Have patient in the room on time – CT rooms start earlier than general rooms
✓ Try doing A-line on 8 West to save time (IF YOUR ATTENDING IS OK WITH IT)
✓ Wear eye protection, or otherwise expect to face THE WRATH
✓ Give feedback to the surgeon and the CT attending whenever asked to do something. For example, “Holding ventilation” or when asked by the surgeon to give heparin, say loud and clear, “Giving heparin ……units”
✓ KNOW YOUR PATIENT FRONT AND BACK AND INSIDE AND OUT

Enjoy!
Suvikram / Mark

Authors: