

ANESTHESIA FOR ELECTROPHYSIOLOGY

Most of the cases for the anesthesia personnel for cardiac ElectroPhysiology are in the five EP labs or the twelve Cardiology Recovery Unit (CRU) bays; those are on the 8th floor of the Founders Building. (That floor also has two cath labs and a cardiac care unit (CCU).) Please arrive there by 7 a.m., so you have time to examine, evaluate, prepare, and consent patients for anesthesia who could not be seen the day before, before they are sedated. In the morning, please try to evaluate and consent patients prior to setting up the room, for the sake of lab efficiency. Try to find out the patient's left ventricular Ejection Fraction, as we tend to use etomidate rather than propofol for patients with a low E.F.

Write your name and phone number on the white board between labs 1 and 2, so you can be called when needed. The cardiac electrophysiologists have a conference at 7:15 a.m. on Founders 9 to discuss their patients, and you are encouraged to attend unless clinical obligations preclude that. On Thursdays, the anesthesia department generally has conferences starting at 6:30 a.m., so anesthesia should not start until after 8:15 a.m.

Make sure to have suction and an oxygen breathing circuit for those procedures performed outside the laboratories (such as in the CRU or Cardiac Care Unit), where no anesthesia machine is stationed. Please have the following drugs ready for each case, in addition to propofol and/or etomidate: phenylephrine, ephedrine, epinephrine, atropine, succinylcholine, lidocaine and glycopyrrolate. There is an anesthesia medication room across the hall from EP lab 1. The combination to the lock on that room is 0521. In that room, there is a Pyxis drug dispensing machine, a refrigerator, a blood gas machine, a computer, and supply storage shelves. Use that Pyxis machine to obtain medications from the refrigerator, such as bags and syringes of phenylephrine and epinephrine. Non-refrigerated medications can be obtained from Pyxis machines in the labs. (Note: The Pyxis machine for lab 4 is right outside that lab.) All medications should be signed out from Pyxis machines and properly discarded or returned when done. Call 662 2983 if Pyxis re-stocking is needed. There is a system kit in the Pyxis machines for cardioversion; this allows you to obtain medications you might need for cardioversion (or other brief procedures) from the Pyxis without having to select them individually.

The anesthesia machines in the EP labs are very compact compared to those in the O.R. We also have an anesthesia supply cart in each lab. If you're in an EP lab and can't find something you need, ask the cardiology nurse in the room or call the anesthesia technician. If you are not sure who is the anesthesia technician for EP, call the technician in charge (215-738-1320). Also call the anesthesia technician for turnover at the end of a case. If supply carts aren't stocked properly, call CDR at 662 2904. There is also a small anesthesia supply cart in the CRU. The key to unlock it is kept in the anesthesia medication room. There is also a GlideScope® in EP. There is a general supply room near EP lab 4.

Consent for anesthesia must be co-signed by a physician. The attending anesthesiologist coordinating for EP can generally be reached during the day at 215 200 6182. An attending anesthesiologist should be present for induction, anesthesia procedures such as radial a. line placement, emergence, and any other critical portions of anesthesia.

Most of our cardiac electrophysiologists now want general anesthesia with jet ventilation for ablation of atrial fibrillation. We sometimes provide general anesthesia for laser lead extractions and epicardial ablations. Patients may have conscious sedation from cardiology nurses or MAC for other ablations or defibrillator placements, though brief general anesthesia may be needed for cardioversions or defibrillator testing during those. Patients should be evaluated and consented for anesthesia, even if the plan is conscious sedation for pacemaker placement, in case they become dysphoric or uncooperative and MAC with deeper sedation is needed. Also there are procedures with anesthesia (cardioversions and NIPS) conducted in the Cardiology Recovery Unit. We occasionally are asked to help with cardiac catheterization cases. When managing the airway, remember that many EP patients are anti-coagulated.

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To enter an EP laboratory, please go through the control room, rather than through the double doors -- particularly for cases where devices are being placed and sterility is a concern. Wear a hat, mask, and lead apron into all EP labs. Aprons marked "Anesthesia" should be hung on the hooks in the anesthesia medication room. Lab 4 has a magnet, which is about one tenth as strong as an MRI scanner; keep ferromagnetic objects at least three feet away from it. If you remove patient's name and/or allergy bracelets, please make sure they get replaced.

If you use the non-electronic anesthesia record, please circle "EPL" for location. Do not forget to turn in the yellow anesthesia billing copy (in the box in the EP anesthesia workroom or outside Sandy Boyer's office on the 4th floor). Please be sure that the start time and end time, diagnosis, procedure, physical status, attending signature, and concurrency are filled out. Please be sure that the front page of the anesthesia record and of the anesthesia assessment form get on the patient's chart. The third, pink copy of the anesthesia record should be given, with legible begin and end times for anesthesia care and patient name stickers, to the EP lab nurse or placed in the EP billing bin located in each lab's control room. For procedures done in the CRU, it should be given to the nurse. In the cath lab, it should be placed in lab A.

At the end of the case, ideally the patient should be accompanied by anesthesia personnel to CRU or CCU. If you are not available for that, please fill out the form, which is not part of the medical record, so the cardiology recovery nurses have the information about the patient's anesthetic course. At least, do not leave the patient until the cardiology team is comfortable with the patient's pain control, consciousness level, and hemodynamic stability. Please discard used syringes and medications left over after each case rather than leaving them unattended or on the patient's intravenous line.

Opportunities for overtime at the end of the day for CRNA's are sometimes available in EP. Any CRNA staying late should fill out a form in the notebook in the anesthesia medication room and have it signed by an attending anesthesiologist.

I thank Ellie Stanford, CRNA, for drafting the initial version of this guide. If you have any questions or comments about your experience in EP, please let me know.

Sincerely,

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