OUMC Department of Anesthesiology

Externship Program 2014 - 2015

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Program Overview

Welcome to the OUMC Anesthesiology Externship! This program was founded to give medical students an opportunity to gain more experience in the field of Anesthesiology, interact with the residents and faculty one-on-one, and earn some money in the process. The following manual will help orient you to the program and the responsibilities it entails.

Your basic responsibilities for each shift will be to introduce yourself to the residents on call at your assigned location that night and prepare the corresponding operating rooms for emergency procedures (see pages 3, 4, 13, and 15 for more information). Along the way, you will have the opportunity to interact with the residents and get involved in the cases! The residents are very enthusiastic about teaching Externs as many of them came through the program.

Each weekday shift begins at 5:30 PM and continues until the upper-level resident dismisses you. See page 3 for details. Externs are required to work an average of one to two shifts per month in order to remain in good-standing with the program, for a total of 6 shifts per semester. Although you are more than welcome to join the residents at any time, Externs will not be required to work when rotations are not in session (e.g., holidays and breaks). However, if you sign up for a holiday shift it is your responsibility to show up or find someone to cover it.

The performance based monetary reward is $70 per weekday shift, and $145 per Saturday shift.

Keep in mind that resident and attending physicians are given the opportunity to provide feedback on your performance during shifts. Unexcused absences, substandard performance of responsibilities, or unprofessional behavior are all considered unacceptable conduct. This being said, many of the residents were Externs and are more than willing to help should you have any questions. They love when Externs act interested and want to get involved, so be proactive!

Lastly, please remember: at the heart of this program is the opportunity to influence patient care during emergent situations. Please show up on time, have pride in your work, and take advantage of this unique opportunity!

My role as Chief Extern is to help you succeed and ensure this program persists so future students may have the same opportunities we have enjoyed. Please do not hesitate to call/email if you have any questions or need help with anything during your shifts!

Melissa Jennings, Chief Extern
Cell: 405-627-3169
Melissa-Jennings@ouhsc.edu
Scheduling Overview

Weeknight Shifts (Mon-Fri): 1730 PM – 0530 AM One extern at Presby Adult OR
1730 PM – 0530 AM One extern at L&D

Weekend Shift (Saturday): 0800 AM – 1800 PM One extern covers all 3 locations
(Go from Pediatrics → L&D → Presby Adult OR)

Locations: Adult ...................... Presbyterian Tower, 2nd Floor
L&D ............................. Children’s Hospital, 4th Floor
Pediatrics ...................... Children’s Hospital, 3rd Floor

Weekday Duties: One extern is scheduled each night, Monday through Friday at both Adult and L&D. Scheduled shifts are from 1730 the scheduled evening until 0530 the following morning, although residents will typically dismiss the students before midnight. The overnight residents will typically arrive at 1900 PM and externs are expected to stay for at least a few hours with these residents. YOU SHOULD NOT LEAVE BEFORE DISMISSAL, AND SHOULD NOT BOTHER THE RESIDENTS REQUESTING DISMISSAL WHEN CASES ARE IN PROGRESS. Make yourself useful. Be proactive. Stock carts. Make extra lines. Find a way to be helpful, learn and show interest.

Shift Requests are due by the 25th of each month, on a first-come, first-served basis. Priority may be given to those who have shown dedication to the program. Final schedules will be e-mailed out by the 28th of each month.

Note: We understand that certain rotations are more challenging than others, and will be flexible around more demanding rotations (e.g., Surgery, OBGyn, etc.). When requesting shifts monthly, include a list of dates you cannot work (ex: 2, 7, 16, 29) and the maximum number of shifts you are willing to work. Also list what clinical rotation you are on. If you fail to submit your shift requests, we will assume you have no preference and will assign you as needed.

Shift Changes: If you are unavailable to work a shift, you may trade with another Extern or give shifts away. This can be done by selecting “Reply All” on the scheduling e-mail and listing the date and location of the shift in question. Remember, you must work at least one shift per month on average to remain in good standing!

***Please notify the Chief Extern of any shift changes ASAP!***

Resident Contact: As part of the program, it is your responsibility to find and introduce yourself to the residents on-call for the night at your location. This may consist of paging them, calling their cell phones, approaching them in the OR, or tracking them down in the residents’ lounge. The residents on-call are listed on the whiteboard. Pictures of residents are located outside the Supply Room near the time cards and are available on the department website by searching “OUHSC Anesthesiology Residents” or following this link: http://www.oumedicine.com/anesthesiology/academic-information/anesthesiology-residency/current-residents. Finding the residents and introducing yourself is one of your shift requirements!

New Externs: Training will consist of one mandatory teaching session and one mandatory tag-along shift with an experienced extern at Presby Adult OR (training is unpaid). Everyone will start their first three shifts at Presbyterian Adult during the week. On page 19 is the “Turnover Checklist” for you to follow during your first few shifts. At the conclusion of the 3rd shift, you will be required to complete and pass the setup checklist. You must send a picture or email of the document to the Chief Extern before you will be allowed to work any additional shifts, or be assigned to other shift locations.
**Adult OR (Presbyterian Tower, 2nd Floor)**

1. Pick up time card in front of Anesthesia Supply Room (note “cheat sheet” on back of time card). Write your name and cell phone number on the white board by the front desk.

2. Introduce yourself to each resident on-call for the evening.
   a. Check the OR Board for ongoing cases and check-in with the resident in the room. Introduce yourself and ask if they need anything.
      *Helpful Hint: if you don’t know the residents on call, slip them a note with your cell phone number and many of them will call/text you to include you in procedures!*
   b. Also check the Board for upcoming cases. Find, page, or call the resident on each case and ask them if they need help with anything. (This is an excellent opportunity to do procedures early in the evening!)

3. Turnover and setup the trauma ORs in order of priority as listed on the back of the time sheet.
   a. Turnover all rooms with emphasis on cleaning monitor lines and starting new fluid lines (see detailed instructions on the following pages).
   b. Restock equipment in machine and cart and prepare room for the next trauma case.
   c. Try to have at least 2 trauma ORs setup and ready to go before finding the residents on-call. Shifts begin at 1730 and residents come on at 1900; this gives you 1.5 hours to setup two rooms.
   d. After meeting all the residents, feel free to stay and help with cases, observe, or hang out. However, don’t forget to finish turning over the remaining OR’s before completing your shift.

4. Turning over and setting up ORs is considered the obligatory portion of the job; it is required that all rooms be setup completely and properly before you leave. That being said, this program was started so we can interact with faculty/residents and get experience with procedures. If you get busy with multiple trauma cases, you may call the Anesthesia Techs at 50821 or directly (numbers on the anesthesia machines) to request help with room setup.
   a. We have had problems in the past with students showing up, setting up rooms, and asking to leave at 8PM. Remember residents have the opportunity to provide feedback on their experiences with you.
   b. Also keep in mind that although residents enjoy working with Externs, they may not actively seek you out if they are busy. **Be proactive!**

5. Before you leave for the night, place your completed and signed time card in the basket – this is how you get paid!
Adult OR Turnover and Setup + Additional Duties

1. Discard all used equipment. Remove used drug tray(s) and place in brown drug tray cabinet located near the PACU. Check to ensure a patient sticker is on the med sheet in the tray before removing it from the room; this is how the hospital charges patients for medications used during their surgery. If there is not a sticker on the sheet, track down the patient’s chart in the PACU and get a sticker for it.
   a. Do NOT discard the following controlled medications if they are found. Leave the drugs in the OR and immediately find the resident on the case to alert them that the meds were left in the OR:
      i. Fentanyl
      ii. Midazolam
      iii. Ephedrine
      iv. Propofol
      v. Hydromorphone/Dilaudid
      vi. Morphine

2. Thoroughly clean all equipment, monitors, and lines using sanitation wipes while wearing gloves (purple or gray lid).

3. Obtain new drug tray and all equipment to be replaced in the Supply Room. Techs occasionally have trays ready to go with all the equipment needed.

4. Replace used and expired fluid lines (arterial, hot, level-1, etc.) as indicated on the time card. **Mark new lines with your initials, the date, and time** they were made as they are replaced every 24 hours. This should be in black Sharpie on silk tape stuck to the fluid bag or ar line pressure bag. A Sharpie is hanging in the tech room.
   a. OUMC has established an expiration time of 24 hours after spiking a bag of fluids. **Any line that will expire before 0700 the following morning** should be discarded and replaced.
   b. Instructional videos are available online and more information is provided below.
   c. Anesthesia Techs assemble lines in the Supply Room so you can grab them quickly for traumas. However, as part of your training you will be required to setup all new lines until you have passed the “Turnover Checklist”.

5. Place silk tape over the blue towel set up on Anesthesia machine and Anesthesia cart with date/time/initials.

6. Be sure to replenish blue towels, which can be found in the sanitation/waste disposal area of the OR.

7. Take out the red bag of trash. It goes to the same location.

8. When making your IV and Arterial line kits for the evening, please make an effort to do so in the Tech Room. If you make six of each there, supplies will not be depleted from the Trauma rooms 12-18.

9. There is a pain cart located in the room between the PACU and pre-op holding area. Please restock any indicated items.

10. Find the two sonosite machines located somewhere in the OR (could literally be anywhere) and plug them both in at the white Anesthesia board next to the Board Runner by pre-op holding area.
Presbyterian Adult Anesthesia Machine Setup, Circuits, and Lines

Presby Machine Layout (ADD green HME to circuit; NO yellow spirometry)
**Top of machine:**
- Laryngoscope (make sure it works, two if available)
- Miller 2 and 3 blades
- Mac 3 and 4 blades
- ECG pads (can place on leads)
- Esophageal temp probe
- Tongue depressor
- Oral airways x2
- Nasal tubes x2
- Nerve stimulator (check it)
- Pulse Oximetry
- Missing lubricant gel
- Towel on top with date and time

**Presby ETT:** Size 7.0, 7.5, 8.0 cuffed
**L&D ETT:** 6.0, 6.5, 7.0 cuffed
**Pediatric OR (Saturday):** See Chart

All with stylette and 10cc syringe
Presby Adult Cart Setup

One 20cc syringe with 16G needle
Two each: 10cc, 5cc, 3cc syringes, each with 18G needle
Arterial Line Kit: 2-3 arrow cath, chloraprep, 4x4 gauze, blue towel roll, tegaderm, tape
IV Line Kit: 16 & 18 guage IVs, 4x4 gauze, alcohol packages, tourniquet, tape, saline flush, optional blue cap

Return Istat machines to tech room for calibration. Bring to resident along with CD8 cartridges if requested during case.

Pictured again with time/date
Tourniquet is orange
**IV Line Kit**

- 18G & 16G IV catheters (Insyte)
- 4x4 Gauze
- Alcohol Swabs
- Tegaderm
- Silk Tape
- Tourniquet

Can include saline flush and blue cap

**Arterial Line Kit**

- Rolled-up Blue Towel
- 4x4 Gauze
- Tegaderm
- Blue Towel
- Chloraprep
- Arrow Cath x2
Hot Line Setup

When you spike your hotlines and arterial lines, you should use a Sharpie to write the time/date/initials on silk tape on the bags.

Plug hotline setup into hotline machines.
Arterial Line Setup

Be sure to:

1. Replace caps on transducer with the caps included in the set when you build arterial line.
2. Hold pressure bag upside down and remove all air when you spike.
3. Make sure switches are off when you leave arterial lines in the trauma rooms or they will leak all night.

Room 17 gets triple art line. Rooms 12, 13, 15, 18 get double art lines. No lines in 14 or 16. (See Extern Time Card Cheat Sheet).
Level-1 Setup

Please find Tech if Level 1 is running when you arrive for shift (trauma may be headed in). Do not throw away spiked bag without talking to Tech. Do not spike the bag when you set up the machine, unless a trauma is on the way.

1000cc Normal Saline  Level 1 kit  High-flow extension  Tape

Level 1 Set with high flow extension.

Step 1, step 2 etc are on box and machine for setup.
L&D (Children’s Hospital, 4th Floor)

1. Pick up time card in OB Anesthesia Library located near ORs on High Risk side.
2. Write name and cell phone number on white board in Anesthesia Library, then locate residents on duty. Introduce yourself and ask if they need anything.
   a. Be sure you also remember to check-in and work with residents on-call when they come on at 1900!
3. Turnover and Setup ORs 1, 2, and 3 for emergency C-sections.
   a. Carts:
      i. Replace used and expired drug trays. Ensure patient sticker is on used sheets. Brown cabinet is in supply room for used trays. Pick new trays that expire sooner from brown cabinet.
      ii. Restock general supplies in red carts (don’t forget fluid, blood tubing, syringes etc) and silver spinal trays (spinal needles and gloves)
      iii. Restock sterile gloves, spinal kits, and Chlorapreps
   b. Cart Setup:
      i. NS flush with 18G needle
      ii. TB syringe labeled “Morphine/Fentanyl”
      iii. 10cc syringe with 18G needle labeled “Ephedrine”
      iv. 5cc syringe with 18G needle labeled “Pitocin”
      v. 3cc syringes (x3) with 18G needle labeled “Morphine, Fentanyl, Zofran”
      vi. Art line kit and IV kit
   c. Machine: (much like Adult ORs)
      i. Laryngoscope handle (x2), Mac 2 & 3, Miller 2 & 3; ETT 6, 6.5, & 7
      ii. Nasal trumpets, oral airways, lube
      iii. Esophageal temp probe
      iv. Nerve stimulator
      v. Pulse oximeter
      vi. ECG leads on bed, BP and pulse-ox leads over monitor
4. Restock Epidural Carts (x3): one on High Risk (in room 4279 near Anes Library, code 1173*), two on Low Risk (next to Birthing Suite 14, code 1173*).
   a. Replace used and expired drug trays. Ensure patient sticker is on used sheets.
   b. Restock AAA batteries (at least two sets per cart).
   c. Restock sterile gloves, at least 3x each size in latex and latex-free.
   d. Restock general items and wide silk tape (x2).
      i. Note: you are NOT responsible for restocking spinal/epidural needles!
5. Scan all indicated items taken from stock rooms.
6. Before you leave for the night, place your completed and signed time card in the folder located in the Anesthesia Library – this is how you get paid!
L&D Cart Syringes

L&D Anesthesia Cart - don’t forget IV/art line kits!
Weekend Duties

Pediatrics (Children’s Hospital, 3rd Floor) ➔ L&D ➔ Presbyterian

1. Shift begins at 0800 AM at Pediatric OR until 1800 PM at Presby on Saturday (can stay later if cases are active).
2. Shift begins in Children’s OR. Arrive early to familiarize yourself with the Anesthesia supply room if necessary.
3. Locate the resident and attending physicians on duty, introduce yourself. On Saturdays, you will work one-on-one with the resident on duty. Only one OR will be running.
   a. There are no Anesthesia Techs on the weekends at Children’s Hospital, so you will be expected to help with all cases on Saturday. Residents really appreciate our help during Saturday shifts!
   b. There is no way to know whether there will be two cases or many more. There may be add-on cases that come while at the Pediatric OR on Saturday.
4. Once all Saturday Pediatric cases are complete and the resident dismisses you, report to L&D on the 4th floor. Locate the resident on duty and ask if they need anything.
5. Once they dismiss you, report to the Adult OR in Presby Tower and locate each resident on duty.
   a. Responsibilities at Presbyterian Adult on Saturdays are the same as weeknight shifts. Have rooms 12-18 ready for Saturday night trauma.
   b. The upper-level resident on-call Saturday night will arrive at 1500. After the upper-level resident dismisses you, place your completed time sheet in the basket.
6. SPECIAL CIRCUMSTANCE: If you are doing Pediatric OR Saturday cases non-stop ALL DAY until 1730 PM:
   a. At 1730 go to L&D on 4th floor, ask if they need anything restocked and switch out used drug trays.
   b. Get a time card from 4th floor Anesthesia Library, request signature from Pediatric or L&D resident.
   c. Go home at 1800 PM from Children’s Hospital. Do not proceed to Presby.
   d. Notify the Chief Extern, who will notify the Anesthesia Techs at Presby to prepare accordingly.
Children’s OR Setup

There are no Anesthesia Techs on the weekends at Children’s Hospital, so your role is crucial to the efficiency of Saturday morning cases at Children’s. It’s important to have a general idea of the Supply Room layout and be capable of turning over rooms quickly.

1. Machine:
   a. Clean lines between cases and lay them across bed. Do not roll up. Have ECG pads on leads. Set pulse ox & BP cuff (size for age) on top of machine.
   b. Everything you need to replace on machine is located in the OR on the wall: Pediatric and adult circuits (ask resident which to use based on age), suction tubing, red suction buckets and lids, yankauer, ECG leads, pulse oximeter
   c. Place used drug tray in the brown cabinet in the Supply Room.
   d. Lay out ETT and blades, LMA based on patient’s age/weight using chart below
   e. Refill volatile gases from supply in the brown cabinet.
   f. Resident must obtain new drug tray from Pyxis machine.

2. IV fluids:
   a. Most Pediatric cases use 500cc LR and Buretrol Infusion Sets with 100cc in the chamber. It is crucial to remove ALL air bubbles!!!
   b. You may be asked to simply attach IV line tubing to a 500cc LR bag with no Buretrol for an older child. Might also be asked to make hot line or arterial line.
   c. The majority of these supplies are in the gray cart in the room, bottom drawer, with fluid. Otherwise find in supply room.
   d. It is crucial to remove ALL air bubbles!!!

3. IV setup as shown below

<table>
<thead>
<tr>
<th>AGE</th>
<th>Formula</th>
<th>32 weeks</th>
<th>Term</th>
<th>3 mo</th>
<th>6 mo</th>
<th>12 mo</th>
<th>18 mo</th>
<th>2 yr</th>
<th>3 yr</th>
<th>5 yr</th>
<th>10 yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kg</td>
<td></td>
<td>2.0</td>
<td>3.5</td>
<td>5.0</td>
<td>6.0</td>
<td>8</td>
<td>11</td>
<td>13</td>
<td>15</td>
<td>20</td>
<td>40</td>
</tr>
<tr>
<td>ETT size (Age + 16)/4</td>
<td>2.5</td>
<td>3.0</td>
<td>3.5</td>
<td>3.5</td>
<td>4.0</td>
<td>4.5</td>
<td>4.5</td>
<td>4.5</td>
<td>5.0</td>
<td>5.5</td>
<td></td>
</tr>
<tr>
<td>ETT depth x3</td>
<td>7.5</td>
<td>9.0</td>
<td>10.5</td>
<td>10.5</td>
<td>12.0</td>
<td>13.5</td>
<td>13.5</td>
<td>13.5</td>
<td>15.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blade</td>
<td>Mil 0</td>
<td>Mil 0</td>
<td>Mil 0</td>
<td>Mil 1</td>
<td>Mil 1</td>
<td>Mil 1</td>
<td>Wis 1.5</td>
<td>Mil 1.5</td>
<td>Mil 1.5</td>
<td>Mil 1.5</td>
<td>Mil 2 Mac 2-3</td>
</tr>
<tr>
<td>LMA</td>
<td></td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1.5</td>
<td>1.5</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2.5-3</td>
<td></td>
</tr>
</tbody>
</table>
IV Setup:
Alcohol wipes
Tegaderm
4x4 gauze
Tourniquet
Silk tape (pre-tearing helps speed up cases)
IV catheters (various sizes)
Multiple saline flushes
Blue cap

It may be helpful for you to help the resident prepare syringes between cases, but dosing will vary depending on the child’s age and size. Ask resident for instructions.

500cc LR (use 1L if they’re out of .5L)
Buretrol set, discofix
Resident Teaching Award

Each quarter, Externs nominate the resident they feel has made their experience in the program the most valuable. This may include teaching you pearls of Anesthesiology, giving you hands-on experience in the OR, or just being personable and enthusiastic about answering your questions.

Five dollars from each shift's paycheck is contributed to this award. It is our way of saying thank you to the residents for making the extra effort to teach us about Anesthesiology. During your shift, if there is any resident you would like to nominate for the award, please email the Chief Extern with their name. All votes will be tallied at the end of the quarter and the winner will be chosen by majority vote.
Room Turn-over Checklist

<table>
<thead>
<tr>
<th>Item</th>
<th>Passed</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lines</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arterial Line Setup</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hot Line Setup</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level 1 Setup</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Sanitation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All leads wiped clean</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Anesthesia Machine Setup</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Laryngoscope handle x2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Miller 2 &amp; 3, Mac 3 &amp; 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Esophageal temp probe</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Tongue depressor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Oral airways x2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Nasal tubes x2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Nerve stimulator</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Pulse ox</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Lubricant gel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*ETT size 7, 7.5, 8</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Circuit Set Up</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*EKG leads on OR table</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Airway circuit near head of OR table</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Pulse Ox, temp probe &amp; blood pressure cuff loosely hung over monitor (not wrapped up)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Suctioning working</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Anesthesia Cart fully stocked</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Syringes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 x 3cc, 5cc, 10cc with 18g needles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 x 20cc with 16g needle</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Room 17: 2 x 10cc with 18g</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 x 20cc with 16 g</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Art line kit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*IV line kit</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Anesthesiology Tech name: _________________________________

Date: _________________________________
Helpful Anesthesia Mnemonics

**Anesthesia machine/room check MS MAID:**
- Monitors (EKG, SpO2, EtCO2, etc)
- Suction
- Machine check (according to ASA guidelines)
- Airway equipment (ETT, laryngoscope, oral/nasal airway)
- IV equipment
- Drugs (emergency, inductions, NMBs, etc)

**Anesthesia: quick check SOAP:**
- Suction
- Oxygen
- Airway
- Pharmacology

**5 Lead ECG placement of limb leads**
- White on the right
- Snow (white) over grass (green)
- Smoke (black) over fire (red)
- Chocolate (brown) heart

**Endotracheal intubation - diagnosis of poor bilateral breath sounds after intubation. DOPE:**
- Displaced (usually right mainstem, pyreform fossa, etc.)
- Obstruction (kinked or bitten tube, mucuous plug, etc.)
- Pneumothorax (collapsed lung)
- Esophagus

THE END!

Please never hesitate to contact the Chief Extern, Melissa Jennings at 405-627-3169 or Melissa-Jennings@ouhsc.edu