ICU daily logistics and learning the ropes

Patient Care / Specific Patient Management:

1. Sign out in both mornings and evenings should happen AT THE BEDSIDE of the patient as opposed to sitting at the desk, particularly for sick patients but better for everyone as a general rule. Grab a mobile table and your laptop and walk around and visualize the patients. You will learn much more by doing so (and will hopefully run into the nursing/ RT staff caring for the patient as well who can give you invaluable updates about the patient). ICU Attendings do this practice all the time and it is exceedingly helpful for getting to know the patients quicker and more completely, and for identifying issues (like the blood pressure of 70/30 that was normal all day and all of a sudden isn't; or the patient jumping off the bed -- all things we've found recently on walk rounds).

2. Examine your patients! Neuro exams should be performed at the bedside with both the outgoing and oncoming residents, nursing, and if available subspecialist, in patients with neurologic issues, to ensure that there are no surprises and that everyone is on the same page. Please examine your patients early (i.e. right after sign-out if possible) for both morning and evening transitions of care. Look at all of their drips so there are no surprises. Look at their ventilator and the ventilator settings. Look at the feeding pumps. This is what all of the ICU Attendings do every morning, and many things are picked up by doing this every day. Talk to your senior resident or your attending with any concerns or questions that you encounter.

3. For intubated patients, perform daily Spontaneous Awakening Trial (SAT) / Spontaneous Breathing Trial (SBT) if indicated around 0730 am See CPG.53 Analgosedation in the Intensive Care Unit on Policy Stat for more information.

4. Sedative Drips are ordered via the “PHA Adult IV Titratable Medication Neurologic” order set. There are a couple of very specific issues for these drips as below to be aware of:

a. Two drips cannot be titrated to the same parameter. If there are 2 sedative drips running at the same time for blood pressure or sedation (RASS), for example, one of those medications needs to be “Do Not Titrate”. The logic: if there are two medications titratable for one parameter, the nurse has to choose which to titrate and that is out of their scope of practice.

b. For sedative drips, there are times when physicians will ask nursing to go up higher on a particular drip rate than the nursing titration parameters allow (i.e. patient is jumping off the bed, you think they need at least 40 mcg/kg/minute of propofol but they're on the starting dose of 20 mcg/kg/minute and the titration table only allows the nurses to go up by 5 mcg/kg/minute q 10 minutes). In this scenario, there are two options for ordering this change.

i. You may "Modify" the drip rate to the desired rate so the nurse does not fall out of compliance (looking like they made a higher-than-allowed titration without an order).

ii. Nurses may also take verbal orders for this change if it an emergency change, and the nurse will then propose that order to you. Due to an unmodifiable Cerner workflow, the order will show up under “Results” which is a different place than usual orders. You will need to co-sign the order within 48 hours.

c. Sedative boluses may either be ordered by the physician (resulting in the medication being pulled from the Pixis and the patient being charged for a separate bolus medication) or given as a verbal order, administered via the pump, and needing cosignature within 48 hours in the “Results” section as above.

d. For DOUBLE STRENGTH or QUAD STRENGTH drips only: Please call the pharmacy and ask them to help you with entering the order--DO NOT try to enter it yourself by changing details of the order in Cerner.

This is a very high-risk situation for getting things wrong, and we've had some near misses and one non-miss with a concentrated norepinephrine infusion. Because it's so high risk, we want the pharmacy very involved with all aspects of ordering and monitoring. The pharmacy has a powerplan that pharmacy alone can access to help them get the ordering correct on this.

6. Note that vasoactive drips are ordered through the ""PHA Adult IV Titratable Medication Vasoactive" order set.

7. All patients with hyponatremia should have a full assessment of their hyponatremia: urine and serum osmolality, urine and serum sodium/creatinine/uric acid, urine specific gravity, TSH, cortisol and obviously volume status. After you report they are hyponatremia, you should report their volume status, osmolality, and then your assessment of the etiology.

8. Please use Stroke-specific order sets for patients with stroke/ TIA / ICH in the ICU.

9. Be aware that when families ask questions about patients' courses, even seemingly benign ones, they often come from a place of deep concern. Consistent and concordant communication between families and the medical team (residents, attendings, and specialists) is essential to maintain trust. Particularly sensitive areas include prognosis discussions, post-operative courses, and the possibility of transfer to other institutions. Certain attendings will always want to participate in conversations with families around their patients' postoperative courses. It's likely that you will find yourself asked by a patient/family to interpret a piece of information that you don't completely understand or haven't had a chance to validate with the attending/specialist. Defer by saying something like, "I know Dr. So-and-so would like to be a part of this conversation. I'm going to speak with him/her to make sure to get you the best information." The ICU attending is always available to guide these decisions and conversations as well.

10. Make sure nursing and attendings are aware of all procedures / admissions / big events like extubations. One way to ensure nursing is aware of procedures is to enforce the new consent process: please place the order to consent the patient into Cerner after you have talked to the patient about the procedure. The nurse is to witness the signature on the white consent form. Also please make sure you perform a Time Out for all procedures.

11. Be sure to be receptive to learning from nursing and respiratory therapy staff. They are all invested in your learning and have a lot to teach!

12. Attending physicians must sign out any ICU patients going to OR. Please notify the ICU Attending if you are aware of a patient going from the ICU down to the OR so that they can complete the sign out and make sure that transitions of care are optimized. ALSO any critically ill patient moving from 1 department to another (ie ER to ICU, ICU to OR, OR to ICU, ICU to IR) there will be a "Time-Out Performed" to ensure there is sign out from 1 attending to another. We will use the DALE acronym (Drugs, Airway/, Lines/access, ETC anything else pertinent). If you note the patient is about to leave the department and we are not there, please notify us, so we may call the receiving attending. If the patient is extremely unstable this sign out should be face to face; if post-op or routine it can be via phone.

Documentation/ Presentations:

1. During the week, we will have multidisciplinary rounds (MDR) at 830am prior to resident rounds, which includes presentations by the nurse, respiratory therapist, case management, PT/OT and Palliative Care. Once we had rounded on all patients in this manner, we will go through resident presentations on each patient with the plan. On weekends/holidays, nursing staff present their information first, then respiratory therapist, then resident. Consider a “one-liner” before the nurse presentation for new admissions.

2. Daily documentation and presentations must include:

a. In Neuro section: CAM-ICU if not mentioned by nurse (discuss if positive)

b. In Cardiovascular section: If patient is on hemodynamic monitoring, please include those numbers (stroke volume (SV), stroke volume variability (SVV), cardiac index (CI), cardiac output (CO))

c. In Renal or Cardiovascular sections: Daily weights, 24-hour Ins and Outs if not mentioned by nurse. Please also report the entire hospitalization fluid balance, found on the “ICU Dashboard”.

d. In Infectious Disease section: Antibiotics: start date, indication, anticipated end date

e. In Prophylaxis section: GI prophylaxis: indication, plan; DVT prophylaxis: indication, plan

f. Tubes/ Lines / Drains: location, date of insertion, indication, and plan

g. Please address the ICU checklist for each patient at the conclusion of your presentation.

3. Please…

a) listen intently to both the nursing and respiratory therapy reports, and

b) do not repeat what the nursing staff or respiratory therapy staff has said. Feel free to add things that weren't stated as needed, but we'd prefer that you dive right into the assessment and plan. Consider adding pertinent physical exam and labs to your assessment and plan by system (i.e. "Pulmonary: my lung exam had some wheezing on the right side. My plan is to continue with albuterol and incentive spirometer...")

4. If respiratory is prominent issue, consider discussing the respiratory system first to allow the RT to listen to the assessment and plan in case they cannot stay for the full presentation. Then dive into Neuro-CV-Pulm-GI-Renal-Heme-ID-Endo-MSK-Derm- FEN-Prophy-Lines-Restraints-Dispo-etc. Please run through the systems completely -- we have had presentations stopping short of F/E/N, prophylaxis, lines, and disposition unless prompted. These all need discussion daily. Try not to change this order in your presentations other than moving pulmonary to first if you'd like to have the respiratory therapist present for that discussion.

5. Residents that are not presenting are still required to help – one should be entering orders as they come up during rounds. Another resident could be updating sign out. Please make explicit plans and assign specific roles during rounds. Please be as succinct as possible especially when we are busy.

6. For complicated patients, it is strongly recommended that you write a "transfer summary" on the day of step down out of the ICU. It is exceedingly difficult for floor teams to re-create what happened in the ICU. Do not write a novel -- but the key points by organ system are very reasonable to summarize in a transfer summary. It makes writing a discharge summary so much easier for the floor team (i.e. "refer to Transfer Summary dated **/**/** for full ICU course", or the floor team can "Tag" key components by highlighting and pasting into their note.

7. Please emphasize to consultants that we would like official consults, i.e. notes in the chart

Rules / Regulations / The Ropes:

1. Do not touch the pumps/drips in the ICU. Nurses are in charge of changing anything on the pumps. Your responsibility is to change the orders where appropriate.

2. Do not touch the ventilator (outside of it being ok to touch the "O2 breath" button (100% FiO2 for 1 minute), the "Inspiratory Hold" button to allow for checking a plateau pressure, and the "Additional Values" touch screen to change to the screen with pressures at the top where Plateau Pressure pops in when the Inspiratory Hold button is held).

3. Note that ICU Attendings change from night shift to day shift at 7 am. Please call the night call Attending up until 7 am. Note the ICU Attending preferences for contact (sign at resident desk) and try to respect those preferences; move up to the next preferred contact method if you don't hear from them in a reasonable amount of time. Note that Tiger Connect is not appropriate for critical / time sensitive information – skip right to page or cell phone even if that is not the Attending's first preference.

4. On occasion when the ICU is very busy, we have to split rounds with each Attending taking a resident or two and rounding separately from the other Attending. We would ideally not like to do that, so that everyone gets the benefit of hearing about all of the ICU patients, but note that this may happen on occasion.

5. Note: the 2nd ICU Attending is only in the building for 4 hours per day, after which they sign out to the primary ICU Attending for the day. Please contact the Full Day ICU Attending after 12pm about all of the ICU patients.

6. Although we are happy to have medical students rotating on our service (and writing their own notes) this does not substitute a resident writing a note on each ICU patient every day. All medical students should be supervised by the senior family medicine residents on service.

7. As we Attending Physicians have very close contact with you through the weeks, expect that we will be giving you feedback during your weeks/ at the end of your weeks to give you guidance on where you are in your development for your level of training and hopefully to give you goals for which to strive.

8. We expect you to read the following chapters in the Green Book and if you have time the Marino Little ICU Book prior to the rotation: Ventilators, Vasopressors, Hemodynamics, and Shock.