MICU 101

[a.k.a. the things the MICU nurses really want you to know!]

Unit-Specific Information

- Assignment board is located in the corridor by the medication room.

Room #	Patient's last name	Attending	Day shift nurse	Night shift nurse

  This board will let you know which nurse is assigned to your patients, so you don't have to ask, "Who has [insert room number here]?" over and over.
- The Intubation and Difficult Airway boxes are located above the travel monitors.
- Code Carts and the Glidescope are located between rooms 540 and 541.
- The unit ultrasound is kept in the anteroom to 542.
  - This machine does not leave the 5th floor. Not even if your best friend wants to use it "just for a minute" somewhere else in the hospital.
  - It is the user's responsibility to clean the probes, make sure the cables are off the ground, and plug in the machine when finished.
- Please plug "Workstation On Wheels" into an outlet in the locked position, lock your screen when not in use, and clean all supplies/personal items when finished with rounds. **Hallways must be clear and organized for patient travels. This is a Joint Commission rule!**

Daily Orders

- Routine AM labs should be ordered during rounds. Waiting until the next day to order necessary labs is a huge imposition on the daytime nursing staff, who are just coming on duty and now have to draw blood for labs that should have been ordered the day before.
  - Not every patient needs a full battery of labs, but if you're not sure either ask the fellow or just put in the "routine" stuff.
  - Resist the temptation to modify the details on the labs. Find the one that's labeled "AM labs" in the appropriate folder on Cerner. Click it. Don't mess with the time or the date. If it's labeled "AM labs" it will be done the next morning. Changing the details messes things up. Point and click, point and click….
  - Lactic Acid and Ammonia cannot be ordered as an ADD-ON (these have to be sent down separately on ice)

- The same goes for ABGs. If you want a morning ABG, click the one that is labeled as an AM lab. Leaving all the blood gases for the daytime RRT is a good way to make enemies in the MICU. Use your common sense as to who needs an ABG. Patients on >50% FiO_2, >8 cm PEEP, APRV, on pressors, the oscillator, etc. will all likely need a morning ABG.
- The same goes for morning CXRs. Put them in the day before and click the one for "CXR in AM."

- For other diagnostic tests and medications, pay attention to the details:
    - It's hard for a ventilated patient to walk to his echocardiogram. Change it to "Portable" and make it "ASAP" or "STAT."
    - Just about anything ordered in the ICU should be put in as ASAP or STAT. Very little is "Routine."
    - If you want a patient to get a medication right away, change the Pharmacy Priority to "Now" or "STAT." Leaving it as "Routine" may delay the medication for hours.
    - Please make sure to modify the medication route in the order: e.g. PO, IV, or TUBE (if via NG, OG, PEG, etc.)
    - Capsules, extended release, and enteric coated medications cannot be crushed and flushed through NG or feeding tubes. Please modify these.

Consents and Procedures

- Consents for blood products, procedures, and anesthesia are located in a navy blue binder above travel monitors. There is also the Universal Consent form. This is the best consent to use when a patient is admitted to the ICU—go over it with the family member authorized to sign consent, and that way you don't have to call them at 0300 to get consent for a procedure. We still notify the family whenever a procedure is done, but this takes some of the headache out of it.
- Two nurses must be present to witness phone consents.
- Emergent consent must be signed by two physicians.
- If you are not signed off on a particular procedure, make sure someone is there to supervise you.
- If you are leaving something in the patient at the conclusion of the procedure, you must use full barrier precautions and sterile technique.
    - This includes central lines, chest tubes, arterial lines, and dialysis lines. If you use the ultrasound during these procedures, it must be in a sterile sheath. The only exception is endotracheal intubation.
    - Procedures where nothing is left in the patient (lumbar puncture, thoracentesis, paracentesis) can be done with aseptic precautions. When in doubt, however, gown and drape!
    - If you haven't gotten the procedure by the third attempt, you're unlikely to be successful on the fourth or fifth. Call the fellow or attending for help.
    - The nursing staff are empowered to stop the procedure if there is a breach in sterile technique or a potential safety hazard.
- A CXR must be ordered after internal jugular or subclavian central lines and endotracheal intubation to confirm placement and exclude complications (even if the attempt was unsuccessful).
- A KUB must be ordered after NGT or OGT placement.
- An "OK" order to use the central line or tube must be entered once confirmed by the MD.

Nursing and Ancillary Staff Issues

Use the Daily Goal Sheets on rounds. These are the Five Ds:

- Devices (what does the patient still need, vs. what can be removed)
- DVT prophylaxis
- Diet
- Disposition (stay vs. transfer; what's keeping the patient in the ICU)
- Discussion of other issues

Restraint Orders

- Must be ordered by a PGY-2 or higher
- Critical Airway Restraint Guidelines are an OT order for intubated or trach/ventilated patients
- Non-violent restraints must be renewed at 0000 daily

Foley Orders

- Please make sure you check the FOLEY box in the order set
- Select either "MD to manage" or "Nurse to manage." "Nurse to manage" is the usual option.

Extubation Orders

- Please place an "Extubation" order
- Order a Speech Therapy consult for post-extubation swallow study

Mobility Therapy

- Order a PT/OT consult for all patients in the MICU who are able to mobilize:
    - Not in a coma
    - Not in shock
    - Not in severe respiratory failure ($FiO2 > 60\%$, $PEEP > 10$)

Who Requires MICU Admission?

Patients diagnosed with the following should almost always be admitted to the MICU:

- Acute respiratory failure requiring mechanical ventilation or continuous BiPAP
- Hemodynamic instability
- Status asthmaticus
- Intracerebral hemorrhage of any significance (a very small hemorrhage without associated deficits may not need MICU admission)
- Acute subdural hematoma
- Subacute/chronic subdural hematoma with midline shift or if the patient is coagulopathic (INR > 1.5, Platelets < 80K)
- Acute stroke after thrombolysis or mechanical clot retrieval
- Acute stroke with significant edema or midline shift
- Status epilepticus
- Malignant hypertension associated with
  - aortic dissection
  - cardiac ischemia
  - acute pulmonary edema (not just venous congestion)
  - acute renal failure, or an increase in baseline creatinine by 50% if the baseline creatinine is > 2
  - hypertensive encephalopathy
- Hyponatremia with seizures, coma, stupor, or cerebral edema
- Diabetic ketoacidosis with a pH < 7.20
- Hyperglycemic hyperosmolar state with stupor or coma
- Acute GI bleeding with resting tachycardia or orthostatic hypotension
- Variceal hemorrhage
- Drug overdose with hemodynamic instability, respiratory compromise, stupor, or coma

These conditions do not normally require MICU admission:

- A small intracerebral hemorrhage without significant neurologic deficits or alteration of consciousness
- Subacute/chronic subdural hematoma without midline shift if the patient is not coagulopathic
- Acute stroke that isn't treated with thrombolysis or clot retrieval
- Seizures that have stopped, with a postictal state
- Hypertension (it doesn't matter what the numbers are) that is not causing end-organ damage as listed in the other column. Headache is not end-organ damage. Neither is nausea. Patients who are asymptomatic after being treated in the ED do not require admission to the MICU.
- Hyponatremia (it doesn't matter what the number is) without seizures, stupor, coma, or cerebral edema
- Diabetic ketoacidosis with a pH ≥ 7.20
- Subacute GI bleeding (melena, etc.) with stable vital signs
- Drug overdose with intact mentation and stable hemodynamics
- Sepsis without signs of end-organ hypoperfusion
- Patients with advance directives stating that they are not to be intubated, placed on vasopressors, be resuscitated, or receive other forms of intensive care—**the ICU is a place for intensive treatment, not to observe the inevitable without intervening.**

Grey Zones

There will be times when a patient does not easily fit into the aforementioned criteria. In that case, there should be discussion between the hospitalist and the MICU service. If the patient is being accepted in transfer, the best course of action is to bring the him to the ED. Once he arrives, he can be evaluated by whomever accepted him and then appropriately dispositioned. This avoids two problems—first, it ensures that the patient will be admitted to the appropriate bed after evaluation in the "staging area" of the ED. Second, it speeds the transfer process and does not require the sending physician to speak to numerous people and tell the same story several times. *Even if the receiving physician (intensivist or hospitalist) is sure that the patient will need the other's service*, he should go ahead and accept the patient for evaluation in the ED.

Example 1: A patient is transferred for neurosurgical evaluation of a subdural hemorrhage. The sending physician tells the intensivist that the patient has a headache and left arm weakness, but he is alert and his vital signs are stable. The intensivist asks that the patient be brought to the ED instead of the MICU. On arrival, the patient is found to be stable. His subdural hemorrhage is chronic, and the consulting neurosurgeon recommends burr holes in several days (but no urgent evacuation). The MICU team contacts the hospitalist, who admits the patient to the medical wards.

Example 2: The HIM physician is asked to accept a patient from an outlying ED with a sodium of 110. The sending physician says the patient is alert and has not been seizing. Recognizing that the patient may in fact be worse than described, the hospitalist asks that he be brought to the ED. When he arrives, the hospitalist notes that the patient is stuporous. A CT scan shows cerebral edema. The hospitalist contacts the MICU team, who admits the patient to MICU for hypertonic saline and close observation.

Transfers From MICU

1. Put in the orders:
    a. "Transfer From Critical Care" Powerplan
    b. "Remove From List" 80182, unless you want the Pulmonary or CCU/MSU team to keep seeing the patient. Call 434-1854 if you want the Pulmonary team to see the patient in the stepdown unit or on the floor (lung mass, respiratory reasons, tracheostomy, etc.)
    c. "Change Attending" to whomever is appropriate
    d. Transfer Medication Reconciliation

2. Do a transfer summary if the patient has been in the MICU for more than 24 hours, or if there's been a significant change in his condition

3. **For patients going to the HIM service:**
    a. In the patient's EMR, go to 'Patient Information'>>'PPR Summary'>>right click to 'Add Visit Relationship'>>put HIM-A in the last name box
    b. When the patient gets a bed assigned, use the electronic paging system in myPal to contact the hospitalist who is going to be receiving the patient
    c. Put in the "Change Attending" order with the appropriate name
    d. Be sure to make a note in the chart (either on the transfer summary, or as a separate note) saying which hospitalist you spoke with and the time. This will save you many headaches!

Rapid Response Team Calls

The MICU resident is the designated physician backup for the Rapid Response Team when they are called to see an unstable patient. The resident doesn't go to all the RRT calls, but if you are contacted by the RRT:

- Go see the patient
- Stabilize the patient
- Get the patient to the ICU, if necessary, and notify the MICU or CCU fellow
- Contact the patient's attending physician to relay the news and discuss the plan