Critical Care Resources

General ED CC Guidelines

Critical Care ED Physician Coverage

- CC is covered 24/7 by two PGY2+ residents. One handling medical patients the other managing trauma
- ED Attending Coverage is as follows
    - 7a-10a – A1 Attending
    - 10a-2pm – A2 Attending
    - 2p – 10p – CC Attending
    - 10p-1a – A2 Attending
    - 1a-7a – A1 Attending
- Please make sure you are carrying a "flip phone" as only these will receive the medcom CC calls

Rapid Response and Code Blue for ED Admission Holds:

- The CC Team should respond to any Code Blues or Rapid Responses called within the ED even if it is an admitted patient
- The ED Team should stabilize the patient (and can move to CC if necessary) however the admitting service shall remain responsible for the patient including placing non-emergent orders and facilitating transfer to a higher level of care
    - We should always "do right by the patient" first and handle any logistics once the patient has received the care they need.

CC Bump Outs

- Patients who must remain in CC: Intubated/Ventilated (besides stable chronic vents), vasopressor drips, antihypertensive drips, unstable trauma patients as above, all procedural sedations.
- Patient who can potentially be managed in the pods (following discussion with nursing): Stable BIPAP, stable drips (insulin and diltiazem), ICU/stepdown admissions
- C Pod Bump outs: Active CC patients (not admitted and ICU/Stepdown Admissions) should be bumped out to A/G Pod. Patients admitted to a floor level of care should be prioritized for C Pod or CDU (as a boarder) as appropriate. In situations of limited capacity the CC attending/resource nurse can elect to bump active patients to C Pod but they will need to be followed by the CC team or signed out to the C Pod ED Team (if C Pod is not boarding).

Condition Specific Guidelines

Airway Emergencies

- ED Manages all airways in CC unless we invite another service to assist

- Difficult airway cart (CC 6) contains supplies for fiberoptic, surgical and pediatric (or other small) airways.
- Intubating fiberoptic scopes (Glidescope brand) and disposable NP scopes (Ambu brand) are stored in the CC hallway with backups in ED supply.
- Anesthesia is a helpful resource for fiberoptic airways – can be paged overhead via page operator
- Potential surgical airways should be managed by ENT with trauma surgery as backup as they are in-house.
- Given the availability of the reserved trauma OR room it is often possible to get threatened airway cases (like epiglottitis) to the OR for definitive management quickly.

Aortic Emergencies

- Type A Aortic Dissection is cardiothoracic surgery (typically the CTICU APP followed by the attending). Please ensure secretary is paging "Cardiothoracic" not "Thoracic" Surgery
    - Admitted to CTICU under CT Surgery service
- Type B Dissection and Ruptured AAA is vascular surgery
    - Type B often admitted to CCU
- **Do not call a "code rupture"** this is called by vascular surgery to activate the OR and blood bank for an operative case but <u>does not</u> activate the vascular surgery team (since only they call it) please page the resident/attending instead.

CMO/Terminal Extubation

- The NEOB (New England Organ Bank) should be called <u>prior</u> to a change to CMO or terminal extubation. These cases often evolve quickly so it is important to remember this key step
    - We do not ever mention donation to the family – this topic should be approached by the NEOB team. If the family bring it up questions should be deferred to NEOB
    - We should call NEOB as soon as we realize case is terminal – family discussion/agreement is <u>not</u> needed
- Please involve ED palliative care if possible – they are a fantastic resource
- Terminal extubation should be done with a physician at bedside and after the initiation of palliative care medications/infusions as indicated.
    - Following extubation the patient can be moved to a more private room (often CDU) under the care of the ED CC team.
- We should make every effort to facilitate a referral to hospice (inpatient virtual hospice is an option for those too unstable to travel) but if placement cannot be secured in 2 hours the patient should be admitted as CMO status to the service most appropriate for their diagnosis.

Delivery/Pregnant Patients

- Any viable pregnant patient where there is concern for labor or delivery should be placed in CC.

- The Maternal Fetal Medicine (MFM) team should be called as soon as possible (even before arrival) at 401-430-4780. They will respond and manage the delivery and postpartum care.
- Any trauma patient with a pregnancy above the umbilicus (20+ weeks) is a level B trauma and should prompt a call to MFM
    - After trauma is ruled out the patient can be transferred (in consultation with MFM) to the W&I ED to complete their 4-hour NST
- CT Imaging in Pregnant Patients: A specific consent is not required for CT imaging of a pregnant patient given the strong benefit vs. risk argument to diagnosing dangerous pathology however a verbal risk/benefit discussion is appropriate
    - The only imaging that requires a consent is multiphase imaging of the fetus – only a GI Bleed CTA meets this criteria out of studies used in the ED.
- Emergent Delivery:
    - Any patient at risk of imminent delivery should prompt a call to Medcom to activate a "Code Delivery" which triggers calls to the NICU and MFM teams
        - NICU can be called separately at 401-430-4698 for less emergent cases
    - Any infant who is in extremis should also be called as a Pediatric Code Blue via the hospital operator which will prompt a response from the Hasbro ED team.
    - PEDI code cart is located in the G pod alcove while the Panda warmer is stored in CDU
    - Postpartum Hemorrhage medications are in CC-6 Omnicell.
        - Updated order set is in EPIC

GI Bleeds

- Unstable GI Bleeds should prompt immediate GI Consultation. Simultaneously we should work on getting them a MICU bed (it is an express admit criteria). Emergent endoscopy can be performed in ED CC (GI Team typically handles both sedation and procedure but may ask us to intubate or assist with sedation if needed for safety).
- A Blakemore setup is in the CC hallway supply tower with a backup setup in ED Supply

Procedural Sedation:

- All sedations must occur in CC and use continuous SpO2 + ETCO2 monitoring. Continuous supplemental oxygen is encouraged.
- A consent, safety timeout and procedure note should be used in every sedation
- Appropriateness for sedation and medication selection is at the sole discretion of the ED Attending
- Elective intubation to facilitate a procedure or imaging (often MRI) is permitted at the discretion of the ED Attending.

STEMI

- Any EKG concerning for STEMI or STEMI-equivalent should be discussed with the interventional cardiology attending via the STEMI pager at 401-350-7822 (PTCA). This page should be made by you personally (program it into your phone). The cardiology attending then activates the cath lab team.

1. If no answer in 5 minutes repage x1
2. If still no answer all interventional cardiologists have their call schedule and personal cell phone posted on Smartweb
3. If still no answer call express care 401-444-3000 and ask to speak to TMH interventional attending.

- Any STEMI should receive aspirin and heparin (at least the bolus). Most receive Brilinta but should discuss with cardiology first.
- Any non-STEMI cardiology concern should be routed to the appropriate service (CCU fellow vs. ICCU team) not via the interventionalist pager.

Stroke

- Activation: Any patient with neurological symptoms with an onset less than 24 hours ago should be activated as a code stroke by RN or MD. We do not differentiate TNK vs. no-TNK alerts. The ED Team should accompany the patient to CT to provide the story to the neurology team. The neurology stroke team is made up of an APP who focuses on the need for thrombectomy and a neurology resident who handles the rest of the evaluation and consult.
- Anticoagulation: Any patient on a NOAC should get an anti-Xa level sent. For patients on warfarin TNK can be considered if INR < 1.7.
- CT vs. CC: On arrival the triage nurses will perform a brief assessment of a stroke patient – any patient with a concern for airway or severe instability should be placed in CC prior to CT so that they can be stabilized.
- Hyperacute MRI: The need for hyperacute or urgent MRI shall be determined by the stroke team. Typically for an LVO with an evolving exam or a wakeup stroke.
- Bump Outs: A stroke patient can be bumped out of critical care (if otherwise appropriate) once it is determined neither TNK or a thrombectomy is indicated. Every stroke alert should be evaluated and receive a full note by the ED CC team.
- Trauma/Stroke Activations – in cases where both are indicated please use judgement on whether which should occur first – CT ELVO or secondary survey based on timeline and clinical concern.
- Admission: Post TNK and Thrombectomy patients are typically admitted to the neurology floor (Bridge 7) which can manage both frequent neuro checks and nicardipine drips. The need for NCCU (Neuro ICU) will be determined by the neurology team.

Trauma:

- Activations: If a trauma criterion is met it must be activated/upgraded to that level. ED MD and RN have discretion to activate to any level of trauma. A Trauma activation can be cancelled altogether by ED MD but not downgraded. Remember that any trauma requiring blood to maintain vital signs is a level A and any decline in GCS below 12 is a level B.
- Response: Level A – Trauma Attending within 15 minutes. Level B – Trauma Chief Resident. Level C – ED Team including ED Resident on Trauma
- Blood: Whole Blood is indicated for level A Traumas for all genders and can be ordered by Trauma Attending, Trauma Chief Resident, or ED Attending. Additional PRBCs, FFP and

Platelets are available in the CC Blood Refrigerator (backup is the OR blood refrigerator just off the elevator). Trauma Surgery can activate a DCR (Mass Transfusion) at their discretion for patients heading to the OR.

- Management: The ED Attending remains responsible for the management of all trauma patients while in ED in conjunction with trauma team.
- Trauma Patients in the ED Pods: Trauma patients should remain in trauma to facilitate rapid imaging – once imaging has been completed a trauma patient can bump out to the prime pod at the discretion of the ED Attending. Trauma patients requiring blood, ventilation (including BIPAP) or with a plan for emergent OR should remain in CC. A stable TICU admit can bump out of CC but should remain in A/G Pod. If a trauma patient is activated in a pod they should move to CC unless no further imaging or acute management is required.
- ICH: Patients transferred with a traumatic ICH or those found to have a traumatic ICH prior to placement in a room (including A Ambulance) should be activated as a level C (or higher). Patients with a GCS of 15 can remain in the pods (or be bumped out pending a repeat 6 hour CT)
- Trauma Admissions: The admission of a trauma patient to any non-surgical service should be cleared with trauma. While isolated ortho or neurosurgical trauma should go to those services trauma will often step in to avoid a medicine admission as this is tracked closely.
- Other Trauma Metrics:
    - Any suspected open fracture most received IV Abx (ancef) within 1 hour of arrival (or prehospital). If in doubt whether there is an open fracture, just give ancef.
    - Orthopedics response to a native hip dislocation or threatened limb are tracked – please ensure ortho team is told immediately if there is concern for these diagnoses
    - Neurosurgery is tracked on response to any ICH with a decreased GCS – please also inform them at time of consult
    - Our internal goal is that any trauma patient with a decreased GCS should receive a head CT in 30 minutes. If there is clinical reason for the delay, please document it.