

Non-Intensivist Physician (Non-Critical Care Physician)

As part of the surge response team for the COVID-19 pandemic, the non-intensivist physician plays a critical role in the care of the critically ill and can contribute a high level of expertise. They will be incorporated into the team early to allow for education and to gain an understanding of their role, prior to the surge. Responsibilities will be limited initially but will increase with an increasing number of patients and as resources become limited. Non-intensivist physicians will work alongside APPs, with an intensivist overseeing care. Additional members of the care team include respiratory therapy, CRNA(s), critical care nurses, and non-critical care nurses.

Typical Non-Intensivist Physician Roles¹:

- Respond to changes in patient condition
- Procedures, as credentialed (e.g. arterial line, central line)
- Help manage non-critical care medicine issues
- Physicians manage critical care issues including acute emergencies
- Document care plan

The initial expectation is that the non-intensivist physician is proficient in their typical craft, which would include basic airway management, basic hemodynamic management, cardiac and pulmonary resuscitation, and differential diagnosis. Additional responsibilities can be added with on-the-job education and may include ventilator management, metabolic support, nutritional support, electrolyte replacement, acid-base management, ICU prophylaxis, and others.

Sign Out & Rounds

Trauma - Epic Login, Department: MDS Trauma

Trauma sign-out: weekdays at 8am, Sat/Sun 830am via 215-823-7770, meeting number 5445945

Trauma rounds: begin at 9am in the TNU (5 Lime)

APP Trauma: Daria Indeck, Ashley Fenninger, Kelly Bonneville, Christina Broomell, Emily Gamble, Larissa Whitney, Ryan Ward, Alexa Maddy, Erin Cornman, Ben Dodson

APP Trauma (Per Diem): Loretta Rock, Ian Sale, Jessi Eno-Jones, Chris Lohr, Jo Ann Miller

Medicine - Epic Login, Department: MDS Pulmonary

Medicine sign-out: daily at 7am between APP/docs (no formal meeting)

Medicine rounds: begin at 8am in the ICU (6 Lime), APP mobile heartbeat #120-0567

APP Medicine: Rebecca Adams, Douglas Agard, Loretta Rock, Brendan Wood, Megan Slover

Documentation (Notes)

A systems based daily Progress Note is documented in the chart for each patient. Major systems and sections to document include:

Neurologic: delirium assessment (CAM-ICU), RASS, sedation adjustments/plan

Cardiovascular: vasopressors

Pulmonary: ventilator

Gastrointestinal/Nutrition: feeding, GI prophylaxis

Renal: electrolytes, kidney function, avoidance of nephrotoxic drugs, volume status

Endocrine: glucose control, steroids

Hematologic/Oncologic: CBC, WBC trends

Musculoskeletal/Dermatologic: mobility, PT/OT

Infectious Disease: antibiotic assessment daily, cultures

Prophylaxis: FAST HUG SAS

Disposition: level of care (ICU, downgrade), family contact (list is divided for phone calls)

Documentation (Handoff)

Trauma: click Handoff and pop-up on right side will appear, click the green “refresh” button in top right corner for information to populate with most recent, under 3rd section, free text update

Medicine: no formal handoff system at this time, UPHS rounding note coming soon

Labs/Studies

Typical daily labs include electrolytes and CBC, trend neutrophil-lymphocyte ratio

ABG for patients on ventilators, consider CXR, consider Echo for myocarditis

COVID-19 related labs: CPK, consider daily CMP (instead of electrolytes), other labs q2-3d consider D-dimer, PT/PTT, fibrinogen, ferritin/CRP/ESR, LDH, IL-6, troponin, ECG

Prevention of Complications⁴

Ventilation days: weaning protocols, minimize sedation, daily awakening, minimize NMB

Ventilator pneumonia: head of bed elevated, closed suction, HMEF changed q5-7 days

Venous embolism: pharmacologic prophylaxis (e.g. LMWH) else leg compression device

CLABSI: central line placement checklist, assess need for central line daily

CAUTI: assess need for bladder catheter daily, consider external catheter

Pressure ulcers: turn patient q2hr

ICU weakness: mobilize early, caution with steroids, avoid neuromuscular blockade if possible

GI stress ulcer: early enteral feeding, H2 blocker or PPI if risk factors for GI bleed including vent \geq 48hr, coagulopathy, CRRT, liver disease, multiple comorbidities, high SOFA score

Prophylaxis Mnemonic (FAST HUG SAS)⁵

Feeding (oral or tube feeds)

Analgesia

Sedation (minimize)

Thromboembolic (DVT prophylaxis)

Hyperactive/hypoactive delirium (ABCDE bundle)

Ulcer (gastric stress ulcer prophylaxis)

Glycemic Control (sliding scale insulin)

Stool (softener)

Activity (out of bed)

Status (code status, advance directive)

Simplified Approach To COVID-19 Care

Early intubation, early use of proning

Lung protective ventilation, watch for mucus plugging

Light sedation, early physical therapy

Avoidance of corticosteroids, unless clear indication

Fluid restrictive approach, norepinephrine as needed for hypotension

Early discontinuation of antibiotics, if low procalcitonin / negative cultures
Consider early consultation for ECMO in young and sickest patients

Education & Reference Guides

UPHS Basic Critical Care + UPHS COVID Pocket Cards + Other UPHS Guidelines

<http://www.pennmedicine.org/employee-resources> > UPHS Intranet (PennKey) > COVID-19

SCCM Guidelines (Surviving Sepsis Campaign) + Pocket Cards (Infographics)⁶

<http://www.sccm.org/SurvivingSepsisCampaign/Guidelines/COVID-19>

SCCM Training Modules (Clinical Resources Videos, including Mechanical Ventilation I/II)

<http://covid19.sccm.org/nonicu.htm>

DoD Practice Management Guide⁴

<http://tinyurl.com/DoD-Covid-Guide>

TeamSTEPPS Mobile App

<http://apps.apple.com/us/app/teamstepps/id1239893278>

<http://play.google.com/store/apps/details?id=gov.ahrq.teamstepps&hl=en>

References

- 1) SCCM FDM Course: Augmenting Critical Care Capacity During A Disaster. Accessed 03-Apr-2020. Available via www.sccm.org/disaster
- 2) American Society of Anesthesiologists. The Principles of Critical Care Medicine. Last Amended 25-Oct-2017. Accessed 03-Apr-2020. Available at www.asahq.org/standards-and-guidelines/the-principles-of-critical-care-medicine
- 3) American Society of Anesthesiologists. Guidelines for the Practice of Critical Care By Anesthesiologists. Last Affirmed 15-Oct-2014. Accessed 03-Apr-2020. Available at www.asahq.org/~media/sites/asahq/files/public/resources/standards-guidelines/guidelines-for-the-practice-of-critical-care-by-anesthesiologists.pdf
- 4) U.S. Department of Defense. COVID-19 Practice Management Guide, v1.0. Leads: Lt Col Renee I. Matos and COL Kevin K. Chung. Accessed 03-Apr-2020. Available at health.mil/Reference-Center/Technical-Documents/2020/03/24/DoD-COVID-19-Practice-Management-Guide
- 5) Nair AS, et al. FAST HUGS BID: Modified Mnemonic for Surgical Patient. *Indian J Crit Care Med.* 2017;21:713-714. PMID 29142387.
- 6) Surviving Sepsis Campaign: Guidelines on the Management of Critically Ill Adults with Coronavirus Disease 2019 (COVID-19). Accessed 03-Apr-2020. Available at sccm.org/SurvivingSepsisCampaign/Guidelines/COVID-19
- 7) Zhou F, et al. Clinical course and risk factors for mortality of adult inpatients with COVID-19 in Wuhan, China: a retrospective cohort study. *Lancet.* 2020. PMID 32171076.
- 8) Greenland JR, et al. COVID-19 Infection: Implications for Perioperative and Critical Care Physicians. *Anesthesiology.* 2020 Mar 19. PMID 32195698.
- 9) Chen X, et al. Perioperative Management of Patients Infected with the Novel Coronavirus: Recommendation from the Joint Task Force of the Chinese Society of Anesthesiology and the Chinese Association of Anesthesiologists. *Anesthesiology.* 2020 Mar 19. PMID 32195699.