BWH QUICK-REFERENCE GUIDE

COVID-19 ICU Patient Management

Version 092020.1

See also: ***Respiratory Failure*** and ***Drugs & Treatment*** guides at https://covidprotocols.org/quick-guides

Code Blue

- *Before entering room:* don full PPE
- *Before compressions:* bedsheet over face until intubated
- *Minimize personnel:* 2 compressors, code leader, code RN, anesthesiologist, RT
- Consider reversibility: > 90% COVID patients PEA/asystole

Airway Clearance

Tenacious secretions common, pulmonary toilet needed to avoid mucus plugging.

- First line: normal saline nebs, guaifenesin
- Second line: NAC, hypertonic, or dornase nebs
- Third line: mechanical clearance, *treat as AGP*
  - flutter devices (Acapella/Aerobika)
  - manual chest PT (MIE only if approved by RT)
  - bronchoscopy if other options fail

Procedures

- **Airway**: glidescope, most experienced operator, *avoid* bag valve masking if possible
- **Bronchoscopy**: *minimize providers;* if safe, perform rapidly during ventilator apneic hold to minimize aerosolization
- **Tubes, lines, drains**: perform as normal
  - **arterial lines**: consider heparinized saline if clotting
  - **NG tubes**: treat as aerosol-generating procedure (AGP)

Labs

On admission	CBC w Diff, BMP, Mag, LFTs, Trop, CPK, NT-proBNP, LDH, CRP, D-dimer, Procal, PTT/INR, Ferritin, Fibrinogen, EKG, full viral panel only if it would change management
Daily	CBC w Diff, BMP, Mag, Trop, CPK, PTT, PT, Fibrinogen
Every other day	LFTs, LDH, CRP, D-dimer, Ferritin, SCVO2, NT-proBNP; if on propofol: Triglycerides, Lipase
Twice weekly	sIL-2R

Expect: lymphopenia, mild thrombocytopenia, elevated CRP/LDH/D-dimer, mildly elevated AST/ALT (if severe, consult hematology or GI)

Imaging

- CXR on admission or PRN for change; avoid daily CXR
- *Do not order* routine CT Chest; obtain only for alternate concerns (eg, abscess, empyema, PE)

Shock Management

CYTOKINE STORM SYNDROME

SUSPECT IF: *escalating O2, shock, myocardial dysfunction*

- CRP >50 mg/L and at least two of…
  - Ferritin >500 ng/mL
  - LDH >300 U/L
  - D-dimer >1000 ng/mL (r/o VTE)
- Other markers: neutrophilia, lymphopenia, elevated LFT and ESR, DIC markers (TCP, falling fibrinogen, prolonged PT/PTT). sIL2R (sCD25), IL-6

MANAGEMENT

- **Corticosteroids** (see *Drugs & Treatment* guide for doses)
- **Work up for bacterial co-infection**; consult Rheum and Pulm for consideration of Anti IL-6 or Anti IL-1 agents

SEPSIS

- **Norepinephrine** for goal MAP >65
- **Conservative fluid management**: use 250–500 cc boluses with dynamic measures of responsiveness (delta CVP >2, delta MAP or pressors, PPV, SLR)

CARDIOGENIC SHOCK

- **Norepinephrine** gtt for goal MAP 65–75, SVR 800–1000
- **Diuretic** for goal CVP 6–14, PCWP 12–18, PAD 20–25
- **Dobutamine** gtt for SCvO2 < 60%, CI < 2.2
  - start at 2 mcg/kg/min
  - up-titrate by 1–2 mcg/kg/min every 30–60 mins
  - call Cardiology and ECMO if dose exceeds 5 mcg/kg/min

Support Teams

- Airway: p11668 (if STAT, p26555)
- ECMO: p35010
- Infection Control: p11482
- Medicine Bedside Procedure Service: p38552
- Palliative team: p42200
- COVID clinical questions: ID team following, or p39634
- COVID flag management: p39635
- COVID Nurse Administrator: p39284