

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

## Code Blue

- *Before entering room:* don full PPE
- *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/FBC w Diff, BMP, Mag, LFTs, Trop, CPK, NT-proBNP, LDH, CRP, D-dimer, Procal, PT/INR/PTT, Ferritin, Fibrinogen, sIL-2R, IL-6
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Daily	CBC/FBC w Diff, BMP, Mag
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Every other day	LFTs, LDH, CRP, D-dimer, PT/INR/PTT, Ferritin, Fibrinogen, NT-proBNP; <ul style="list-style-type: none"> <li>• if on propofol: Triglycerides, Lipase</li> <li>• if heart failure: ScvO<sub>2</sub></li> </ul>
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- 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 O<sub>2</sub>, 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 SCvO<sub>2</sub> < 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