**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**

<table>
<thead>
<tr>
<th>Test</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBC/FBC w Diff, BMP, Mag, LFTs, Trop, CPK, NT-proBNP, LDH, CRP, D-dimer, Procal, PT/INR/PTT, Ferritin, Fibrinogen, sIL2R, IL-6</td>
<td>On admission</td>
</tr>
<tr>
<td>CBC/FBC w Diff, BMP, Mag</td>
<td>Daily</td>
</tr>
<tr>
<td>LFTs, LDH, CRP, D-dimer, PT/INR/PTT, Ferritin, Fibrinogen, NT-proBNP; if on propofol: Triglycerides, Lipase if heart failure: ScvO2</td>
<td>Every other day</td>
</tr>
</tbody>
</table>

- 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-titrated by 1–2 mcg/kg/min every 30–60 mins
    - call Cardiology and ECMO if dose exceeds 5 mcg/kg/min

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