

New COVID Patient Checklist

- Admission > Ord Rec-Sign or Transfer tab > Ord Reconciliation
- Continue outstanding labs, DC most insulin/nursing orders (different from ICU version), decide whether to continue existing medication orders
- Reconcile home medications: if a transfer from floor, confirm that reconciliation was accurate
- Order Sets: General Adult Critical Care Admission – SICU
 - Unclick admission order
 - Full code unless known DNAR (discuss w/patient or family ASAP and document)
 - ~NPO, consider diet if not intubated and status improving
 - I/O every 1 hour
 - Weigh patient daily
 - Continue Foley or insert Foley catheter if intubated
 - No chest physiotherapy or incentive spirometry until COVID ruled out
 - Appropriate oxygen device orders
 - If intubated, make sure tidal volume (Vt) is <6mL/kg ideal body weight (IBW). Usually the starting volume will be too high
 - Unclick PT and OT orders (none for COVID patients/rule-outs)
 - Low-end maintenance fluid until on tube feeds (unless suspect hypervolemia)
 - Scheduled Q6H MDI albuterol if not intubated, Q12H Duo-Nebs if intubated
 - Q12H IV Pepcid if intubated, some staff may have you DC once on tube feeds at goal
 - Initiate glycemic protocol
 - Q2H POC glucose checks while NPO (change to ACHS if tolerating diet, Q4H if tube feeds at goal)
 - Consider hemoglobin A1C
 - Nutrition consult for tube feeds if intubated
 - SICU insulin infusion: sensitive only if Cr >2 or kidney/liver transplant patient, otherwise surgical standard insulin infusion
 - VTE prophylaxis: SCD's and Lovenox 40 mg daily unless contraindicated. Lovenox 30 if Cr moderately elevated, Heparin Q8H if severely elevated or worsening AKI
 - Initiate electrolyte protocol unless Cr >2 or rapidly worsening AKI
 - Initiate bowel protocol unless contraindicated or on an established regimen
- Manual orders:
 - Droplet plus isolation
 - If intubated, PAD protocol, ~with propofol gtt and fentanyl PRN
 - EKG (attention to QTc)
 - If not collected yet: Influenza A & B, COVID-19, IL-6, DIC panel
 - If none recent: BMP, CBC w/diff, ionized Ca, Mg, Phos, ferritin, CRP, CPK, LDH, LFT's, triglyceride
- Miscellaneous:
 - consent for arterial line, central line, and blood products from patient or family
 - place arterial line
 - place triple lumen central line if intubated
- Initial COVID treatment
 - Hydroxychloroquine (Plaquenil) 400 mg BID for 2 doses, then 200 mg BID for 4 days
 - QTc >500 is an absolute contraindication
 - 1 mg/kg elemental zinc daily while on Plaquenil (50 mg elemental zinc per 220 mg ZnSO4 tablet)
 - Daily EKG for QTc while on Plaquenil, ask nurse to put real-time QTc on monitor
 - If intubated, PaO2/FiO2 ratio <200, and influenza negative: Solu-Medrol 1 mg/kg in 2 divided doses daily for 3 days
 - Course may be repeated or extended if needed, discuss with ID
 - Consider azithromycin 500 mg daily for 1 day, then 250 mg daily for 4 days
 - Contraindicated if existing heart disease, QTc >450 (men) or >470 (women), caution in severe liver disease

Day Team Checklist

- Progress note or H&P
- Midnight labs & EKG
- Call family contact, document person contacted, phone number, time, and what was discussed in general or progress note
- Update hospital course
- Update team comm

Night Team Checklist

- Early shift: Sign out, round with fellow/attending, make sure everyone stable
- Shortly after midnight: review MN lytes & ABG for all patients. Manually replete lytes in patients not on protocol (~AKI/CKD). Consider vent changes if needed to correct problems, discuss first with attending/fellow
- Morning: assign patients to yourself and day team. You will present all new patients. If no new patients, choose an equitable number of old patients, preferably any that had major acute events. Try to have draft progress notes ready before rounds.
- After rounds: sign your progress notes, call your families and document as per day team checklist

Transferring Patients Out Checklist

- Place transfer order (service: ~internal medicine, level of care: ~acute unless to MICU, discharge date: choose an estimate, bed request comments: ~COVID GPU or non-COVID medical GPU depending on test results)
- Update hospital course
- Update problem list assessment & plans
- Transfer tab > transfer notes > create note
- Call report to covering senior once bed assigned (can ask operator for number)

One-Time Labs Checklist

- IL-6
- DIC panel
- G6PD (if using Plaquenil)
- Zinc level

Every 48 Hours Checklist

- Troponin
- D-dimer

Daily Labs Checklist

- EKG
- BMP
- CBC w/diff
- iCal
- Mg
- Phos
- CRP
- CPK
- Ferritin
- LDH
- LFT's
- Triglycerides

Presenting Patients

-If patient admitted to SICU for >24 hours, RN will usually present most of the subjective/objective. Be prepared to give the whole presentation if needed.

-Similar to floor SOAP presentations, with the following exceptions:

Opening one-liner: include hospital LOS, presenting symptoms, COVID status

Physical exam: include vent settings

Labs: include COVID labs with trends, include vent setting at time of ABG collection

Plan: present plan by head-to-toe systems rather than problems. A typical list includes neuro/pain/sedation, cardiovascular, pulmonary, GI, GU, ID, Endocrine, Heme, Lytes, Fluid, and DVT prophylaxis.

Notes on Plans by System

Neuro/Pain/Sedation:

-PRN acetaminophen unless contraindicated

-Common initial sedation on vent is PAD protocol with propofol gtt & fentanyl PRN. Some staff like to start with fentanyl gtt.

-Precedex gtt can be helpful if patient is severely agitated or not tolerating propofol (e.g., hypotensive)

-Consider Seroquel or Zyprexa if QTc normal, monitor QTc daily

Cardiovascular:

-Continue statins unless contraindicated

-Consider holding ASA if for primary prevention only (anecdotal evidence of NSAID's causing harm in COVID)

Pulmonary:

-Have a specific plan for weaning vent settings or continuing at current settings

-Know what day of COVID treatments patient is on (e.g., day 4/5 of Plaquenil)

-Consider diuresis if not contraindicated, consider bedside IVC ultrasound if volume status unclear

-Consider special interventions (proning, tocilizumab, repeat steroids, APRV if PIP/plateau high) if not making progress on vent

-No daily CXR unless there is a specific indication or patient needs a portable X-ray for something else (e.g., KUB)

GI:

-Include diet and bowel regimen

-If intubated, start tube feeds with vital AF 1.2 with goal 50 mL/hr pending nutrition consult recs or you can calculate estimated requirements. Can switch to Glucerna if diabetic and blood sugars become a problem, NPO if prone

-Consider H2B or PPI if intubated (variable by attending). Switch to enteral (e.g., Nexium) if NG/OG in place

GU:

-Foley at time of intubation. If not diuresing, consider condom cath/Purewick

ID:

-Most people have been folding this into pulmonary under the circumstances

Endo:

-SICU glycemic protocol

-NPO: insulin gtt & Q2H POC glucose checks

-Tube feeds at goal: SSI & Q4H POC glucose checks

-Tolerating a diet: SSI & ACHS POC glucose checks

-Requiring long-acting insulin: Use caution as patients are typically on or recently finished steroid course. Consider starting at 0.1 units/kg Lantus (max 10 units). Consider titrating by 10-20-30 rule (increase total daily insulin by 10% per day if glucose 180-200, 20% if 200-300, 30% if >300.)

Heme:

-Daily CBC w/differential

Lytes:

-Maintain Mg >2 and K >4 if on Plaquenil and/or azithromycin or other risk factors for arrhythmias

-Electrolyte protocol if Cr <2, otherwise replete manually

DVT prophylaxis:

-SCD's, 40 mg Lovenox daily unless contraindicated or renal failure (may require Lovenox 30 or heparin depending on severity or presence of worsening AKI)

Vent Modes for COVID Patients

Volume-control: vent settings are typically reported as tidal volume (Vt) / RR / FiO2 / PEEP

Vt: ensure that this is ≤ 6 mL/kg ideal body weight (IBW)

RR: usually starts at ~ 14 and adjust by PaCO2, patient may breathe faster than set rate

FiO2: usually this is weaned first before PEEP. Target is variable by attending, usually 40-50%

PEEP: intubated COVID patients usually require high PEEP (10-20's) at first. Once FiO2 at target, wean by 2 mmHg at a time and check an ABG a few hours later

Pressure-control: a few attendings may prefer this mode. Pressure support is set instead of tidal volume. Must monitor tidal volumes to ensure not >6 mL/kg IBW. Weaning otherwise similar to volume control.

APRV: typically used for patients with refractory hypoxemia and high peak inspiratory pressures (PIP) and plateau pressures (can ask RT to get plateau pressure for you, often impossible due to tachypnea). If both are high, the patient has poor lung compliance ("stiff lung"). Ask for a copy of the APRV weaning protocol for guidance on weaning, common starting settings are listed below.

FiO2: wean to $\sim 40-50\%$ per attending preference

P high: Start slightly below plateau pressure (or failing that, PIP)

PEEP (P low): ~ 5 mmHg

T high: ~ 5 s to start

T low: ~ 0.5 s to start

Basic Vent Tips

-Do NOT make any major vent changes without discussing with a fellow or attending

-PaCO2 is too high: make sure patient is not baseline hypercapnic (e.g., bad COPD). First increase tidal volume to 6 mL/kg IBW if too low, then consider increasing respiratory rate

-SpO2 is persistently <88%: discuss with attending/fellow. Consider giving patient some time to recover (up to 30 min) if sat $>80\%$ and hemodynamically stable. Can increase FiO2 or PEEP if not improving.

-PaO2 is <55-60 mmHg: consider increasing PEEP or FiO2 after discussion with attending/fellow

-Not making progress on vent: consider proning and/or repeating course of Solu-Medrol. If inflammatory markers are trending up dramatically, talk to ID about tocilizumab. If peak and plateau pressures are high (near 30), consider APRV.