

General Medicine COVID-19 Quick Guide

Note: The recommendations in this guide are meant to serve as treatment guidelines for use at the UVM Medical Center. Other UVM Health Network facilities should consider adopting to the extent possible, based on local policies and practice standards. These guidelines should not replace a provider's professional medical advice based on clinical judgement.

Clinical Presentation¹

Fever: 44-94%	Fatigue: 32%	GI Symptoms: 4-9%
Non-productive cough: 68-83%	Headache: 14%	Weakness: 8%
Myalgia: 11%	Nasal Congestion: 5-25%	Anosmia: Unclear prevalence
Shortness of breath: 19-40%	Pharyngitis: 14-61%	

Initial Evaluation²

- Labs:
 - CMP, CBC with diff, D-dimer, CK, troponin, CRP, LDH, Ferritin, consider sputum cultures
 - Characteristic findings: Lymphopenia, mild hepatocellular injury pattern of elevated LFTs, anemia, mild thrombocytopenia. Elevated: D-dimer, CK, LDH, CRP, and Ferritin
- Imaging: Lung Ultrasound or portable CXR should be done on all potential COVID-19 patients.
 - XR: Bilateral alveolar or interstitial infiltrates are common (can mimic pulmonary edema)
 - POCUS: diffuse B-lines or focal B-lines interspersed with A-lines in one field
- EKG as clinically indicated (not mandatory in all COVID patients)

Clinical Course

- Hospital admission typically 7 days after fever/cough onset, followed by SOB and possible ARDS over next 2-3 days
- Late complications include cardiac injury, kidney injury and secondary infection

Admission Triage - Consider ICU and/or critical care consultation for:

- Persistent respiratory rate > 30 (adults)
- FiO₂ > 0.50 (anything over 6 liters NC)
- Rapid escalation in O₂ requirements regardless of absolute requirement
- Persistent hypotension

Infection Control - Staff should be trained on appropriate PPE and safe donning and doffing.

- Aerosolizing procedures (see [UVMMC COVID-19 AGP](#)) should be done in a negative pressure room if available; staff should maintain airborne precautions (fit tested N95 or PAPR).
- Patients should wear a procedural mask during transport and when caregivers are in the room.
- Limit duration and frequency of nonessential direct patient contact; use video conferencing or telephone when feasible.
- Mitigate risk of fomite transmission through judicious use of stethoscopes – only use if findings will change management.
- Sensitivity of COVID testing depends on a number of factors. In patients with a high pretest clinical suspicion and a negative initial nasopharyngeal swab, maintain precautions and re-test (sputum is preferable) and/or consult ID.

Management of the Hospitalized Patient

- Monitoring
 - Continuous pulse oximetry for patients on oxygen
 - Telemetry when on \geq 6 lpm NC or if needed for other indications (no specific indication for COVID-19)
 - Labs: Daily BMP, LFTs if elevated on admission, serum glucose
- Therapeutics
 - Should be considered for any hospitalized COVID-19 patient with an **O₂ sat < 94%**. Refer to the [UVMMC COVID-19 Therapeutic Algorithm](#) for further details.
 - Remdesivir (requires ID consultation)
 - Tocilizumab and Baricitinib (requires rheumatology consultation)
 - Steroids: recommended by IDSA guidelines for any patient requiring supplemental oxygen.
 - Dexamethasone 6mg po or IV daily x for up to 10 days, or until hospital discharge, whichever comes first
 - Other steroids may be substituted if needed due to medication shortages (consult pharmacy)

General Medicine COVID-19 Quick Guide

- Anticoagulation: COVID-19 patients should be considered high risk for VTE
 - Start on prophylactic dose anticoagulation if not contraindicated.
 - Maintain high clinical suspicion for hematologic abnormalities such as VTE and DIC; low threshold for hematology consultation.
- Potentially harmful:
 - Consider holding Thiazolidinediones (i.e. pioglitazone).
 - Avoid nephrotoxic medications such as NSAIDs. Consider holding prior to admission ACEI/ARBs.

Supportive Care

- Goals of care: Patients can develop rapidly escalating oxygen requirements and prognosis of intubated patients is poor.
 - Involve family/support person if possible via conference call/video conference to help clarify goals of care.
- Medications:
 - PRN or scheduled acetaminophen q6h
 - melatonin QHS⁵
- Fluid management: Patients are believed to be sensitive to even mild volume overload. Consider early ICU consultation/pressors for hypotension rather than multiple fluid boluses. Try to maintain euvolemia while taking into account insensible losses from fever and hyperventilation.
- Respiratory: Goal SpO2 90-96%.
 - Consult critical care if requiring more than 6L NC or oxygen requirement is rapidly increasing.
 - If patient is DNI: escalate non-invasive FiO2 (Hudson NC, oxymizer and HFNC/NIV if in negative pressure room).
 - Awake Prone Positioning: Encourage patient to self-reposition every 2 hours between left lateral recumbent, right lateral recumbent, sitting upright 60-90 degrees and prone as tolerated. Discontinue if oxygen saturation decreases with new position.⁶ Educate nurses on the rationale behind this directive to help with adherence.
- Avoid common complications of hospitalized patients such as delirium and falls: employ current protocols while trying to limit staff exposure to patient as possible for infection control.

Disposition

- Discharge criteria: based on CDC guidelines
 - Resolution of fever >72 hours without antipyretics
 - Improvement in illness signs and symptoms (cough, SOB, and oxygen requirement)
 - At least 7 days from symptom onset
 - Assess prior to discharge if patient is appropriate for post-discharge prophylactic anticoagulation
- Discharge needs and plan.¹ Work with CM/SW to complete the following:
 - Confirm working contact number for patient and primary support person
 - Confirm discharge location: private room, can adhere to isolation, no risk of transmission to immunocompromised members of the home. Work with CM/SW on hospital/state sponsored alternatives if home is not a safe option
 - Confirm ability to manage ADL/iADLs (likely unable to get inpatient PT evaluation)
 - Confirm that patient has resources to receive 1-2 weeks of food and other supplies
 - Perform DME needs assessment (including home O2 if needed)
 - Discharge medications/supplies: 30-day supply of medications, procedure mask for patient to wear home
 - Transportation: verify patient has a ride by private vehicle or arrange safe transportation
 - Discharge instructions
 - Counsel patient on home isolation and use Epic Smart Phrase .COVIDDISCHARGE in "Message to Pt" section of discharge navigator
 - Add Patient education information to After Visit Summary by adding COVID: ISOLATION topic to "Clinical References" section of discharge navigator
 - Ambulatory follow-up plan: verify PCP and provide warm handoff via phone, document in discharge summary

References

1. Brigham and Women's Hospital COVID-19 Clinical Guidelines. <https://covidprotocols.org>. Accessed 4/4/20
2. Farkas, J. Internet Book of Critical Care: COVID-19. <https://emcrit.org/ibcc/covid19>. Accessed 4/5/20
3. Huang, C., et al. (2020). "Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China." *Lancet* 395(10223): 497-506.
4. Arentz, M, et al. "Characteristics and outcomes of 21 critically ill patients with COVID-19 in Washington State." *JAMA* (2020).
5. Zhang, Rui, et al. "COVID-19: Melatonin as a potential adjuvant treatment." *Life Sciences* (2020): 117583.
6. Guérin, C, et al. "Prone positioning in severe acute respiratory distress syndrome." *New England Journal of Medicine* 368.23 (2013): 2159-2168.
7. Clark-Coller, M et al. "UVMC CoVID-19 Clinical Pathway." Accessed 4/7/20