TREATMENT GUIDELINE FOR PATIENTS WITH COVID-19

This is a living document that will be updated as more data emerge.

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Table 1. Overview of Treatment Recommendations Based on Hospitalization and Severity of Disease

Not Hospitalized – Recommended Treatment	
• Supportive care • Consider monoclonal antibody if **within 7 days of symptom onset** and meet eligibility criteria (see Table 2) • Paxlovid (nirmatrelvir/ritonavir) or molnupiravir for patients who meet EUA criteria	
Hospitalized	**Recommended Treatment**

No supplemental oxygen (or if on chronic oxygen therapy, not requiring an increase in baseline oxygen flow rate due to COVID-19)	• Supportive care
	• For patients admitted for reasons not related to COVID-19 **AND** meet all criteria for use (see Table 2):
	  ○ Monoclonal antibody (restricted to ID physicians): preferred when supply is available
	  ○ Remdesivir for 3 days (restricted to ID physicians)
	• Anticoagulation: refer to **COVID-19 Anticoagulation and Coagulopathy Management for Adults**

Low-flow supplemental oxygen (i.e., persistent SpO2 ≤94% on room air AND requiring supplemental oxygen)	• Remdesivir (restricted to ID physicians) for 5 days or until discharge, whichever comes first --PLUS-- • Dexamethasone 6 mg IV/PO daily for up to 10 days or until discharge, whichever comes first • Anticoagulation: refer to **COVID-19 Anticoagulation and Coagulopathy Management for Adults**
Non-invasive ventilation or high-flow oxygen devices	• Dexamethasone 6 mg IV/PO daily for up to 10 days or until discharge, whichever comes first (consider higher dose in select patients – refer to Table 2) --PLUS -- • ***Consider*** remdesivir (clinical benefit uncertain - restricted to ID physicians) for 5 days or until discharge, whichever comes first • ***Consider*** baricitinib (restricted to ID physicians) or tocilizumab (restricted to ID physicians) • Anticoagulation: refer to **COVID-19 Anticoagulation and Coagulopathy Management for Adults**
Mechanical ventilation or ECMO	• Dexamethasone 6 mg IV/PO daily for up to 10 days or until discharge, whichever comes first (consider higher dose in select patients – refer to Table 2) • ***Consider*** baricitinib (restricted to ID physicians) or tocilizumab (restricted to ID physicians) • Anticoagulation: refer to **COVID-19 Anticoagulation and Coagulopathy Management for Adults**

SUGGESTED LABORATORY MONITORING

Obtain at baseline and with any sudden decline in oxygenation status

- Complete blood count with differential *(leukopenia and lymphopenia common)*
- Comprehensive metabolic panel *(moderately elevated AST/ALT described)*
- Lactate dehydrogenase *(elevation associated with increased mortality)*
- Ferritin *(extreme elevation associated with severe illness and mortality)*
- C-reactive protein *(extreme elevation associated with severe illness and mortality)*
- Procalcitonin (refer to Table 3)
- D-dimer *(commonly elevated; should NOT be used in isolation to prescribe therapeutic anticoagulation. See Beaumont's COVID-19 Anticoagulation Management for Adults guideline for additional information)*

Table 2. Recommended Agents for Therapeutic Management of COVID-19

Monoclonal Antibodies for COVID-19

Treatment: Bebtelovimab 175 mg/2 mL IV (administer over at least 30 seconds) x 1 (cannot be used for post-exposure prophylaxis)

- **Restricted to Infectious Disease Prescribers for inpatient use.** Prescriber must complete all EUA requirements
- Therapeutic Interchange: Pharmacist can interchange sotrovimab to the new FDA recommended monoclonal antibody (mAb), bebtelovimab
  - Patients prescribed sotrovimab will be interchanged to bebtelovimab using the order mode of "Within Scope: No co-sign required". The ordering prescriber will be the authorizing provider.

Treatment Criteria

Inclusion Criteria	Exclusion Criteria
• Outpatient or an inpatient admitted for reasons not related to COVID-19, AND • Positive SARS-CoV-2 test (i.e., RT-PCR or antigen, not antibody test), AND • Symptom onset within the last 7 days, AND • High risk for progression to severe COVID-19 based on CDC risk factors, AND • Alternative COVID-19 treatment options approved or authorized by the FDA are not accessible or clinically appropriate.	• Pediatric patients <12 yo OR <40 kg • Requiring supplemental oxygen (or if on chronic oxygen therapy, requiring an increase in baseline oxygen flow rate due to COVID-19)

Pre-exposure Prophylaxis: Tixagevimab/cilgavimab (Evusheld) IM x 1 - Cannot be used for treatment or post-exposure prophylaxis

- Dose: Tixagevimab 300 mg (3 mL)/cilgavimab 300 mg (3 mL) IM x 1
- Supplemental Dose: Required if initial dose was tixagevimab 150 mg (1.5 mL)/cilgavimab 150 mg (1.5 mL) IM x 1
  - If initial dose ≤ 3 months ago: Tixagevimab 150 mg (1.5 mL)/cilgavimab 150 mg (1.5 mL) IM x 1
  - If initial dose > 3 months ago: Tixagevimab 300 mg (3 mL)/cilgavimab 300 mg (3 mL) IM x 1
- Therapeutic Interchange: Pharmacist may adjust the first dose of Evusheld to match the new FDA recommended dose of tixagevimab 300mg/cilgavimab 300mg
  - Patients prescribed first doses of tixagevimab 150 mg /cilgavimab 150 mg will be interchanged to the new FDA recommended dose of tixagevimab 300mg/cilgavimab 300mg
  - Pharmacists may adjust the dose of Evusheld during order verification.
  - If a patient is eligible for a dose adjustment, the pharmacist can discontinue the initial order using discontinuation reason of "dose adjustment" and may order the new dose using the order mode of "Within Scope: No co-sign required". The ordering prescriber will be the authorizing provider.

Pre-exposure Prophylaxis Criteria

Inclusion Criteria	Exclusion Criteria
• Meets MDHHS eligibility criteria (see criteria below)	• Pediatric patients <12 yo OR <40 kg • COVID vaccine within last 14 days

MDHHS Tier Eligibility Criteria

Tier 1
• Received B-cell depleting therapies (e.g., rituximab, ocrelizumab, ofatumumab, alemtuzumab) within ≤ 1 year
• Receiving Bruton tyrosine kinase inhibitors
• Chimeric antigen receptor T cell recipients
• Post-hematopoietic cell transplant recipient with chronic graft versus host disease or receiving immunosuppressive medications for another indication
• Patients with hematologic malignancies who are on active therapy
• Solid-organ transplant recipients who: 1) are lung transplant recipients, or 2) are within 1 year of receiving a solid-organ transplant (other than lung transplant), or 3) solid-organ transplant recipients with recent treatment for acute rejection with T or B cell depleting agents
• Patients with severe combined immunodeficiencies
• Patients with untreated HIV who have a CD4 T lymphocyte cell count <50 cells/mm^3

Tier 2
• Active treatment for solid tumor malignancy
• Moderate or severe primary immunodeficiency (e.g., DiGeorge syndrome, Wiskott-Aldrich syndrome)
• Advanced or untreated HIV infection (CD4 cell counts of 50-200/mm^3, history of an AIDS-defining illness without immune reconstitution, or clinical manifestations of symptomatic HIV)
• Active treatment with high-dose corticosteroids (i.e., ≥20 mg prednisone or equivalent per day when administered for ≥2 weeks), alkylating agents, antimetabolites, transplant-related immunosuppressive drugs, cancer chemotherapeutic agents classified as severely immunosuppressive that are immunosuppressive or immunomodulatory (e.g., B-cell depleting agents), tumor-necrosis (TNF) blockers, and other biologic agents
• Vaccination with any available COVID-19 vaccine, according to the approved or authorized schedule, is not recommended due to a history of severe adverse reaction (e.g., severe allergic reaction) to a COVID-19 vaccine(s)

Remdesivir (Restricted to Infectious Disease physicians. Use will be audited by the Antimicrobial Stewardship Team)

3-day Regimen Criteria	5-day Regimen Criteria

Inclusion:
• Admitted for reasons not related to COVID-19
• Symptom onset ≤ 7days
• Positive SARS-CoV-2 test (i.e., RT-PCR or antigen, not antibody test)
• Oxygen saturation >94% on room air
• At least 1 risk factor for severe disease, which include the following:
  ○ Older age (e.g., age ≥60 years of age)
  ○ BMI ≥ 30
  ○ Pregnancy
  ○ Chronic kidney disease (CKD)
  ○ Chronic liver disease
  ○ Diabetes
  ○ Immunosuppressive disease or immunosuppressive treatment
  ○ Cardiovascular disease (including congenital heart disease) or hypertension
  ○ Cerebrovascular disease
  ○ Chronic lung diseases (e.g., COPD, interstitial lung disease)
  ○ Sickle cell disease
Exclusion:
• Weight <3.5 kg
• Patients being transferred/awaiting transfer
	Inclusion:
	• Positive SARS-CoV-2 test (i.e., RT-PCR or antigen, not antibody test)
	• Symptom onset within the last 14 days
	• Persistent SpO2 ≤94% on room air and requiring supplemental oxygen or on non-invasive ventilation or high-flow oxygen devices
	Exclusion:
	• Mechanical ventilation (MV) or extracorporeal membrane oxygenation (ECMO)
	• Weight <3.5 kg
	• Patients being transferred/awaiting transfer

Precautions

- eGFR <30 mL/min: the pharmacokinetics have not been evaluated in patients with eGFR <30 mL/min. The risk of toxicity in these patients is low and benefit of remdesivir likely outweighs this risk.
- ALT ≥5 x ULN at baseline: risk of hepatotoxicity in these patients is not known due to exclusion from clinical trials. Use of remdesivir should be based on potential risk versus benefit considerations.

Adult Dosing:	Pediatric Dosing (FDA approved for 12 yo and weighing at least 40 kg):
200 mg IV x 1 on day 1, then 100 mg IV daily for days 2 – 5 or until hospital discharge, whichever comes first. **For 3 day regimen**: if progress to hypoxia, therapy can be extended to a total of 5 days. **For 5-day regimen**: if progress to requiring mechanical ventilation/ECMO, can still complete the 5 day course	<40 kg: 5 mg/kg IV load on day 1, then 2.5 mg/kg IV q24hr for days 2-5 ≥40 kg: 200 mg IV load on day 1, then 100 mg IV q24hr for days 2-5 **Pediatric patients 3.5 kg to <40 kg or pediatric patients <12 yo & weigh at least 3.5 kg:** prescriber must complete all EUA requirements

Laboratory Monitoring

- Prior to initiation: Scr/BUN, hepatic function, prothrombin time
- During therapy: Scr/BUN and prothrombin time should be monitored as clinically appropriate, hepatic function panel should be monitored as follows:
  - 3-day therapy: If baseline ALT is <2.5 x ULN: no additional monitoring is required, if baseline or follow-up ALT is >2.5 x ULN: hepatic function panel should be checked daily
  - 5-day therapy: If baseline ALT is <2.5 x ULN: check on day 3 of therapy, if baseline or follow-up ALT is >2.5 x ULN: hepatic function panel should be checked daily
- Consider discontinuing if ALT >10 x ULN; discontinue if ALT elevation accompanied by signs or symptoms of liver inflammation
  - Pharmacists can order necessary labs listed above for patients receiving remdesivir

Infusion-related reactions (e.g., hypotension, hypertension, tachycardia, bradycardia, hypoxia, fever, dyspnea, wheezing, angioedema, rash, nausea, diaphoresis, and shivering): Slow infusion rate, with a maximum infusion time up to 120 minutes, to potentially prevent these signs and symptoms. If clinically significant infusion-related reactions occur, immediately discontinue & initiate appropriate treatment.

Steroids*

Recommended in adult patients with ***persistent*** SpO2 ≤ 94% on room air **AND** requiring supplemental oxygen (i.e., on low- or high-flow nasal oxygen, non-invasive or invasive mechanical ventilation, or ECMO):

- ***Preferred:*** Dexamethasone 6 mg IV/PO q24h ***for up to 10 days (or until discharge if earlier)***
- ***Pregnant Patients:***
    - COVID-19: Dexamethasone 6 mg IV/PO q24h ***for up to 10 days (or until discharge if earlier)***
    - COVID-19 and fetal lung maturity: Dexamethasone 6 mg IV/PO q12h **x 4 doses**, then dexamethasone 6 mg IV/PO q24h to complete a total of 10 days or until discharge (whichever comes first)
- Alternatives if dexamethasone is unavailable:
    - Methylprednisolone 40 mg IV q24h for up to 10 days (or until discharge if earlier)
    - Prednisone 40 mg PO q24h for up to 10 days (or until discharge if earlier
- For ***select*** patients on high-flow nasal oxygen, non-invasive or invasive mechanical ventilation, or ECMO ***(based on physician discretion):***
    - Consider high-dose steroids (maximum recommended dose dexamethasone 20mg/day or methylprednisolone 80mg/day):
        - Dexamethasone 20 mg IV/PO q24h x 5 days, then 10 mg IV/PO q24h x 5 days --OR--
        - Methylprednisolone 40 mg IV q12h x 5 days, then 40 mg IV q24h x 5 days
- **Monitor:**
    - Oxygenation status, CRP, ferritin, and LDH. If no improvement, rule out secondary bacterial infection.
    - Blood glucose in high-risk individuals. Consider point-of-care blood glucose monitoring 4 times per day for 24-48 hours to monitor for steroid induced hyperglycemia, hyperglycemic crises, and new onset diabetes or for chronic diabetes management.
- For adult patients with refractory septic shock and COVID-19 the recommendation is to follow surviving sepsis guidelines with consideration for use with hydrocortisone 200 mg IV per day divided.
- Drug-drug interactions: The combination of dexamethasone and direct oral anticoagulants (DOACs: apixaban, rivaroxaban, dabigatran, edoxaban and betrixaban) ***should be avoided***. Dexamethasone is believed to be a combined P-glycoprotein and strong CYP 3A4 inducer. When used in combination with DOACs there is a potential for reduced DOAC drug concentration and increased risk of thrombosis.
- Stress ulcer prophylaxis: Consider in patients also on therapeutic anticoagulation, mechanical ventilation, and/or patients with coagulopathy

Pediatric patients: Methylprednisolone IV (at an appropriate weight-based dose) may be initiated in pediatric ICU patients by the Pediatric Intensivist on a case-by-case basis. As literature evolves, recommendations and dosing in pediatric patients will be updated.

**for patients with a contraindication to steroids, consult Infectious Diseases to determine possible alternatives*

Baricitinib (Restricted to Infectious Disease physicians - *Prescriber must complete all EUA requirements*)

Inclusion Criteria:

- Positive SARS-CoV-2 test (i.e., RT-PCR or antigen, not antibody test)
- Receiving high-flow oxygen or noninvasive ventilation or <48h of mechanical ventilation if administering with steroids. Baricitinib may also be administered as a steroid alternative in those patients with a contraindication to steroids.
- Age ≥ 2 years old

Exclusion Criteria:

- Mechanical ventilation >48 hours
- Age 9 yo and older: eGFR <15 ml/min/1.73 m2 or on dialysis
- Age 2 to <9 yo: eGFR <30 ml/min /1.73 m2 or on dialysis
- Received tocilizumab (or another JAK inhibitor or DMARD)
- Active tuberculosis
- Receipt of live vaccine within the past 14 days

Dosage Adjustments based on Age and GFR

GFR (mL/min/1.73 m^2)	Recommendation	Duration
≥60	• 9 yo and older: 4 mg once daily • 2 to <9 yo: 2 mg once daily	14 days or until discharge, whichever comes first
30 to <60	• 9 yo and older: 2 mg once daily • 2 to <9 yo: 1 mg once daily	
15 to <30	• 9 yo and older: 1 mg once daily • 2 to <9 yo: Not recommended	
<15, on dialysis or ESRD	Not recommended	

Precautions (prescribers will have to discuss risk vs benefit with patient)

- Active serious infections other than COVID-19
- Patients at risk for GI perforations
- Severe hepatic impairment
- Pregnancy
- Limited information regarding use in patients with any of the following findings:
  - Absolute neutrophil count (ANC) <1 bil/L
  - Absolute lymphocyte count (ALC) <0.2 bil/L
  - Hemoglobin <8 g/dL

Required Laboratory Monitoring

A pharmacist may order the appropriate laboratory tests using the order mode of "Within Scope: No co-sign required" if not ordered by the prescriber.

	Frequency of Laboratory Test	Action Required

Baseline	Prior to first dose of baricitinb:
	• Hepatic function panel
	• SCr and BUN
	• CBC with differential
		• Prescriber should make any necessary renal dose adjustments based on GFR
		• Limited information regarding use in patients with any of the following findings:
		  ○ ANC <1 bil/L
		  ○ ALC<0.2 bil/L
		  ○ Hemoglobin <8 g/dL

Monitoring while on Treatment	Hepatic function panel
	• Every 2-3 days or daily if AST/ALT elevated
	SCr and BUN
	• Every 2-3 days or daily if unstable renal function
	CBC with differential
	• Every 2-3 days or daily if ALC/ANC low
		• Prescriber should make any necessary renal dose adjustments based on GFR
		• It is recommended to discontinue if:
		  ○ ALC < 0.2 bil/L or ANC < 0.5 bil/L. Can restart once above these thresholds.
		  ○ AST or ALT ≥ 10 ULN or if drug-induced liver injury (DILI) is suspected, then hold therapy until DILI is excluded

Tocilizumab (Restricted to Infectious Disease physicians - *Prescriber must complete all EUA requirements*)

Due to national shortage, tocilizumab is reserved for patients who meet the criteria below and are unable to take baricitinib (i.e., GFR<15 ml/min/1.73m2 or NPO [including medications] OR patient is not receiving any other oral medications)

Inclusion Criteria:

- Positive SARS-CoV-2 test (i.e., RT-PCR or antigen, not antibody test)
- Receiving high-flow oxygen or noninvasive ventilation or <48h of mechanical ventilation
- Receiving systemic corticosteroids
- Age ≥ 2 years old

Exclusion Criteria:

- Mechanical ventilation >48 hours
- ALT/AST >10 x upper limit of normal
- Absolute neutrophil count < 1000 cells/mm^3
- Platelet count <50,000 cells/mm^3
- For solid organ transplant patients, ID prescriber can consult Dr. Dilip Samarapungavan regarding risk of administration (Pager: 248-992-8057)
- Hypersensitivity to tocilizumab or any excipients
- Patients with active pulmonary tuberculosis (see precaution section for LTBI)
- Any concurrent active or suspected infection, including localized infection
- Receiving baricitinib
- Previously received an IL-6 inhibitor during hospitalization or is on long-term therapy with an IL-6 inhibitor
- Patient has already received any dose of one or more of any form of tocilizumab, or sarilumab during this hospitalization or is on long-term therapy with any of these agents prior to this hospital admission
- Receipt of live vaccine within the past 14 days

Patients at or above 30 kg: 8 mg/kg/dose (max: 800 mg) x 1 dose

Patients < 30 kg: 12 mg/kg/dose x 1

- A second dose of tocilizumab is not recommended due to increased risk of possible secondary infection and lack of proven benefit
- For patients >40 kg, doses should be rounded as follows:
  - >90 kg: 800 mg
  - >65 to 90 kg: 600 mg
  - >40 to 65 kg: 400 mg

Laboratory Monitoring: LFTs and CBC

Precaution: Not studied in patients CrCl <30 mL/min; use caution in patients with diverticulitis (increased risk for GI perforation), for patients with latent tuberculosis discuss risk versus benefit with the patient

Pediatric patient: tocilizumab has not been studied in children with COVID-19; EUA granted for ≥2 yo based on extensive safety and dosing information for approved indications and adult efficacy data for COVID-19

Pregnancy and Nursing Mothers: Discussion of risk versus benefit with the patient's care team, OB/GYN and Infectious Disease physicians should occur prior to administration in a pregnant patient

Adverse Reactions: Headache, hypertension, infusion reactions (rash, pruritus, nausea, hyper- or hypotension), LFT elevations, cytopenias, diarrhea, and allergic reaction (rare), and secondary bacterial and fungal infections

Table 3. Bacterial Co-infections and Other Treatment Considerations

Bacterial Co-Infections with COVID-19

Bacterial co-infections are uncommon in patients presenting with COVID-19 infection. A meta-analysis by Langford *et al* and Michigan cohort study (n=1705 patients) found only 3.5% of hospitalized patients had community-onset bacterial co-infection and risk was slightly higher in patients admitted directly to the ICU at 11%.[7,8] Secondary bacterial infections occurred in about 14% of COVID-19 patients.[7] A study by Zhou and colleagues found the median duration of fever to be 12 days (8-13 days) and cough persisted for 19 days in survivors.[1]

Procalcitonin*:* Low procalcitonin can be used to help rule-out bacterial co-infection (PCT <0.25), but PCT >0.25 ***should not be used as the only reason*** to initiate or continue antibiotic therapy. PCT >0.25 is common in patients with COVID-19 pneumonia, especially in patients with more severe disease (possibly due to systemic inflammation); therefore, it appears to be an unreliable marker of bacterial superinfection. Also, patients with CKD and AKI have falsely elevated PCT levels, and as such PCT is not reliable in these patients.[8,9]

Strongly Suspected or Confirmed MRSA pneumonia:

For patients with moderate to severe COVID-19 with suspected MRSA pneumonia:

- Anti-staphylococcal therapy is generally unnecessary, since concomitant bacterial infection appears to be uncommon
- For sites using AUC-guided dosing for vancomycin (i.e., RYO, TRY, GRP):
    - For any infection in which a vancomycin AUC goal of 400 – 600 is currently recommended switch to trough monitoring with a goal ~15 mg/L for patients with COVID-19
- If MRSA pneumonia is suspected: suggest oral linezolid instead of vancomycin to help decrease fluid volume and required blood draws
    - Check MRSA nasal swab and discontinue if negative
    - Check for drug-drug interactions prior to starting linezolid
    - Caution in patients with pre-existing myelosuppression
- For pediatric patients: linezolid is restricted to Infectious Diseases physicians
    - Infants & children <12 years old: linezolid 10 mg/kg/dose (max: 600 mg/dose) PO every 8 hours
    - Children & adolescents ≥12 years: linezolid 600 mg PO every 12 hours or as recommended by Infectious Diseases

Current evidence does not support use of the agents below for treatment of hospitalized patients with COVID-19 (due to lack of efficacy and/or potential toxicity)

- Hydroxychloroquine +/- azithromycin
- Lopinavir/ritonavir (Kaletra)
- Oseltamivir
- Baloxavir
- Ribavirin
- Immune globulin (IVIG)
- Interferon
- Ivermectin *(current clinical and pharmacokinetic data does not support use for prevention or treatment; last reviewed 2.16.22)*
- Oral Vitamin C
- Colchicine *(insufficient data at this time; last reviewed 2.15.21)*
- Vitamin D *(insufficient data at this time; last reviewed 5.3.21)*
- Fluvoxamine *(insufficient data for hospitalized patients; last reviewed 11.4.21)*

Other Treatment Considerations
ACEi/ARBs therapy: Patients chronically taking ACEi/ARBS should continue therapy. It is unclear if ACEi/ARBS will worsen or improve outcomes in patients with COVID-19.
Oral Vitamin C: Oral vitamin C does not achieve high enough concentrations in the serum for any potential therapeutic benefit due to saturable absorption. Also, oral vitamin C has the potential to cause harm, specifically AKI and/or kidney stones secondary to the accumulation of oxalate. Therefore, we do not recommend the use of oral vitamin C as adjuvant therapy for the treatment of COVID-19
Statins: Due to the lack of data, we do not recommend COVID-19 be the sole indication for statin therapy.
Other Treatment Considerations *(continued)*
Stress ulcer prophylaxis: consider in patients on steroids and therapeutic anticoagulation, mechanical ventilation, and/or patients with coagulopathy

Table 4. BH Investigational Studies

COVID-19 Investigational Studies at Beaumont Health			
Study Agent	**Location**	**Study Coordinator**	**Study Details**
Oral BIO101 (investigational new drug that activates the Mas receptor through the protective arm of the Renin Angiotensin System.	RYO	Coleen Tessmar	**Part 1** is a Phase 2 exploratory Proof of Concept study to provide preliminary data on the activity, safety and tolerability of BIO101 in the target population. **Part 2** is a phase 3 RCT to provide further evidence of safety and efficacy of BIO101 after 28 days of double-blind dosing. Key Inclusion Criteria: • Age 45 and older • Confirmed diagnosis of COVID-19 infection with evidence of pneumonia • Hospitalized, in observation or planned to be hospitalized due to COVID-19 infection symptoms with anticipated hospitalization duration >=3 days • Patients can be included even if treated with: oxygen supplementation, High-flow oxygen (HFO2), BiPAP and CPAP Key Exclusion Criteria: On mechanical ventilation or ECMO
ACTIV-4 ACUTE Trial	RYO	Coleen Tessmar	Standard of Care Anticoagulation with or without a PGY12 inhibitor (ticagrelor) Inclusion Criteria: • ≥ 18 years of age • Hospitalized for COVID-19 • Enrolled within 72 hours of hospital admittance or 72 hours of positive COVID test • Expected to require hospitalization for > 72 hours Exclusion Criteria: • Requirement for chronic mechanical ventilation via tracheostomy prior to hospitalization • Pregnancy

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