Treatment Algorithm for COVID-19

SARS-CoV-2 (aka COVID-19) positive or strongly suspected

Is patient presently hospitalized or requires inpatient management?

No

• Stay home and avoid close contact with others to minimize spread
• Drink plenty of water
• Symptomatic care for fever, cough, congestion, pain
• Avoid corticosteroids unless required for other condition (e.g. COPD exacerbation)
• If shortness of breath develops, seek immediate medical evaluation

Yes

• Consider antibiotics for secondary bacterial pneumonia if concerned
• Avoid corticosteroids unless indicated for separate process (e.g., septic shock, COPD, asthma, ARDS etc.)

Patient has any of the following AND confirmed SARS-CoV-2?

• Age ≥ 65 years
• Significant history of lung and/or heart disease
• History of transplantation (solid organ or hematologic)
• Other immunocompromising condition and/or receiving immunosuppressive medications
• Moderate to severe infection: Radiographic evidence of pneumonia requiring supplemental oxygen and/or mechanical ventilation

Supportive Care Measures

No

Clinical Status

Stable supplemental oxygen requirements

Worsening oxygen requirements, mechanical ventilation or expected need for ventilation within 48 hrs, or immunocompromised?

Evidence of hyperinflammatory response (Criteria Page 2)

Antiviral therapy may be considered*

**Please contact ID and/or Antimicrobial Stewardship with questions, or if planning to start empirically while COVID-19 test still pending**

First-line: Hydroxychloroquine 5-7 400mg PO BID for one day, then 200mg PO BID x 4 days (total duration = 5 days)
• Pregnancy category C, human data in malaria does not show increased risk
• Caution in liver disease
• Low drug interaction potential
• Monitor for visual changes, neuropathy, QTc prolongation, and cytopenias

Second-line: Lopinavir/ritonavir (LPV/r) 1,4,8 400mg/100mg PO BID ± Ribavirin (dosing on Page 2) x 5 days
• LPV/r pregnancy category C, human data does not show increased teratogenic risk
• Ribavirin pregnancy category X
• Significant drug interaction potential with LPV/r (Overview Page 3-6)
• Monitor for QTc prolongation, liver impairment, cytopenias, and diarrhea
• PO ribavirin preferred
• Inhaled ribavirin discouraged, consideration with ID and ID pharmacy

Third-line: Nitazoxanide 6 1,000mg PO BID x 5 days

Consideration of IL-6 Inhibition (In accordance with system or clinical trial criteria on Page 2)

Sarilumab Clinical Trial (Anschutz Only)

Tocilizumab (All UCHealth)

*Agents are not approved for CoV infections, and limited evidence supports possible benefit in COVID-19 infection, weigh risks and benefits prior to initiation. Data is rapidly evolving with therapeutics for COVID-19 and recommendations are subject to change rapidly. Please refrain from printing this document.
Oral Ribavirin Dosing for Treatment of COVID-19

- CrCl > 50: Load 10 mg/kg (max 2 gram) PO x 1, then 400 mg (40-60kg), 600 mg (61-90kg), 800 mg (91-120kg), or 1000 mg (> 120 kg) PO TID.
- CrCl 30-50: Load 10 mg/kg (max 2 gram) PO x1, then 200mg PO TID
- CrCl < 30/HD: Load 10 mg/kg (max 2 gram) PO x1, then 200mg PO daily (limited data)
*For lung transplant, omit loading dose and start 15-20mg/kg/day in 3 divided doses*; Round all doses to nearest 200 mg

In Depth Drug Interactions Website: [http://www.covid19-druginteractions.org/](http://www.covid19-druginteractions.org/)

System Criteria for Tocilizumab Use

- Confirmed COVID-19 positive
- Critical illness associated with COVID-19 evidenced by:
  - Respiratory failure requiring mechanical ventilation or
  - Shock or
  - Combined failure of other organs requiring ICU care
- Evidence of ≥2 abnormalities associated with hyperinflammatory response/cytokine release:
  - D-Dimer > 1 mcg/mL
  - Serum ferritin > 600 mcg/L
  - Persistent fever > 38.3°C
  - C-Reactive Protein > 100 mg/L
  - Interleukin-6 ≥ 3x ULN
- Ordered/recommended by Infectious Diseases or Pulmonology Services
- Review and approval by secondary provider(s) not directly involved in the patients care
- ALT/AST < 5x ULN
- Platelet Count is ≥ 50,000/mm3
- Absolute Neutrophil Count (ANC) is ≥ 500/mm3
- No presence of active or strongly suspected bacterial or fungal infection. Stability of these infections with appropriate antibiotics/antifungals and proceeding with tocilizumab should be carefully weighed by ordering/consulting infectious diseases and/or pulmonology physician.

Sarilumab Clinical Trial Criteria

References: