COVID-19 Adult Admission Order Set

Print as needed and always include all 4 pages, both sides (content may change rapidly).

Select orders by placing a (√) in the associated box

Goals of Care

Should be addressed upon admission

Screening

- Respiratory Viral Pathogen Testing (Includes COVID-19)
  
  Must complete laboratory requisition; COVID-19 and Other Respiratory Viruses (Form #21701) with required clinical history and criteria to ensure timely processing of test
  
  http://ahsweb.ca/HEE/COVID19_and_Other_Respiratory_Viruses_Requisition_Provincial

  For ID NOW COVID-19 testing, follow local processes if available at your site

Isolation

- Initiate Contact and Droplet Isolation for suspected or positive COVID-19 (acute respiratory illness)
- Wear fit tested N95 respirator and move to private room ONLY when performing Aerosol-generating medical procedures (AGMP)

Respiratory Interventions

Note, aerosol-generating medical procedures require the use of an N95 respirator during the procedure. Given that humidified hi-flow oxygen (HHFO) is a very limited resource, is an AGMP which carries greater risk and requires more resources to deliver with little evidence of clinical benefit, the use of HHFO over conventional oxygen delivery is not recommended in practice

- Oxygen Therapy – Titrate to Saturation
  
  - Adult: titrate to target SpO2 between 92% to 96% for stable adults
  
    - Pregnant patients: titrate to target SpO2 of at least 95%
  
    - Cardiovascular disease (CO2 retainer): titrate to target SpO2 of 88 to 92%

  Initial O2 delivery method

  - Nasal Prongs
  
  - Simple face mask (non-humidified)
  
  - Face mask with reservoir/non-rebreather (non-humidified)

Patient Care

- Weight Once at admission
- Height Once at admission
- Adjust Head of Bed to 30 degrees
- Notify Most Responsible Health Practitioner if increasing O2 requirements, rapidly progressive respiratory failure or sepsis (follow local Early Warning System policy as applicable)

Diet and Nutrition (consider NPO for patients in respiratory distress or with high oxygen requirements)

- NPO
- Other diet

Prescriber Name | Prescriber Signature | Date (dd-Mon-yyyy) | Time (hh:mm)
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**COVID-19 Glycemic Monitoring**

Recommend POCT glucose monitoring QID for any patient with diabetes, hyperglycemia with POCT glucose greater than 10.0 mmol/L, and initially for any patient receiving dexamethasone therapy regardless of history of diabetes. If no hyperglycemia with dexamethasone treatment in the first 48 hours, POCT glucose monitoring may be reduced to once daily for duration of steroid treatment. For patients not receiving dexamethasone and no past history of diabetes/hyperglycemia, consider POCT glucose in those with risk factors for diabetes or symptoms suggestive of hyperglycemia.

Basal Bolus Insulin Therapy recommended for treatment of glucose greater than 10.0 mmol/L (greater than 12.0 mmol/L in elderly), or for patients with established diabetes. Recommended starting total daily dose (TDD) for new insulin start is 0.5 units/kg/day.

For patients on insulin starting steroid therapy increase insulin doses by 20%. Ensure a plan to wean insulin is established as the course of steroids is completed.

✓ Urinalysis - Test for ketones; if patient with COVID-19 and blood glucose over 14.0 mmol/L (even if no past history of diabetes or hyperglycemia)

OR

☐ Beta-Hydroxybutyrate (BOH)

For Patient WITH prior history of diabetes or hyperglycemia - ON Steroid Therapy

☐ Glucose Meter POCT 4 times daily before meals and at bedtime

☐ Glucose Meter POCT daily in the morning

OR

For Patient WITH prior history of diabetes or hyperglycemia - ON Steroid Therapy

☐ Glucose Meter POCT 4 times daily before meals and at bedtime

VTE Prophylaxis - COVID-19 is a major risk factor for VTE

Patients admitted who are NOT critically ill (up to 15L/min O2, not on HHHFO, ward based), who are at low bleeding risk (HAS-BLED score less than or equal to 2), and who are not pregnant, should be considered for therapeutic anticoagulation.

In patients who are not candidates for therapeutic anticoagulation, use pharmacological prophylaxis (low molecular-weight heparin preferred) unless contraindicated, and continue until hospital discharge.

<table>
<thead>
<tr>
<th>COVID-19 Population (includes immuno-compromised and Hospital-acquired)</th>
<th>VTE Prophylaxis or Therapeutic Anticoagulation dosing (NOTE: therapeutic dosing is for 14 days or until discharge)</th>
</tr>
</thead>
</table>
| Severe | Weight-based therapeutic dose tinzaparin if:  
• low bleeding risk (HAS-BLED less than or equal to 2)  
• not pregnant  
OR  
Weight based prophylaxis dose tinzaparin if higher bleeding risk (HAS-BLED greater than 2). |
| Up to 15 L/min O2 | |
| Critically ill hospitalized | Weight-based prophylaxis dose tinzaparin continue therapeutic dose tinzaparin if started in hospital and patient becomes critically ill. |
| Over 15 L/min O2 (consider patients also on HHHFO or NIV*), or ICU | |

**Pharmacological Prophylaxis**

Weight of 40 to 80 kg:

☐ tinzaparin 4,500 units SUBCUTANEOUSLY daily at bedtime

Weight of 80.1 to 90 kg:

☐ tinzaparin 6,000 units SUBCUTANEOUSLY daily at bedtime

Weight of 90.1 to 100 kg:

☐ tinzaparin 7,000 units SUBCUTANEOUSLY daily at bedtime

Weight less than 40 kg OR greater than 100 kg:

☐ tinzaparin (75 units/kg) ____ units SUBCUTANEOUSLY daily at bedtime

Prescriber Name Prescriber Signature Date (dd-Mon-yyyy) Time (hh:mm)
COVID-19 Adult Admission Order Set

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### VTE Prophylaxis - COVID-19 is a major risk factor for VTE

**Therapeutic Anticoagulation**

- [ ] tinzaparin (175 units/kg) ______ units SUBCUTANEOUSLY daily at bedtime
  
  *If prior heparin induced thrombocytopenia (HIT):*

- [ ] fondaparinux 2.5 mg SUBCUTANEOUSLY daily at bedtime
  
  *If contraindications to pharmacological prophylaxis (such as bleeding or high bleeding risk):*

- [ ] Sequential Compression Device- apply every _______. Length (calf or thigh) ________.
  
  Discontinue when ambulating well.

- [ ] Other

### COVID-19 Specific Labs STAT

*Poor prognostic factors include elevated d-Dimer, troponin, C-reactive protein, LDH, Troponin, Ferritin, low lymphocyte count and high SOFA score*

<table>
<thead>
<tr>
<th>Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBC and Differential</td>
</tr>
<tr>
<td>Electrolyte Panel (Na, K, Cl, CO2, Anion Gap)</td>
</tr>
<tr>
<td>Glucose, Random</td>
</tr>
<tr>
<td>Alanine Aminotransferase (ALT)</td>
</tr>
<tr>
<td>Aspartate Aminotransferase (AST)</td>
</tr>
<tr>
<td>Alkaline Phosphatase (ALP)</td>
</tr>
<tr>
<td>Bilirubin, Total</td>
</tr>
<tr>
<td>Troponin</td>
</tr>
<tr>
<td>Creatinine</td>
</tr>
<tr>
<td>C-Reactive Protein</td>
</tr>
</tbody>
</table>

### COVID-19 Repeating Labs

- [✓] CBC with differential daily x 3 days
- [✓] Electrolytes daily x 3 days
- [✓] Creatinine daily x 3 days
- [✓] C-Reactive Protein daily x 3 days
- [✓] D-Dimer daily for 2 occurrences THEN every 3 days for 3 occurrences

### COVID-19 Serology

*Complete COVID-19 Serology to use with MONOCLONAL ANTIBODY therapy. This serology test is to evaluate eligibility for casirivimab/imdevimab. This test is restricted based on site.*

*If testing will be conducted in regional hospital-based APL labs in High Level, Grande Prairie, Fort McMurray, Red Deer, Lethbridge or Medicine Hat, choose:*

- [ ] Rapid COVID-19 Serology, STAT

*If testing will be conducted in Edmonton Zone or Calgary Zone, choose:*

- [ ] COVID-19 Serology, STAT

*Result can only be obtained during day-shift hours (0730-1600). After hours testing is not available. Ensure tube is labelled with ProvLab Monoclonal Antibody*

### IV Fluids

*Conservative fluid management strategies for adults are recommended.*

### Diagnostic Imaging

- [ ] GR Chest, 2 Projections
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### COVID 19 – Thromboembolic Disease Testing

D-dimer elevation is common and nonspecific in COVID-19 patients. Ultrasound or CT Pulmonary Angiogram should be considered if:
- Patient has symptoms or clinical signs of Venous Thromboembolism (e.g., unexplained tachycardia, hypotension, swollen/painful extremity)
- New or worsening hypoxia with normal or unchanged chest x-ray
- Well’s criteria * (for VTE & PE) greater than or equal to 2, or D-dimer greater than or equal to 1 mg/mL at presentation
- Well’s criteria (for PE) greater than or equal to 2 and D-dimer greater than 3 mg/mL at any time is suggestive of Pulmonary Embolism; consider empiric anticoagulation if there is testing delay

- US lower limb venous bilateral, STAT
- US lower limb venous left, STAT
- US lower limb venous right, STAT
- CT Chest Pulmonary Angiogram, STAT
- NM Lung Scan, STAT

### Cardiology

- Electrocardiogram 12 lead

### Glucocorticoids

In hospitalized patients who meet criteria for severe disease, and requiring supplemental oxygen, mechanical ventilation or extracorporeal mechanical oxygenation, clinicians should strongly consider offering dexamethasone 6 mg IV/PO daily for 10 days, or until off oxygen or until discharge if earlier, or equivalent glucocorticoid dose. **Glucocorticoids are not routinely recommended** in patients who do not have hypoxemia requiring supplemental oxygen.

- dexAMETHasone tab PO 6 mg daily x 10 days
- dexAMETHasone injection for oral use PO 6 mg daily x 10 days
- dexAMETHasone IV 6 mg daily x 10 days
- Other

### Immunomodulatory

- tocilizumab OR baricitinib OR sarilumab

**Consider tocilizumab if admission less than 7 days, significant respiratory failure requiring ventilation (invasive or non-invasive) less than 24 hours previous**

**AHS formulary:** [https://ahsweb.ca/HEE/ahs_formulary_tocilizumab](https://ahsweb.ca/HEE/ahs_formulary_tocilizumab)

- tocilizumab 400 mg IV Once

**OR**

**Consider baricitinib if significant progressive respiratory failure due to COVID-19 pneumonia, requiring ventilation (invasive or non-invasive) or supplemental oxygen**

**AHS formulary:** [https://ahsweb.ca/HEE/ahs_formulary_baricitinib](https://ahsweb.ca/HEE/ahs_formulary_baricitinib)

- baricitinib tablet 4 mg, oral, daily for 14 days

**Renal Dysfunction dosing**

- baricitinib tablet 2 mg, oral, daily for 14 days
- baricitinib tablet 2 mg, oral, every 2 days for 14 days for GFR between 15-30

**OR**

**Consider sarilumab IF tocilizumab and baricitinib are not available, admission is less than 7 days, significant respiratory failure requiring ventilation (invasive or non-invasive) less than 24 hours previous**

**AHS formulary:** [https://ahsweb.ca/HEE/AHS_Formulary_Sarilumab](https://ahsweb.ca/HEE/AHS_Formulary_Sarilumab)

- sarilumab 400 mg IV Once
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<table>
<thead>
<tr>
<th>Immunomodulatory continued</th>
</tr>
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<tbody>
<tr>
<td>For tocilizumab, baricitinib and sarilumab reference, refer to:</td>
</tr>
<tr>
<td>Guidance: Therapeutic Management of Adult Patients with COVID-19:</td>
</tr>
<tr>
<td><a href="https://ahsweb.ca/HEE/Antimicrobial_Immunomodulatory_Therapy_Adult_Patients_COVID_19">https://ahsweb.ca/HEE/Antimicrobial_Immunomodulatory_Therapy_Adult_Patients_COVID_19</a></td>
</tr>
<tr>
<td>Manual: COVID-19 Immunomodulator Orders:</td>
</tr>
<tr>
<td><a href="https://ahsweb.ca/HEE/GUIDANCETOCILIZUMABCOVID19">https://ahsweb.ca/HEE/GUIDANCETOCILIZUMABCOVID19</a></td>
</tr>
<tr>
<td>casirivimab/imdevimab</td>
</tr>
<tr>
<td>Consider if patient unvaccinated, seronegative, no prior COVID-19 infection OR if patient immunocompromised. Not for use in confirmed or suspected omicron variant cases due to documented loss of neutralizing activity.</td>
</tr>
<tr>
<td>AHS formulary: <a href="https://ahsweb.ca/HEE/ahs_formulary_casirivimab_imdevimab">https://ahsweb.ca/HEE/ahs_formulary_casirivimab_imdevimab</a></td>
</tr>
<tr>
<td>□ casirivimab/imdevimab ____________ mg IV Once</td>
</tr>
<tr>
<td>Guidance: Therapeutic Management of Adult Patients with COVID-19:</td>
</tr>
<tr>
<td><a href="https://ahsweb.ca/HEE/Antimicrobial_Immunomodulatory_Therapy_Adult_Patients_COVID_19">https://ahsweb.ca/HEE/Antimicrobial_Immunomodulatory_Therapy_Adult_Patients_COVID_19</a></td>
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<tr>
<td>Manual: COVID-19 Neutralizing Antibodies Orders:</td>
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</table>

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<thead>
<tr>
<th>Antivirals</th>
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<tbody>
<tr>
<td>Refer to AHS Provincial Drug Formulary (<a href="https://ahsweb.ca/HEE/ahs_formulary_remdesivir">https://ahsweb.ca/HEE/ahs_formulary_remdesivir</a>) for new updates to the formulary.</td>
</tr>
<tr>
<td>Remdesivir is restricted to a 5-day course of treatment for hospitalized adult patients with COVID-19 pneumonia, who are not mechanically ventilated AND meet the following criteria:</td>
</tr>
<tr>
<td>1. Admitted to hospital with acute illness due to COVID-19 OR developed acute illness due to hospital-acquired COVID-19, while in hospital for other reasons</td>
</tr>
<tr>
<td>OR</td>
</tr>
<tr>
<td>2. Are immunocompromised, defined as follows:</td>
</tr>
<tr>
<td>-Congenital and acquired immunodeficiency including severe combined immunodeficiency (SCID) and profound hypogammaglobulinemia</td>
</tr>
<tr>
<td>-HIV infection with CD4 T lymphocyte count less that 200 (or less than 15%) and unsuppressed viral load</td>
</tr>
<tr>
<td>*In patients 5 years or older- use CD4 count less than 200</td>
</tr>
<tr>
<td>-Any hematological malignancy</td>
</tr>
<tr>
<td>-Within 24 months of stem cell transplant</td>
</tr>
<tr>
<td>-Solid organ transplant</td>
</tr>
<tr>
<td>-Current receipt of prednisone greater than 20 mg/day (or equivalent) for more than 14 days</td>
</tr>
<tr>
<td>* For pediatric patients on prednisone use: greater than 2mg/kg body weight for more than 14 days</td>
</tr>
<tr>
<td>-Chimeric antigen receptor (CAR) T- cell therapy</td>
</tr>
<tr>
<td>-Anti-B cell therapy (current or within last 6 months) e.g. oreclizumab, ofatumumab, rituximab</td>
</tr>
<tr>
<td>□ remdesivir 200 mg IV once</td>
</tr>
</tbody>
</table>

**FOLLOWED BY**

□ remdesivir 100 mg IV daily for 4 days
## Antibiotics

Co-infection with a bacterial pathogen at initial presentation with COVID-19 occurs rarely and the vast majority of patients do not require antibacterials. When required, antibacterials can be ordered independently of the current order set.

## Discharge Follow Up

- Patient/caregiver to book follow-up with their Primary Care Provider in 1 to 3 days post-discharge as per clinical assessment.

## Tools/References

Consider use of the Clinical Frailty Scale (CFS) and/or Edmonton Frailty Scale-Acute Care (EFS-AC) in determining frailty status, see: [http://ahsweb.ca/HEE/Edmonton_Frail_Scale-Acute_Care_(EFS-AC)]

For a CFS greater than 5 and/or EFS-AC greater than 6, consider including frailty status in GCD discussion.

- **Clinical Frailty Scale (CFS)**: [http://ahsweb.ca/HEE/Clinical_Frailty_Scale_COVID-19]
- **Sequential Organ Failure Assessment (SOFA) score**: [http://ahsweb.ca/HEE/Sequential_Organ_Failure_Assessment]
- **AHS Care of the Critically Ill COVID-19 Patient**: [http://ahsweb.ca/HEE/Care_of_the_Adult_Critically_ill_COVID-19_Patient Annex D]
- **AHS Prone Positioning for Awake, Non-intubated Patients with SARS-COV-2 Pneumonia**: [http://ahsweb.ca/HEE/PRONE_POSITIONING_FOR_AWAKE,_NON-INTUBATED_PATIENTS_WITH_SARS-COV-2_PNEUMONIA]
- **AGMP Guidance Tool**: [http://ahsweb.ca/HEE/AGMP_Guidance Tool]
- **Wells’ Criteria for Pulmonary Embolism**: [https://ahsweb.ca/HEE/Wells_Criteria_for_Pulmonary_Embolism]
- **Wells’ Criteria for DVT**: [https://ahsweb.ca/HEE/MD_Calc_4C_Mortality_Score_Covid_19]
- **4C Mortality Score for COVID-19**: [https://ahsweb.ca/HEE/MD_Calc_4C_Mortality_Score_Covid_19]
- **HAS-BLED Score**: [https://ahsweb.ca/HEE/MD_Calc_HAS-BLED_score]

For Antimicrobial and Immunomodulatory Therapy in Adult Patients with COVID-19, please see: [https://ahsweb.ca/HEE/Antimicrobial_Immunomodulatory_Therapy_Adult_Patients_COVID_19]


For Acute Care Guidelines for Patient Admission/Discharge/Transfer in Unit/Facility with a Confirmed COVID-19 Outbreak or on Watch, please see: [https://ahsweb.ca/HEE/Covid_19_acute_care_admission_discharge_transfer_outbreak_watch]

For Evidence for screening and preventing venous thromboembolic events in patients with COVID-19, please see: [https://ahsweb.ca/HEE/Evidence_screening_preventing_venous_thromboembolic_events_patients_COVID_19]