Regional Order Set
Intensive Care Admission Orders
(For COVID-19 ONLY)

Allergies:  □ None known  □ Unable to obtain
List with reactions: ________________________________________________________________

***Please refer to most recent version of the following documents:
• Clinical Guideline for Care of Patients with Respiratory Failure with Suspected or Confirmed COVID-19
• NH Interim Therapeutic Guidance for Adult Patients with Suspected or Confirmed COVID-19

Note: Prescriber must obtain, complete and sign any of the referenced order sets below separately.

Admission Information
Admit under care of: ________________________________  Referring physician: _________________________
Admitting diagnosis: ______________________________________  Code status: _______________________________
□ Continue the following order sets: ___________________________________________________________________

Activity
□ Bed rest  □ Bathroom privileges  □ As tolerated  □ Elevate head of bed to 30 degrees  □ Spinal precautions
□ Other: _________________________________________________________________________________________

Vitals
□ Heart rate, BP, resps, O₂ sat q1h; temperature q4h  Cardiac monitor: □ Bedside  □ Telemetry
□ Vitals q ____ h  □ Neuro vitals q ____ h x ____ h, then reassess
□ Blood pressure as per art line

Admission investigations
□ Procalcitonin (Note: frozen sample therefore only sent to processing lab on Wednesdays)
□ ECG  □ Fibrinogen
□ Osmolality  □ BNP  □ CK
□ ScVO₂  □ CBC  □ INR/PTT
• D-dimer  • Ca, Mg, PO₄, albumin  • Troponin  • Ferritin
• Lactate  • Baseline Chest x-ray (if not already done)
• E7 (sodium, potassium, CO₂, chloride, creatinine, urea, glucose)
• AST, ALT, BILI, Alk Phos, GGT

□ Other (specify): ____________________________________________________________________________

Microbiology (if not already sent; collect prior to first dose of antimicrobials)
• Blood cultures x 2  • Sputum culture  • Urine culture  • Urine for legionella
Send nasopharyngeal swab for :
• Influenza
• COVID-19
• Extended Respiratory Pathogen Panel (NAT)
Collect 2 NP swabs: 1 swab for Influenza and COVID-19, 1 swab for Respiratory Panel (NAT)

□ Other culture (specify): ____________________________________________________________

Daily investigations
□ E7 (sodium, potassium, CO₂, chloride, creatinine, urea, glucose)  □ CBC  □ Chest x-ray PRN  □ Ca, Mg, PO₄ daily
□ CK  □ CRP  □ Troponin  □ AST, ALT, BILI, Alk Phos, GGT  □ Other: __________________________________________
□ Ferritin  □ Fibrinogen

Physician signature: __________________ College ID: ________ Date: ________ Time: ________
10-800-5001 (IND - RDP/COS - Appr. - 04/20) Review by December 31, 2023
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List with reactions: ____________________________________________________________

Sedation/analgesia

Ventilated patients: □ Refer to Sedation and Analgesia Orders for Mechanically Ventilated Patients (See page 4)

□ acetaminophen 1 g PO q6h  □ Regularly scheduled or  □ PRN for pain
□ acetaminophen/caffeine/codeine 30 mg (Tylenol #3 or equivalent) 1 to 2 TABS PO q4h PRN for pain

□ morphine ______ mg □ PO □ Subcutaneous □ IV  □ q ______ h PRN for pain
□ HYDROMorphone ______ mg □ PO □ Subcutaneous □ IV  □ q ______ h PRN for pain
□ Other: ________________________________________________________________

Hemodynamic management

Goal: □ MAP: ____________________ □ Systolic blood pressure: ____________________
□ ScVO\textsubscript{2}: ____________________ (60 to 80%) Goal in sepsis equal to or greater than 70%

Goal: □ NS □ D5NS □ LR □ D5W □ 1/2NS
□ Other: ________________________________________________ Run at __________________ mL/h
□ Add KCl __________________ mmol/L

□ Refer to Vasopressor and Inotrope Orders (see page 5)

Respiratory management

Ventilated patients: □ Refer to Ventilator Admission Orders (see page 6)

Non-ventilated patients:
□ O\textsubscript{2} to maintain saturations equal to or greater than ____________________
□ ipratropium 20 mcg metered dose inhaler (MDI) with spacer 2 puffs □ q4h  □ q ______ h PRN dyspnea
□ salbutamol 100 mcg metered dose inhaler (MDI) with spacer 2 puffs □ q4h  □ q ______ h PRN dyspnea
□ ABG on admission □ ABG PRN per RRT

Nutrition

Access: □ NG □ OG □ NJ □ Other (specify): ___________________________________________
□ NPO □ Diet (specify): _______________________________________________________
□ TPN as per dietitian □ Enteral feeds as per dietitian
□ Daily weight

Glycemic control (glucose target 6 to 10 mmol/L)
□ Glucometer reading qid or q _________ h
□ Insulin Infusion (See page 7)
□ Site-specific subcutaneous insulin orders

Anti-nausea medications

□ dimenhyDRINATE 25 to 50 mg PO/IV/IM q4h PRN
□ ondansetron 4 to 8 mg PO/IV q8h PRN
□ Other: ________________________________________________________________

Stress ulcer prophylaxis

□ raNITidine 150 mg PO/NG q12h (usual renal dysfunction raNITidine dose: 150 mg PO q24h)
□ pantoprazole 40 mg PO daily  or □ pantoprazole 40 mg IV q24h  or □ esomeprazole 40 mg via tube daily
□ Other: ________________________________________________________________

Physician signature: ________________________  College ID: __________  Date: ________  Time: ________
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Allergies: □ None known    □ Unable to obtain
List with reactions: __________________________________________________________

GU
☐ Insert Foley catheter
☐ Call MD if urine output less than 30 mL/h x 2 consecutive hours
☐ Electrolyte Replacement Protocol (see page 8)

VTE prophylaxis:
☐ enoxaparin 30mg subcutaneous q12hr
☐ enoxaparin 30 mg subcutaneous q24hr (for CrCl less than 30mL/min)

Medication reconciliation: Complete Pharmanet medication reconciliation report

Other medications: See physician order sheets
• Ensure Pharmanet form is on the chart
• Reassess antibiotics in 72 hours

Referrals:
☐ Physiotherapy    ☐ Social Worker    ☐ Spiritual/Religious Care    ☐ Aboriginal Patient Liaison Worker

Physician signature: __________________________  College ID: __________  Date: _________  Time: _________
Sedation and Analgesia Orders for Mechanically Ventilated Patients

1. Physician’s to review all previous narcotic and benzodiazepine orders prior to initiating the sedation protocol
2. Evaluate and document patient’s RASS score q4h to assess sedation goal
3. Richmond Agitation Sedation Scale (RASS) goal (default is 0 to -1 unless otherwise ordered)
   - RASS 0 to -1
   - Other RASS target: ____________

*Usual criteria for deep sedation (if goal is -4 or -5 document reason)
- Deeper sedation needed to improve patient/ventilator synchrony
- To prevent patient movement
- As management of high intracranial pressure
- Ensure adequate sedation for all patients on neuromuscular blocker infusions

**Management**

A) Sedation

Continuous IV infusions (preferred): Choose one
- Daily sedation hold at 0800 unless otherwise ordered
  - **propofol** 5 mcg/kg/minute initial infusion, titrate up by 5 mcg/kg/minute until target sedation achieved (reassess continued use after 48 hours; maximum 50 mcg/kg/minute unless written otherwise)
  - or
  - **midazolam** 0 to 20 mg/h IV, titrate q15minutes to achieve target sedation

Bolus doses
- **propofol** 10 to 20 mg IV q5minutes PRN to achieve target sedation (caution can cause hypotension)
- **midazolam** 1 to 5 mg IV q5minutes PRN to achieve target sedation

B) Analgesia (must be considered in all patients)

Continuous IV infusions (preferred): Choose one
- **fentaNYL** 0 to 200 mcg/h IV, increase by 5 to 25 mcg/h q15minutes PRN to achieve adequate pain control
- or
- **HYDROmorphone** 0.2 to 3 mg/h IV, increase by 0.1 to 0.5 mg/h q15minutes PRN to achieve adequate pain control
- or
- **morphine** 0 to 10 mg/h IV, increase by 1 to 5 mg/h IV q15minutes PRN to achieve adequate pain control
- or
- **ketamine** 0.1 to 0.5 mg/kg/h IV, increase by 0.1 mg/h q30minutes to achieve adequate pain control (caution can cause tachycardia and hallucinations)

Bolus doses
- **fentaNYL** 25 to 50 mcg IV q5minutes PRN to achieve adequate pain control
- **HYDROmorphone** 0.2 to 0.4 mg IV q15minutes PRN to achieve adequate pain control
- **morphine** 1 to 5 mg IV q5minutes PRN to achieve adequate pain control
- **ketamine** 5 to 20 mg IV q15minutes PRN to achieve adequate pain control

***If unable to achieve target sedation, consider ICU delirium (May refer to 11-111-5032 Intensive Care Delirium Orders for guidance)***

Note: These orders will self terminate on extubation. Order additional analgesia as required after extubation.
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List with reactions: ____________________________________________________________

**Vasopressor and Inotrope Orders**

Note: Vasopressors can be started via a peripheral IV (in the antecubital fossa or external jugular vein) in urgent situations for up to 4 hours. All vasopressors and inotropes should be given via central venous access when possible

- □ Insert an arterial line
- □ Central line (site: ____________________________)

Management
- Initiate vasopressors/inotropes in the following order: __________________________________________________________

Management

- □ Mean arterial pressure (MAP) greater than: __________ (suggested greater than 65 mmHg for most patients)
- □ Systolic blood pressure greater than: __________
- □ SvO₂ of 65 to 75%
  - To be measured q6h to q12h PRN

**Vasopressors**

- □ norepinephrine 0 to 20 mcg/minute continuous IV infusion
- □ vasopressin 0.02 to 0.04 units/minute continuous IV infusion
  (as secondary vasopressor when indicated)
- □ EPINEPHrine 0 to 10 mcg/minute continuous IV infusion
  (caution in tachycardic patients and those with arrhythmias)
- □ phenylephrine 0 to 200 mcg/minute continuous IV infusion
  (Not first line vasopressor in septic shock. Can be used for patients with tachyarrhythmia.)
- □ DOPamine 10 to 20 mcg/kg/minute continuous IV infusion
  (as alternative to norepinephrine in patients with absolute or relative bradycardia)

**Inotropes**

- □ DOBUTamine 2.5 to 20 mcg/kg/minute continuous IV infusion
- □ milrinone
  - □ Loading dose: 50 mcg/kg IV over 10 minutes (optional)
  - □ Maintenance dose: 0.125 to 0.75 mcg/kg/minute continuous IV infusion
  - □ Start infusion at _______ mcg/kg/minute

**Directions for weaning of vasopressors/inotropes:** __________________________________________________________

_______________________________________________________

_______________________________________________________

Physician signature:________________________ College ID: ________________ Date: __________ Time:_________
Ventilator Admission Orders

Ventilation
- All patients to have their actual height measured/predicted body weight calculated
- ABG goals: PH ____ PCO₂ ____ PaO₂ ____ SpO₂ ____ Frequency q ____ h and □ q ____ h PRN

Ventilator associated pneumonia prevention orders
- HOB greater than 30°
- Mouth care
- Assess EVAC ETT q2h and q ____ h PRN

Non-invasive positive pressure ventilation (NIPPV)
- Initial settings: IPAP ____ EPAP ____ FiO₂ ____ PAV% ____ RR ____
  □ Changes as per Registered Respiratory Therapist (RRT)
  • Adjust to keep patient comfortable
  □ Contact physician for NIPPV changes

Invasive positive pressure ventilation (IPPV)
- Initial settings: Mode ____ VT ____ Pressure ____ RR ____ PEEP ____ FiO₂ ____
  □ Changes as per Registered Respiratory Therapist (RRT)
  • Plateau pressure less than 30 cm H₂O
  • Vt goal: 6 to 8 mL/kg based on calculated predicted body weight
  □ Recruitment maneuver q4h x 48 hours as per protocol
  □ Contact physician for ventilator changes

Specified protocol
- □ 10-111-5078 Mechanical Ventilation in Patients with Acute Lung Injury (ARDS Protocol)
- □ 1-32-2-010 Airway Pressure Release Ventilation

Weaning
- While sedation on hold in AM as per Intensive Care Sedation and Analgesia Orders for Mechanically Ventilated Patients (see page 4)
- □ Spontaneous breathing trial (SBT) as per 1-32-2-020 Spontaneous Breathing Trial

Extubation
- Difficult intubation: □ Yes □ No
  □ Extubate when extubation criteria met as per (protocol/guidelines)
  or
  □ Notify physician when extubation criteria met

Treatment
- □ salbutamol 100 mcg MDI 8 to 10 puffs through ventilator q _____ h and/or q _____ h PRN for shortness of breath
- □ ipratropium 20 mcg MDI 8 to 10 puffs through ventilator q _____ h and/or q _____ h PRN for shortness of breath
- □ lidocaine endotracheal 10 mg/spray 1 to 2 sprays via endotracheal tube q1h PRN for cough/comfort
Insulin Infusion

Target range for glucose is 6 to 10 mmol/L
= If glucose measurement is greater than 10 mmol/L repeat in 2 hours. If still greater than 10 mmol/L initiate orders below.
= This order set is not to be used for patients with diabetic ketoacidosis.

Glucose monitoring and adjustments

• Measure glucose and adjust insulin as per orders below q2h until 3 glucose levels within range then q4h
• If glucose decreases by 50% or by greater than 2 ranges, or is less than 6 mmol/L.
  • Measure glucose and adjust insulin as per orders below q1h until 3 glucose levels within range.
  • Increase frequency if nutritional intake, sympathomimetic use or patient stability changes, or steroids are administered.
  • If neurological status decreases, suspect hypoglycemia and perform STAT glucose check.
  • Prime tubing with insulin solution prior to starting. insulin should be administered through a dedicated line.
  • For patients without a previous history of diabetes mellitus, who have been stable for at least 48 hours on an infusion of less than 2 units/h, attempt to wean insulin off. Restart if glucose increases above target range.

Medication Orders

1. Regular insulin infusion 1 units/mL concentration in NS.
2. Glucose greater than 10, start at 2 units/h; Glucose greater than 13 start at 4 units/h.

<table>
<thead>
<tr>
<th>Ranges</th>
<th>Increased from a lower range</th>
<th>Is within same range</th>
<th>Decreased from a higher range</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1 to 8</td>
<td>No change</td>
<td>No change</td>
<td>↓ Infusion (Rate change “B”)</td>
</tr>
<tr>
<td>8.1 to 10</td>
<td>Increase by 0.5 units/h</td>
<td>No change</td>
<td>↓ Infusion (Rate change “A”)</td>
</tr>
<tr>
<td>10.1 to 12</td>
<td>Increase by 1 units/h</td>
<td>No change</td>
<td>↓ Infusion (Rate change “A”)</td>
</tr>
<tr>
<td>12.1 to 18</td>
<td>Increase by 2 units/h</td>
<td>Increase by 1 units/h</td>
<td>No change</td>
</tr>
<tr>
<td>18.1 to 24</td>
<td>Increase by 3 units/h</td>
<td>Increase by 2 units/h</td>
<td>No change</td>
</tr>
<tr>
<td>Greater than 24</td>
<td>Increase by 3 units/h and call physician</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Rate change “A”

<table>
<thead>
<tr>
<th>Current rate of infusion</th>
<th>Reduced by 0.5 units/h</th>
<th>Reduced by 1 units/h</th>
<th>Reduced by 2 units/h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 5.5 units/h</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.5 to 8 units/h</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Greater than 8 units/h</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Rate change “B”

<table>
<thead>
<tr>
<th>Current rate of infusion</th>
<th>Reduced by 1 units/h</th>
<th>Reduced by 2 units/h</th>
<th>Reduced by 3 units/h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 5.5 units/h</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.5 to 8 units/h</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Greater than 8 units/h</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Changes of glucose readings less than 1 may be within CBGM measurement error and should not be considered a significant change
Electrolyte Replacement Orders

Items with check boxes must be selected (✓) to be ordered

☐ Potassium replacement protocol (central line required for IV replacement)
   Caution: Do not use potassium replacement protocol if the following are met (review daily):
   • SCR greater than 200 mmol/L
   • Urine output less than 30 mL/h x 2 consecutive hours
   • Patient on hemodialysis

<table>
<thead>
<tr>
<th>Serum potassium (mmol/L)</th>
<th>Potassium chloride 20 mmol IV x 1 dose over 1 hour or Potassium chloride elixir 20 mmol PO x 1 dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.4 to 3.5</td>
<td>□</td>
</tr>
<tr>
<td>3 to 3.3</td>
<td>□</td>
</tr>
<tr>
<td>2.5 to 2.9</td>
<td>□</td>
</tr>
<tr>
<td>Less than 2.5</td>
<td>Notify doctor and give Potassium chloride 40 mmol IV over 1 hour x 2 doses 1 hour apart</td>
</tr>
</tbody>
</table>

• Check serum potassium 2 hours after the end of the final replacement dose
• If potassium refractory to replacement doses, check magnesium level and follow protocol

☐ Calcium replacement protocol (do not use if digoxin received within the last 7 days)
   • Albumin level twice weekly while on replacement protocol

<table>
<thead>
<tr>
<th>Corrected calcium* (mmol/L)</th>
<th>Repeat calcium measurement the next morning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greater to or equal to 2.15</td>
<td>Give calcium chloride 1 g IV x 1 dose and repeat calcium measurement the next morning</td>
</tr>
<tr>
<td>1.9 to 2.14</td>
<td>Give calcium chloride 2 g IV x 1 dose and repeat calcium measurement 1 hour after dose infused</td>
</tr>
<tr>
<td>1.6 to 1.89</td>
<td>Give calcium chloride 2 g IV x 1 dose, repeat calcium measurement 1 hour after dose infused and notify doctor with result</td>
</tr>
<tr>
<td>Less than 1.6</td>
<td></td>
</tr>
</tbody>
</table>

*Corrected calcium = [(40 - albumin) x 0.02] + calcium Use most recent albumin from current admission

☐ Magnesium replacement protocol

<table>
<thead>
<tr>
<th>Serum magnesium (mmol/L)</th>
<th>Give Magnesium sulfate 2 g IV x 1 dose over 1 hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5 to 0.7</td>
<td></td>
</tr>
<tr>
<td>Less than 0.5</td>
<td>Give Magnesium sulfate 5 g IV x 1 dose over 3 hours</td>
</tr>
</tbody>
</table>

• Check serum magnesium 6 hours after end of dose

☐ Phosphate replacement protocol

<table>
<thead>
<tr>
<th>Serum phosphate (mmol/L)</th>
<th>Give Sodium phosphate 15 mmol IV x 1 dose over 2 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.6 to 0.79</td>
<td></td>
</tr>
<tr>
<td>Less than 0.6</td>
<td>Give Sodium phosphate 30 mmol IV x 1 dose over 4 hours</td>
</tr>
</tbody>
</table>

Physician signature: __________________________ College ID: __________ Date: __________ Time: ________