Cirrhosis Admission Adult

More detailed information supporting cirrhosis order sets is available at the cirrhosiscare.ca website. Consider specialty referrals for circumstances such as hepatocellular carcinoma, management of decompensated cirrhosis and assessing potential candidacy for liver transplantation.

Note that cirrhosis syndrome-specific order groups (panels) appear at the end of this set. These can also be opened independently as panels. Consider merging this order set with other appropriate set(s), such as:

- Alcohol Withdrawal Adult Order Set
- Electrolyte Disturbance Order Panel
- Gastroenterology Ascites Fluid Analysis Panel
- Transfusion Medicine Adult (packed cells)
- Plasma Protein Product Albumin 25% Panel

- Cirrhosis Care (Guidance)
Notify Primary Care Physician of patient admission

Goals of Care Designation Orders

Conversations leading to the ordering of a Goals of Care Designation (GCD) Order, should take place as early as possible in a patient's course of care. The Goals of Care Designation Order is created, or the previous GCD Order is affirmed or changed resulting from this conversation with the patient or, where appropriate, the Alternate Decision-Maker. Select a GCD order below and document the content of conversations and/or decisions on the Advanced Care Planning (ACP)/GCD Tracking Record. Specify on the GCD order, if there are specific clarifications to this GCD Order. Document these clarifications on the ACP/GCD Tracking Record as well.

- GCD-R1
- GCD-R2
- GCD-R3
- GCD-M1
- GCD-M2
- GCD-C1
- GCD-C2
### Isolation

<table>
<thead>
<tr>
<th>Suspected or Known</th>
<th>Airborne</th>
<th>Airborne &amp; Contact</th>
<th>Contact</th>
<th>Contact &amp; Droplet</th>
<th>Droplet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antibiotic Resistant Organism (ARO) (e.g. MRSA, VRE, CPO)</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><em>C. difficile</em> Infection</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chickenpox</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gastroenteritis – Infectious, no vomiting</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gastroenteritis – Infectious, vomiting</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Group A Streptococcus, Invasive infection</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Influenza-like Illness</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measles</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meningitis – Bacterial or cause unknown</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td><em>Meningococcus, invasive infection</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mumps</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Mycobacterium tuberculosis</em> (pulmonary)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td><em>Mycoplasma pneumoniae</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Pertussis</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Respiratory tract Infection, viral</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
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<tr>
<td>Rubella (German measles)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Shingles - Disseminated</td>
<td>X</td>
<td></td>
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</tr>
</tbody>
</table>

- Safety and Precautions - Refer to Infection Prevention and Control (IPC) guidelines

- Initiate Airborne Isolation
- Initiate Airborne and Contact Isolation
- Initiate Contact Isolation
- Initiate Contact and Droplet Isolation
- Initiate Droplet Isolation

### Diet and Nutrition

#### Diet and Nutrition

Recommended that majority of patients receive High Protein/High Calorie diet. If clinically required, both High Protein/High Calorie and low sodium diet (2 grams of sodium) can be selected.

- [ ] Adult Diet Regular; High Pro High Cal
  - Now or Specify Date/Time

- [ ] Adult Diet Regular; 2000 mg/2 g Na; High Pro High Cal
  - Now or Specify Date/Time

- [ ] NPO Diet
  - Now or Specify Date/Time

- [ ] Oral Nutrition Supplements; Ensure Protein Max
  - 3 TIMES DAILY, give at time of medication administration. Note: This Medpass can be used to increase calories and protein and is appropriate when patient is on any type of oral diet including gluten free and diabetic. Suitable for lactose intolerance but NOT appropriate for dairy allergy. Give 3 to 5 times per day.

- [ ] Total Fluid Intake (TFI)
  - Until discontinued
Patient Care

Precautions and Safety
- Must Be Up for Meals
  Patient should be upright and fully alert during all oral intake and for 30 minutes afterwards.

Activity
- Mobilize Patient
- No Activity Restrictions
- Bed Rest With Expectations
- Strict Bed Rest

Vital Signs
- Vital Signs
  Per protocol, Every 2 hours for 8 hours, THEN every 4 hours
- Vital Signs
  Every 4 hours
- Vital Signs
  Every 8 hours
- Vital Signs
  Every 12 hours
- Vital Signs
  Per protocol
- Nursing Communication - Do Not Record Vital Signs

Intake and Output
- Intake and Output
  Every shift

POCT Glucose
- Glucose Meter POCT
  4 times daily before meals and at bedtime, 15 to 30 minutes before scheduled meals and at bedtime, AND PRN for suspected hypoglycemia.
- Glucose Meter POCT
  Daily at Night (0200), Starting 20/11/21
- Glucose Meter POCT
  3 times daily after meals, Assess 2 hours post meal time
- Glucose Meter POCT
**Height and Weight**

- Weigh Patient - on Admission
  - Once

- Weigh Patient
  - Daily, Weigh between 0800 hours and 1000 hours.

- Weigh Patient
  - Weekly

- Measure Height or Length

**Patient Care Assessments**

- Nursing Communication - Stool Chart
  - Use stool chart flowsheet.

- Nursing Communication - Audit Score

- Notify Most Responsible Health Practitioner (MRHP) - Audit Score
  - Until discontinued, starting 19/11/21. Notify MRHP if Audit score positive (greater than 3 in males and greater than 2 in females).

- Patient Education
  - Initiate patient teaching when patient / family ready. -Provide and review cirrhosis patient education. Go to Discharge Navigator > References > References/Attachments link > additional search box. Find Cirrhosis: Care Information: General Info (English). Select handout, then print (top right). - Ask patient to view cirrhosis discharge video series video available at www.cirrhosiscare.ca.

- Nursing Communication
  - Please ensure that if the patient has a liver specialist in the community, the liver specialist is listed on the Patient Care Team.

**NG Feeding Tube Insertion and Management**

- Be cautious with NG tube placement if patient has had recent variceal banding (less than 5 days). Consider GI consult if questions.

- Small Bore (Feeding Tube) Insert and Maintain

- Large Bore (Drainage Tube) Insert and Maintain

- NG/OG Tube Unblocking

**Indwelling Urinary Catheter Management**

- Insert Indwelling Urinary Catheter

- Urinary Catheter - Discontinue

  - Discontinue Once on Unit

**Respiratory Interventions**

- Oxygen therapy: Titrates oxygen to maintain saturation range of SpO2 92% to 96%
  - Oxygen Therapy: All presentations EXCEPT Acute Coronary Syndrome, known CO2 retainers and Carbon Monoxide poisoning. All other presentations (including pregnancy and acute stroke) should adhere to the above SpO2 goals. NOTE: For acute stroke, do not apply supplemental oxygen unless SpO2 is under 90%.

- Oxygen therapy: Known CO2 retainer (SpO2 88% to 92%)

- Oxygen Therapy: All Acute Coronary Syndromes (ACS)
  - When SpO2 is under 90%, titrate Oxygen to maintain saturation range SpO2 90-92%

- Notify Provider (MRHP) - If Oxygen flow increases by greater than 2L/min from previous to maintain the same level of oxygenation, or if there is a progressive increase in the work of breathing
  - If Oxygen flow increases by greater than 2 L/min from previous to maintain the same level of oxygenation or if there is a progressive increase in the work of breathing.

- Notify Provider (MRHP) - If a new change to Oxygen Flow of 8L/min or Higher to maintain same level of oxygenation
  - If new change to Oxygen flow of 8 LPM or higher to maintain same level of oxygenation.
Laboratory Investigations - Routine

Hematology

- CBC with differential
  - Once

Chemistry

Consider Liver Disease work-up panel if new diagnosis of cirrhosis and hasn’t previously been done. Alpha Fetoprotein if clinical need or not completed in prior 6 months. Vitamin D if not completed in prior 6 months.

- Aspartate Amino Transferase (AST)
  - Once

- Alpha Fetoprotein (AFP)
  - Once

- Alanine Amino Transferase (ALT)
  - Once

- Bilirubin, Total
  - Once

- Albumin
  - Once

- Urea
  - Once

- Creatinine
  - Once

- Electrolyte Panel (Na, K, Cl, CO2, Anion Gap)
  - Once

- Glucose, Random
  - Once

- Calcium
  - Once

- Magnesium
  - Once

- Phosphate
  - Once

- 25-Hydroxy Vitamin D
  - Once

- Lactate
  - Once
### Coagulation
- INR

### Therapeutic Drug Monitoring and Toxicology
- Ethanol Level
- Alcohol Panel (Ethylene Glycol, Methanol, Isopropanol, Acetone)
- Acetaminophen Level

### Blood Gas

Consider ABG if:
- Patient is critically ill
- Patient shows signs of carbon dioxide retention (e.g., acute breathlessness or drowsiness, increased respiratory rate)
- Patient is at risk of metabolic conditions
- Unexpected or inappropriate drop below 94% SpO2 while patient is awake
- Increased breathlessness or drop of greater than or equal to 3% SpO2 when patient with chronic hypoxemia was previously stable

- Blood Gas Venous POCT
  - Once

- Blood Gas Arterial POCT
  - Once

- Inpatient Consult to Respiratory Therapy
Laboratory Investigations - Repeating

- **Hematology**
  - CBC and Differential
    - Daily Morning, for 7 occurrences

- **Chemistry**
  - Aspartate Aminotransferase (AST)
    - Daily Morning, for 7 occurrences
  - Alanine Aminotransferase (ALT)
    - Daily Morning, for 7 occurrences
  - Alkaline Phosphatase (ALP)
    - Daily Morning, for 7 occurrences
  - Bilirubin, Total
    - Daily Morning, for 7 occurrences
  - Albumin
    - Daily Morning, for 7 occurrences
  - Creatinine
    - Daily Morning, for 7 occurrences
  - Urea
    - Daily Morning, for 7 occurrences
  - Electrolyte Panel (Na, K, Cl, CO2, Anion Gap)
    - Daily Morning, for 7 occurrences
  - Calcium
    - Daily Morning, for 3 occurrences
  - Magnesium
    - Daily Morning, for 3 occurrences
  - Phosphate
    - Daily Morning, for 3 occurrences

- **Coagulation**
  - INR
    - Daily Morning, for 7 occurrences
**Diagnostic Imaging**
- **General Radiology**
  - GR Chest 2 Projections
- **Computed Tomography**
  - CT Abdomen Enhanced
    - Once
  - CT Abdomen
    - Once
- **Ultrasound**
  - US Abdomen Complete 2 or more Organs
    - Once
- **Magnetic Resonance**
  - MR Abdomen
    - Once

**Fluids/Electrolytes**
- **IV Maintenance**
  - Initiate IV: Intravenous Cannula - Insert
  - Saline Lock IV
  - Sodium Chloride 0.9% flush injection
    - 2-5 mL, IV lock, every 8 hours, as needed, maintenance of line patency
- **IV Fluid Boluses**
  - Lactated Ringer's bolus
    - Intravenous, once
  - Sodium Chloride 0.9% bolus
    - Intravenous, once
- **IV Fluid Infusions**
  - Ringers Lactate infusion
    - Intravenous, continuous
  - Sodium Chloride 0.9% infusion
    - Intravenous, continuous
  - Dextrose 5% - Sodium Chloride 0.45% infusion
    - Intravenous, continuous
  - Dextrose 5% - Sodium Chloride 0.9% infusion
    - Intravenous, continuous
### Medications

#### Analgesics and Antipyretics

- **Acetaminophen tablet**
  650 mg, oral, every 6 hours, as needed

#### Antiemetics

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage</th>
<th>Administration</th>
<th>Time</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DimehenyDRINATE PO/IV</strong></td>
<td>25-50 mg</td>
<td>oral, every 4 hours, as needed, nausea, vomiting</td>
<td>Starting today at 1402</td>
<td></td>
</tr>
<tr>
<td><strong>Dimenhydrinate 25-50 mg</strong></td>
<td>25-50 mg</td>
<td>intravenous, every 4 hours, as needed, nausea, vomiting</td>
<td>Starting today at 1402</td>
<td></td>
</tr>
<tr>
<td><strong>Metoclopramide PO/IV</strong></td>
<td>5-10 mg</td>
<td>oral, every 6 hours, as needed, nausea, vomiting</td>
<td>Starting today at 1402</td>
<td></td>
</tr>
<tr>
<td><strong>Ondansetron PO/IV</strong></td>
<td>4 mg</td>
<td>intravenous, every 8 hours, as needed, nausea, vomiting</td>
<td>Starting today at 1402</td>
<td></td>
</tr>
<tr>
<td><strong>Ondansetron (p.o.disintegrating tablets)</strong></td>
<td>4 mg</td>
<td>oral, every 8 hours, as needed, nausea, vomiting</td>
<td>Starting today at 1402</td>
<td></td>
</tr>
</tbody>
</table>

- Avoid DimehenyDRINATE in patients 65 years of age or older due to increased risk of side effects including delirium. Suggest 25 mg for mild/moderate nausea, 50 mg for moderate/severe nausea.
- Dimenhydrinate 25-50 mg may exacerbate symptoms.
- Maximum dose of metoclopramide for Child Pugh B or C patients is 20 mg every 24 hours.
- Ondansetron cannot be calculated (No successful lab value found).

Due to high cost, recommend reserving Ondansetron DISINTEGRATING tablets for actively vomiting patients without an IV.

Maximum dose of Ondansetron for Child Pugh - C patients is 8 mg every 24 hours.

**Ondansetron tablet orally disintegrating 4 mg**
- 4 mg, oral, every 8 hours, as needed, nausea, vomiting, Starting today at 1402
### Vitamins and Minerals

<table>
<thead>
<tr>
<th>Medicine</th>
<th>Dose</th>
<th>Route</th>
<th>Frequency</th>
<th>Start Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vitamin D3 (cholecalciferol) tablet 1000 units</td>
<td>1000 units</td>
<td>Oral, daily</td>
<td>First dose today 1415</td>
<td></td>
</tr>
</tbody>
</table>

**folic acid PO/IV**

<table>
<thead>
<tr>
<th>Medicine</th>
<th>Dose</th>
<th>Route</th>
<th>Frequency</th>
<th>Start Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Follic acid tablet 5 mg</td>
<td>5 mg</td>
<td>Oral, daily</td>
<td>First dose today 1415</td>
<td></td>
</tr>
</tbody>
</table>

**Or**

<table>
<thead>
<tr>
<th>Medicine</th>
<th>Dose</th>
<th>Route</th>
<th>Frequency</th>
<th>Start Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Follic acid injection 5 mg</td>
<td>5 mg</td>
<td>Intravenous, daily</td>
<td>First dose today 1415</td>
<td></td>
</tr>
</tbody>
</table>

**multivitamin PO/IV**

<table>
<thead>
<tr>
<th>Medicine</th>
<th>Dose</th>
<th>Route</th>
<th>Frequency</th>
<th>Start Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multivitamin with minerals tablet</td>
<td></td>
<td>Oral, daily</td>
<td>First dose today 1415</td>
<td></td>
</tr>
</tbody>
</table>

**Or**

<table>
<thead>
<tr>
<th>Medicine</th>
<th>Dose</th>
<th>Route</th>
<th>Frequency</th>
<th>Start Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multivitamin, adult (MULTI-1000) injection 10 mL</td>
<td>10 mL</td>
<td>Intravenous, daily</td>
<td>First dose today 1415</td>
<td></td>
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</table>

**thiamine IV (For suspected Wernicke's encephalopathy)**

<table>
<thead>
<tr>
<th>Medicine</th>
<th>Dose</th>
<th>Route</th>
<th>Frequency</th>
<th>Start Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vitamin B1 (thiamine) injection amp 500 mg</td>
<td>500 mg</td>
<td>Intravenous, every 8 hours</td>
<td>Scheduled, First dose today 1415, For 3 days</td>
<td></td>
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</table>

**Followed By**

<table>
<thead>
<tr>
<th>Medicine</th>
<th>Dose</th>
<th>Route</th>
<th>Frequency</th>
<th>Start Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vitamin B1 (thiamine) injection amp 300 mg</td>
<td>300 mg</td>
<td>Intravenous, daily</td>
<td>First dose on Mon 22/11 at 1400, For 5 days</td>
<td></td>
</tr>
</tbody>
</table>

**thiamine PO/IV (For Wernicke's prophylaxis dosing)**

<table>
<thead>
<tr>
<th>Medicine</th>
<th>Dose</th>
<th>Route</th>
<th>Frequency</th>
<th>Start Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vitamin B1 (thiamine) injection amp 300 mg</td>
<td>300 mg</td>
<td>Intravenous, every 8 hours</td>
<td>First dose today at 1415, For 5 days</td>
<td></td>
</tr>
</tbody>
</table>

**Or**

<table>
<thead>
<tr>
<th>Medicine</th>
<th>Dose</th>
<th>Route</th>
<th>Frequency</th>
<th>Start Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vitamin B1 (thiamine) tablet 300 mg</td>
<td>300 mg</td>
<td>Oral, every 8 hours</td>
<td>First dose today at 1415, For 5 days</td>
<td></td>
</tr>
</tbody>
</table>
Consults/Referrals

- **IP Specialty Consults**
  - Inpatient Consult to Infectious Diseases
  - Inpatient Consult to Critical Care Medicine (Intensivist)
  - Inpatient Consult to Nephrology
  - Inpatient Consult to Addiction Services
  - Inpatient Consult to Pharmacy

- **IP Allied Health Consults**
  Consider Physiotherapy or Occupational Therapy Consults if routine screens positive for functional dependence, immobility, or fall risk.
  Consider Discharge Planning consult if two or more ED visits / admissions in the past year, need for alternate level of care, etc.
  Consider Social Work consult if unstable housing, finances, complex psychosocial concerns.
  - Inpatient Consult to Physical Therapy
  - Inpatient Consult to Occupational Therapy
  - Inpatient Consult to Discharge Planning
  - Inpatient Consult to Social Work
  - Inpatient Consult to Dietitian
  - Inpatient Consult to Speech Language Therapy

- **Cirrhosis Specific Order Panels**
  - Alcohol Associated Hepatitis Adult Panel
  - Alcohol Use Disorder in Cirrhosis Adult Panel
  - Ascites Hepatic Hydrothorax, Edema in Cirrhosis Adult Panel
  - Hepatic Encephalopathy Adult Panel
  - Spontaneous Bacterial Peritonitis (SBP) or Spontaneous Bacterial Pleuritis, Cirrhosis Adult Panel
  - Liver Disease Work Up Adult Panel
  - Renal Dysfunction in Cirrhosis Adult Panel
  - Hepatorenal Syndrome (HRS) Adult Panel
  - Variceal Bleed Adult Panel