Organ Donor Management
Recommended Guidelines
ADULT Brain Death (NDD)

Date: ___________________ Time: ___________________

☑️ = Always applicable  ☐ = Check if applicable

ADMISSION INSTRUCTIONS
☑️ Neurological Determination of Death (NDD) has been performed by at least 2 licensed physicians
☑️ Contact initiated with BC Transplant
☑️ Consent for Organ Donation obtained
☑️ Code Status: Full therapy except cardiopulmonary resuscitation

MONITORING:
☑️ Complete patient height, weight, and abdominal girth. Record on BCT Physical Assessment Form (available on BC Transplant Website)

- Height: ___________________ cm  ☐ Actual  ☐ Estimate
- Weight: ___________________ kg  ☐ Actual  ☐ Estimate
- Abdominal Girth: ____________ cm (Measure around largest diameter)

☑️ Urine output q1h (notify MD if urine output greater than 200 mL/H)
☑️ HR, BP, Temperature, Pulse Oximetry q1h
☑️ Arterial Pressure Monitor continuous
☑️ CVP q4h (minimum)

PATIENT CARE
☑️ Central venous catheter. RIJ preferred. Avoid femorals if possible
☑️ 2 large bore peripheral IVs
☑️ Urine catheter
☑️ Maintain head of bed greater than 30 degrees
☑️ Warming blanket to keep temperature at 35.5 to 37.5 °C
☑️ NG/OG to low intermittent suction if feeds contraindicated or not tolerated
☑️ X-ray post gastric sump insertion to confirm position
☑️ Chest physiotherapy PRN
☑️ Routine pulmonary toilet and repositioning

Date (dd/mm/yyyy)  /  Time  /  Prescriber's Signature  /  Printed Name or College ID #
LABORATORY INVESTIGATIONS

☑ Blood Type/Screen
☑ Goal hemoglobin greater than 70 g/L. Notify physician AND BC Transplant if less than 70 g/L.
☑ 4 units packed RBC available on call to OR
☑ Send blood for tissue typing and serology (use BC Transplant Collection Kit)

<table>
<thead>
<tr>
<th>Initial Bloodwork, then q6h and PRN:</th>
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</thead>
<tbody>
<tr>
<td>☑ ABG</td>
</tr>
<tr>
<td>☑ Serum electrolytes, SCr, Urea, Ca, Mg, PO4, Lactate, CrCl or eGFR, CBC, glucose</td>
</tr>
<tr>
<td>☑ INR/PTT, AST, ALT, TBil, DBil, ALP, GGT, LDH, Total Protein</td>
</tr>
<tr>
<td>☑ Albumin, Amylase/Lipase, CK, Troponin (I or T)</td>
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</tbody>
</table>

☑ Cultures - all culture baseline then q24h
☑ Sputum gram stain and culture
☑ Blood culture x 2 via peripheral venipuncture
☑ Urine culture
☑ Culture all drain sites
☑ Urinalysis including specific gravity, routine and micro baseline and Q24h
☑ Urine microalbumin/creatinine (ACR) ratio baseline and pm as requested
☑ MRSA and VRE screens (also screen all drain sites for MRSA) as per hospital policy

DIAGNOSTICS

☑ CXR, if not performed in previous 12 hours (and then q24h)
☑ 12-lead ECG, if not performed in previous 12 hours (while heart is under evaluation) (and then q24h)
☑ Echocardiogram after declarations, fluids and hemodynamic resuscitation (and repeat as requested by BC Transplant)
☐ CT of chest as requested by BC Transplant (High resolution – Non contrast)
☐ Bronchoscopy (as requested by BC Transplant)
☐ Coronary Angiogram (as requested by BC Transplant).

NUTRITION

☑ Continue feeds if already initiated. Initiate unless contraindicated.
☑ If already initiated continue parenteral nutrition

<table>
<thead>
<tr>
<th>Date (dd/mm/yyyy)</th>
<th>Time</th>
<th>Prescriber's Signature</th>
<th>Printed Name or College ID #</th>
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</table>
### INTRAVENOUS

- Total fluid intake at _________ mL/hr (recommended 1 to 2 mL/kg/h) + previous hour’s urine output (If the urine output was greater than 150 mL/hr)

<table>
<thead>
<tr>
<th>Sodium 145 mmol/L and above</th>
<th>D5W</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium 130 to 145 mmol/L</td>
<td>D5W-NaCl 0.45%</td>
</tr>
<tr>
<td>Sodium 130 mmol/L or below</td>
<td>NS</td>
</tr>
</tbody>
</table>

*OR*

### RESPIRATORY

**Objective:** to optimize lung recruitment for individual patient

- Continue mechanical ventilation as per previous orders

*OR*

- Mechanical ventilation as follows:
  - Mode _________________
  - Tidal volume 6mL/kg OR pressure limit at ______ (cm H2O) as applicable
  - PEEP 10 and adjust to meet patient requirements

- Adjust FiO2 to maintain SaO2 greater than or equal to 95% Maintain PaO2 greater than 70 mmHg with minimal effective FiO2.
- Maintain pH 7.35-7.45
- Recruitment manoeuvres: Periodic increases in PEEP from 30 to 40 cm H2O x 30 to 40 seconds q2h, and after all circuit disconnects and suctioning.
- O2 challenge: 100% FiO2 with PEEP 10 (do not reduce PEEP if at a higher level) initial and q6h PRN as requested by BCT.

### MEDICATIONS

#### Hemodynamic Monitoring and Therapy:

**Goals of Therapy (Notify physician if outside of parameters)**

- HR 60 to 120 beats/min
- CVP 6 to 10 mmHg
- MAP greater than 70 mmHg
- SBP 90 to 160 mmHg
Management of Hypotension: If SBP less than 90 mmHg and/or MAP less than 70 mmHg, initiate the following:

- vasopressin 0 to 0.04 unit/min IV infusion (preferred vasopressor)
- NOREpinephrine 0 to 15 mcg/min IV infusion (call MD if higher dose required)

Management of Hypertension: If BP greater than or equal to 160/90 mmHg sustained for greater than 5 minutes, then wean vasopressors and inotropes. If necessary:

- hydrALAZINE 5 to 10 mg IV q5min as needed for MAP greater than 110 and HR less than 80 bpm
- labetolol 2.5 to 10 mg IV q15min PRN (if HR greater than or equal to 80 bpm)

Management of Bradycardia with Associated Hypotension: If HR is less than 60 bpm

- DOPamine IV infusion to a maximum of 10 mcg/kg/min
  - Atropine ineffective in NDD.

Management of Tachycardia

Manage as any critically ill patient. Ensure patient is euvoletic.

Combined Hormonal Therapy

For organ donor management, levothyroxine, vasopressin, and methylprednisolone are ordered in combination.

- Give levothyroxine for cardiac donor.
- levothyroxine 100 mcg IV for 1 dose and then 50 mcg IV q12h

- AND*
  - methylPREDNISolone (15 mg/kg) __________ mg IV q24h
    - (Maximum of 1 gram, rounded to the nearest 20 mg)

- AND*
- vasopressin as indicated for hypotension management (see above) and/or treatment of DI (see below)

Diabetes insipidus (DI): (MD to confirm diagnosis)

Titrating therapy to urine output of 3 mL/kg/h or less

- vasopressin 0.02 unit/min continuous IV infusion; increase by 0.01 unit/min q1h to a maximum of 0.04 unit/min until urine output goal achieved

- OR*
- desmopressin (DDAVP) 2mcg IV direct; repeat q6h until output goal achieved
Antifungals and Antibiotics (To be ordered ONLY if lungs are being considered OR as needed for culture/imaging results):

- fluconazole 400 mg IV q24h
- vancomycin (25 mg/kg) ________________ mg IV load, then (15 mg/kg) __________mg IV q12h
  (*round to nearest 250 mg)

And one of the following:

- piperacillin-tazobactam 3.375 g IV q6h *OR*
- meropenem 500 mg IV q6h (If documented or suspected penicillin anaphylaxis or history of Extended Spectrum Beta-Lactamase (ESBL) organisms)

**ELECTROLYTE MANAGEMENT**

- Serum creatinine is less than 150 micromol/L or normal renal function
- Urine output is greater than 0.5 mL/kg/h for 2 consecutive hours
- Do not replace potassium using both intravenous and enteral routes as provided below

- Use local electrolyte orders – refer to internal hospital protocol
- *OR*

**Potassium Replacement: Chose from either IV or enteral route:**

- IV potassium chloride must be given via central line when using pre-mixed bag of 20 mmol/50 mL

<table>
<thead>
<tr>
<th>Serum Potassium</th>
<th>Dose/ Route</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 mmol/L and above</td>
<td>None</td>
</tr>
<tr>
<td>3.5 to 3.9 mmol/L</td>
<td>potassium chloride 20 mmol IV over 30 min for 1 dose</td>
</tr>
<tr>
<td>3 to 3.4 mmol/L</td>
<td>potassium chloride 20 mmol IV over 30 min q30min for 2 doses</td>
</tr>
<tr>
<td>Below 3 mmol/L</td>
<td>potassium chloride 20 mmol IV over 30 min q30min for 3 doses</td>
</tr>
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</table>

Check serum potassium 2 hours after end of final replacement dose

*OR*

- Enteral potassium chloride oral solution (20 mmol/15 mL) for enteral replacement

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<td>None</td>
</tr>
<tr>
<td>3.5 to 3.9 mmol/L</td>
<td>potassium chloride 40 mmol NG/OG/PO BID for 2 doses</td>
</tr>
<tr>
<td>3 to 3.4 mmol/L</td>
<td>potassium chloride 40 mmol NG/OG/PO TID for 3 doses</td>
</tr>
<tr>
<td>Below 3 mmol/L</td>
<td>Replace potassium via IV route</td>
</tr>
</tbody>
</table>

Check serum potassium next morning and no sooner than 4 hours after final replacement dose
Phosphate Replacement

<table>
<thead>
<tr>
<th>Serum Phosphate</th>
<th>Dose/ Route</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.8 mmol/L and above</td>
<td>None</td>
</tr>
<tr>
<td>Below 0.8 mmol/L</td>
<td>SODIUM phosphate 15 mmol IV over 2 hours q4h for 3 doses</td>
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</table>

If phosphate less than 0.4 mmol/L, check serum phosphate 4 hours after end of final replacement dose; otherwise, check serum phosphate with blood work the next day.

Magnesium Replacement

<table>
<thead>
<tr>
<th>Serum Magnesium</th>
<th>Dose/ Route</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.7 mmol/L and above</td>
<td>None</td>
</tr>
<tr>
<td>Below 0.7 mmol/L</td>
<td>magnesium sulfate 5 gram IV over 4 hours q8h for 3 doses</td>
</tr>
</tbody>
</table>

If magnesium less than 0.4 mmol/L, check serum magnesium 4 hours after end of final replacement dose; otherwise, check serum magnesium with blood work the next day.

Calcium Replacement

<table>
<thead>
<tr>
<th>Serum Calcium</th>
<th>Dose/ Route</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2 mmol/L and above</td>
<td>None</td>
</tr>
<tr>
<td>Below 1.2 mmol/L</td>
<td>calcium gluconate 2 gram IV for 1 dose</td>
</tr>
</tbody>
</table>

Recheck ionized calcium level with next scheduled bloodwork.

GLYCEMIC CONTROL

☐ Use local glycemic control orders – refer to internal hospital protocols

*OR*

☐ Initiate insulin regular IV infusion for sustained blood glucose greater than 10 mmol/L.

Start infusion to maintain blood glucose between 7 to 10 mmol/L.

<table>
<thead>
<tr>
<th>Blood Glucose (mmol/L)</th>
<th>Insulin regular IV infusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 10</td>
<td>0 unit</td>
</tr>
<tr>
<td>10 to 14</td>
<td>2 unit/h</td>
</tr>
<tr>
<td>14.1 to 18</td>
<td>4 unit/h</td>
</tr>
<tr>
<td>Greater than 18</td>
<td>6 unit/h</td>
</tr>
</tbody>
</table>

*OR*

☐