Organ Donor Management
Recommended PPO
PEDIATRIC Brain Death (NDD)

Note: These orders apply to newborn to 16 years; intended for care provided within a Pediatric/Neonatal Intensive Care Unit. Dosages and infusion rates listed below reflect those used at BC Children’s Pediatric ICU and apply to children less than or equal to 60 kg, beyond which adult dosing should apply. Contact BC Children’s Hospital PICU 604-875-2133 for any questions.

☐ = Always applicable  □ = Check if applicable

Date: ___________  Time: ___________

☐ Neurological Determination of Death (NDD) has been performed (by 2 attending physicians)
☐ Contact initiated with BC Transplant
☐ Consent for Organ Donation obtained by BCT coordinator
☐ Code Status: Full therapy except cardiopulmonary resuscitation

MONITORING
☐ Complete patient actual height and weight. Record on BCT Physical Assessment Form (available on www.transplant.bc.ca)
☐ Urine output q1h
☐ HR, BP, temperature, pulse oximetry q1h
☐ Arterial pressure monitor continuous

PATIENT CARE
☐ Central venous catheter
☐ Urine catheter
☐ Maintain head of bed greater than 30 degrees
☐ Targeted temperature management goal 34-35°C via Criticool device
☐ NG/OG on low intermittent suction if feeds contraindicated or not tolerated

LABORATORY INVESTIGATIONS
☐ Send blood for tissue typing and serology (use BC Transplant “Red Blood Box”)
☐ Blood Type/Screen

Initial Bloodwork, then q8h
☐ ABG
☐ Na, K, Cl, Bicarb, SCr, Urea, eGFR, Ca, Mg, PO4, Lactate, CBC, glucose
☐ INR/PTT, AST, ALT, TBil, DBil, ALP, GGT, LDH, Total Protein
☐ Albumin, Amylase/Lipase, CK, Troponin (I or T)

If planned kidney donation:
☐ SCR, Urea, eGFR, glucose Q8H

If planned liver donation, add on:
☐ INR/PTT, AST, ALT, TBil, DBil, ALP, GGT, LDH, Total Protein, Amylase/Lipase, Albumin Q8H

If planned heart donation
☐ Troponin (I or T) Q8H

Date (dd/mm/yyyy)  Time  Prescriber’s Signature  Printed Name or College ID #
☐ Goal hemoglobin greater than 70 g/L. Notify physician and BC Transplant if <70 g/L.
☐ Monitor platelet level. Notify physician and BC Transplant if platelet level <10 (consider transfusion)
☐ Urinalysis including specific gravity, routine and micro baseline and Q24h
☐ Urine micro albumin/creatinine (ACR) ratio baseline and prn as requested by BCT

DIAGNOSTICS
☐ CXR daily
☐ 12-lead ECG, if not performed in previous 12 hours (while heart is under evaluation)
☐ Echocardiogram after declarations, fluids and hemodynamic resuscitation (and repeat if requested by BC Transplant)
☐ CT of chest and abdomen (only if requested by BC Transplant, High resolution – Non contrast)
☐ Bronchoscopy (if requested by BC Transplant)
  ● complete Bronchoscopy form available on www.transplant.bc.ca

NUTRITION
☐ Continue feeds if already initiated. Initiate unless contraindicated. (Hold feed 8 hours prior to recovery surgery)
☐ If patient on parenteral nutrition, consult dietician for direction

INTRAVENTOUS
☐ Total fluid intake at ___________ mL/h
☐ Fluid type: ______________
  (As per standard fluid management protocols – 80% maintenance)

RESPIRATORY MANAGEMENT
  ● Optimize PEEP and lung recruitment for individual patient
  ● Pulmonary toileting and chest physio (as per site policy)

☐ Continue mechanical ventilation as per previous orders
  *OR*
☐ Mechanical ventilation as follows:
  ● Mode _________________
  ● Tidal volume 6 mL/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 to 7.45
☐ Recruitment manoeuvers: PRN and after all circuit disconnects and suctioning (Consult site policy and BCT for direction on frequency)
  ● Periodic increases in PEEP from 30 cm to 40 cm H2O x 30 to 40 seconds

☐ O2 challenge: 100% FiO2 with PEEP 10 (do not reduce PEEP if at a higher level) initial and q6h (Consider recruitment prior to challenge ABG – may discontinue if lungs are not accepted)
MEDICATIONS

Hemodynamic Monitoring and Therapy:

<table>
<thead>
<tr>
<th>Heart Rate</th>
<th>Respiratory Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>Awake Rate</td>
</tr>
<tr>
<td>Neonate (&lt;28 d)</td>
<td>100-205</td>
</tr>
<tr>
<td>Infant (1 mo-1 y)</td>
<td>100-190</td>
</tr>
<tr>
<td>Toddler (1-2 y)</td>
<td>98-140</td>
</tr>
<tr>
<td>Preschool (3-6 y)</td>
<td>80-120</td>
</tr>
<tr>
<td>School-age (6-11 y)</td>
<td>75-118</td>
</tr>
<tr>
<td>Adolescent (12-15 y)</td>
<td>60-100</td>
</tr>
</tbody>
</table>

Normal Blood Pressure by Age (mm Hg)

<table>
<thead>
<tr>
<th>Age</th>
<th>Systolic Pressure</th>
<th>Diastolic Pressure</th>
<th>Systolic Hypotension</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birth (12 h, &lt;1000 g)</td>
<td>39-59</td>
<td>16-36</td>
<td>&lt;40-50</td>
</tr>
<tr>
<td>Birth (12 h, 3 kg)</td>
<td>60-76</td>
<td>31-45</td>
<td>&lt;50</td>
</tr>
<tr>
<td>Neonate (9 h)</td>
<td>67-84</td>
<td>35-53</td>
<td>&lt;50</td>
</tr>
<tr>
<td>Infant (1-12 mo)</td>
<td>72-104</td>
<td>37-56</td>
<td>&lt;70</td>
</tr>
<tr>
<td>Toddler (1-2 y)</td>
<td>86-106</td>
<td>42-63</td>
<td>&lt;70 + (age in years x 2)</td>
</tr>
<tr>
<td>Preschooler (3-6 y)</td>
<td>89-112</td>
<td>46-72</td>
<td>&lt;70 + (age in years x 2)</td>
</tr>
<tr>
<td>School-age (6-11 y)</td>
<td>97-116</td>
<td>57-76</td>
<td>&lt;70 + (age in years x 2)</td>
</tr>
<tr>
<td>Pre-adolescent (10-11 y)</td>
<td>103-120</td>
<td>61-80</td>
<td>&lt;90</td>
</tr>
<tr>
<td>Adolescent (12-15 y)</td>
<td>110-131</td>
<td>64-83</td>
<td>&lt;90</td>
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</tbody>
</table>


Notify physician if outside of general target parameters

Management of Hypotension: Target BP: _______ / _______

☐ vasopressin _______ milliunit/kg/min (0.3 to 2 milliunit/kg/min) IV infusion Max. dose: 40 milliunit/min
☐ epinephrine _______ mcg/kg/min IV infusion (0.01 to 0.2 mcg/kg/min; caution with doses greater than 0.2 mcg/kg/min; max 1 mcg/kg/min)
☐ NORepinephrine _______ mcg/kg/min IV infusion (0.01 to 0.2 mcg/kg/min; caution with doses greater than 0.2 mcg/kg/min; (max 2 mcg/kg/min)

Management of Hypertension: Target BP: _______ / _______

Age-related Treatment Thresholds for Arterial Hypertension:

- Newborns to 3 months greater than 90/60
- 3 months to 1 year greater than 110/70
- 1 year to 12 years greater than 130/80
- 12 years to 18 years greater than 140/90

a. Wean inotropes and vasopressor
b. If necessary start:
   ☐ nitroprusside _______ mcg/kg/min (0.5 to 5 mcg/kg/min) OR
   ☐ esmolol _______ mcg/dose (500 mcg/kg/dose) IV bolus over 1-2 min
      Followed by _______ mcg/kg/min (50 to 300 mcg/kg/min) IV infusion
**Diabetes Insipidus:** *(MD to confirm diagnosis)*

Defined as urine output greater than 3 mL/kg/h associated with:

- increasing serum sodium greater than 145 mmol/L and/or
- increasing serum osmolarity greater than 300 mosM, and/or
- decreasing urine osmolarity less than or equal to 200 mosM

If Diabetes Insipidus present without hypotension, titrate vasopressin therapy to urine output less than 3 mL/kg/h

☐ vasopressin __________ milliunit/kg/min (0.02-0.05 milliunit/kg/min; max 0.2 milliunit/kg/min) IV infusion

**Hormonal Therapy**

For organ donor management- Give levothyroxine for cardiac donors (discontinue if heart no longer under evaluation)

☐ levothyroxine 100 mcg IV for 1 dose, then 50 mcg IV q12h (not weight based)

**INFECTION SURVEILLANCE AND TREATMENT**

Examine patient each shift for new skin lesions suggestive of viral, fungal or bacterial infection

- On daily rounds review for potential new infection.
- Treat any new suspected or confirmed viral, fungal or bacterial infection and notify BC Transplant
  
  - Influenza test (Flu A/B/RSV) (Tracheal aspirate) all donors (during flu season only, typically Dec 1 to Mar 31)
  - COVID-19 test (requires dual source- NP swab and ET specimen test as indicated by BC Transplant). Must be completed within 5 days of recovery surgery.
  - HSV/VZV (oral and genital) swabs of any potential herpetic lesions, as appropriate

☐ Cultures - all cultures to be done at baseline and then q48h

  - Sputum gram stain and culture
  - Blood culture *(Refer to current BCCH Pediatric Blood Culture Guide for appropriate collection quantities)*
  - Urine culture
  - Culture all drain sites

☐ MRSA and VRE screens (also screen all drain sites for MRSA) as per hospital policy

**Antifungals and Antibiotics**

- Consult with pharmacy for renal dosing of all antibiotics in presence of impaired renal function
- If lungs not considered, treat any known or suspected infections as per ICU direction
- If lungs are being considered treat with the following:

☐ fluconazole 6 mg/kg/dose (max 400 mg) IV q24h

☐ vancomycin (15 mg/kg) ______________ mg IV q6h

  (round to nearest 250mg) (consult pharmacy for renal dosing in presence of AKI)

**And one** of the following:

☐ piperacillin-tazobactam 75 mg/kg/dose of piperacillin component (max 4 g/dose) IV q6h

  *OR*

☐ meropenem 20 mg/kg/dose (max 2 g/dose) IV Q8H *(If documented or suspected penicillin anaphylaxis or history of Extended Spectrum Beta-Lactamase (ESBL) organisms)*

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