

Critical Pathway for the Organ Donor

Patient name: _____

ID number: _____

Collaborative Practice	Phase I Referral	Phase II Declaration of Brain Death and Consent	Phase III Donor Evaluation	Phase IV Donor Management	Phase V Recovery Phase
<p>The following professionals may be involved to enhance the donation process.</p> <p><i>Check all that apply.</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> Physician <input type="checkbox"/> Critical care RN <input type="checkbox"/> Organ Procurement Organization (OPO) <input type="checkbox"/> OPO coordinator (OPC) <input type="checkbox"/> Medical Examiner (ME)/Coroner <input type="checkbox"/> Respiratory <input type="checkbox"/> Laboratory <input type="checkbox"/> Pharmacy <input type="checkbox"/> Radiology <input type="checkbox"/> Anesthesiology <input type="checkbox"/> OR/Surgery staff <input type="checkbox"/> Clergy <input type="checkbox"/> Social worker 	<ul style="list-style-type: none"> <input type="checkbox"/> Notify physician regarding OPO referral <input type="checkbox"/> Contact OPO ref: Potential donor with severe brain insult <input type="checkbox"/> OPC on site and begins evaluation Time _____ Date _____ <input type="checkbox"/> Ht _____ Wt _____ as documented <input type="checkbox"/> ABO as documented _____ <input type="checkbox"/> Notify house supervisor/charge nurse of presence of OPC on unit 	<ul style="list-style-type: none"> <input type="checkbox"/> Brain death documented Time _____ Date _____ <input type="checkbox"/> Pt accepted as potential donor <input type="checkbox"/> MD notifies family of death <input type="checkbox"/> Plan family approach with OPC <input type="checkbox"/> Offer support services to family (clergy, etc) <input type="checkbox"/> OPC/Hospital staff talks to family about donation <input type="checkbox"/> Family accepts donation <input type="checkbox"/> OPC obtains signed consent & medical/social history Time _____ Date _____ <input type="checkbox"/> ME/Coroner notified <input type="checkbox"/> ME/Coroner releases body for donation <input type="checkbox"/> Family/ME/Coroner denies donation—stop pathway—initiate post-mortem protocol—support family. 	<ul style="list-style-type: none"> <input type="checkbox"/> Obtain pre/post transfusion blood for serology testing (HIV, hepatitis, VDRL, CMV) <input type="checkbox"/> Obtain lymph nodes and/or blood for tissue typing <input type="checkbox"/> Notify OR & anesthesiology of pending donation <input type="checkbox"/> Notify house supervisor of pending donation <input type="checkbox"/> Chest & abdominal circumference <input type="checkbox"/> Lung measurements per CXR by OPC <input type="checkbox"/> <i>Cardiology consult as requested by OPC (see reverse side)</i> <input type="checkbox"/> <i>Donor organs unsuitable for transplant—stop pathway—initiate post-mortem protocol—support family.</i> 	<ul style="list-style-type: none"> <input type="checkbox"/> OPC writes new orders <input type="checkbox"/> Organ placement <input type="checkbox"/> OPC sets tentative OR time <input type="checkbox"/> Insert arterial line/ 2 large-bore IVs <input type="checkbox"/> Possibly insert CVP/Pulmonary Artery Catheter <input type="checkbox"/> See reverse side 	<ul style="list-style-type: none"> <input type="checkbox"/> Checklist for OR <input type="checkbox"/> Supplies given to OR <input type="checkbox"/> Prepare patient for transport to OR <ul style="list-style-type: none"> <input type="checkbox"/> IVs <input type="checkbox"/> Pumps <input type="checkbox"/> O₂ <input type="checkbox"/> Ambu <input type="checkbox"/> Peep valve <input type="checkbox"/> Transport to OR Date _____ Time _____ <input type="checkbox"/> OR nurse <ul style="list-style-type: none"> <input type="checkbox"/> reviews consent form <input type="checkbox"/> reviews brain death documentation <input type="checkbox"/> checks patient's ID band
Labs/Diagnostics		<ul style="list-style-type: none"> <input type="checkbox"/> Review previous lab results <input type="checkbox"/> Review previous hemodynamics 	<ul style="list-style-type: none"> <input type="checkbox"/> Blood chemistry <input type="checkbox"/> CBC + diff <input type="checkbox"/> UA <input type="checkbox"/> C & S <input type="checkbox"/> PT, PTT <input type="checkbox"/> ABO <input type="checkbox"/> A Subtype <input type="checkbox"/> Liver function tests <input type="checkbox"/> Blood culture X 2 / 15 minutes to 1 hour apart <input type="checkbox"/> Sputum Gram stain & C & S <input type="checkbox"/> Type & Cross Match _____ # units PRBCs <input type="checkbox"/> CXR <input type="checkbox"/> ABGs <input type="checkbox"/> EKG <input type="checkbox"/> Echo <input type="checkbox"/> Consider cardiac cath <input type="checkbox"/> Consider bronchoscopy 	<ul style="list-style-type: none"> <input type="checkbox"/> Determine need for additional lab testing <input type="checkbox"/> CXR after line placement (if done) <input type="checkbox"/> Serum electrolytes <input type="checkbox"/> H & H after PRBC Rx <input type="checkbox"/> PT, PTT <input type="checkbox"/> BUN, serum creatinine after correcting fluid deficit <input type="checkbox"/> Notify OPC for _____ PT >14 _____ PTT < 28 _____ Urine output _____ < 1 mL/Kg/hr _____ > 3 mL/Kg/hr _____ Hct < 30 / Hgb >10 _____ Na >150 mEq/L 	<ul style="list-style-type: none"> <input type="checkbox"/> Labs drawn in OR as per surgeon or OPC request <input type="checkbox"/> Communicate with pathology: Bx liver and/or kidneys as indicated
Respiratory	<ul style="list-style-type: none"> <input type="checkbox"/> Pt on ventilator <input type="checkbox"/> Suction q 2 hr <input type="checkbox"/> Reposition q 2 hr 	<ul style="list-style-type: none"> <input type="checkbox"/> Prep for apnea testing: set FiO₂ @ 100% and anticipate need to decrease rate if PCO₂ < 45 mm Hg 	<ul style="list-style-type: none"> <input type="checkbox"/> Maximize ventilator settings to achieve SaO₂ 98 - 99% <input type="checkbox"/> PEEP = 5cm O₂ challenge for lung placement FiO₂ @ 100%, PEEP @ 5 X 10 min <input type="checkbox"/> ABGs as ordered <input type="checkbox"/> VS q 1st 	<ul style="list-style-type: none"> <input type="checkbox"/> Notify OPC for _____ BP < 90 systolic _____ HR < 70 or > 120 _____ CVP < 4 or > 11 _____ PaO₂ < 90 or _____ SaO₂ < 95% 	<ul style="list-style-type: none"> <input type="checkbox"/> Portable O₂ @ 100% FiO₂ for transport to OR <input type="checkbox"/> Ambu bag and PEEP valve <input type="checkbox"/> Move to OR
Treatments/Ongoing Care		<ul style="list-style-type: none"> <input type="checkbox"/> Use warming/cooling blanket to maintain temperature at 36.5° C - 37.5 °C <input type="checkbox"/> NG to low intermittent suction 	<ul style="list-style-type: none"> <input type="checkbox"/> Check NG placement & output <input type="checkbox"/> Obtain actual Ht _____ & Wt _____ if not previously obtained 		<ul style="list-style-type: none"> <input type="checkbox"/> Set OR temp as directed by OPC <input type="checkbox"/> Post-mortem care at conclusion of case
Medications			<ul style="list-style-type: none"> <input type="checkbox"/> Medication as requested by OPC 	<ul style="list-style-type: none"> <input type="checkbox"/> Fluid resuscitation—consider crystalloids, colloids, blood products <input type="checkbox"/> DC meds except pressors & antibiotics <input type="checkbox"/> Broad-spectrum antibiotic if not previously ordered <input type="checkbox"/> Vasopressor support to maintain BP > 90 mm Hg systolic <input type="checkbox"/> Electrolyte imbalance: consider K, Ca, PO₄, Mg replacement <input type="checkbox"/> Hyperglycemia: consider insulin drip <input type="checkbox"/> Oliguria: consider diuretics <input type="checkbox"/> Diabetes insipidus: consider antidiuretics <input type="checkbox"/> Paralytic as indicated for spinal reflexes 	<ul style="list-style-type: none"> <input type="checkbox"/> DC antidiuretics <input type="checkbox"/> Diuretics as needed <input type="checkbox"/> 350 U heparin/kg or as directed by surgeon
Optimal Outcomes	The potential donor is identified & a referral is made to the OPO.	The family is offered the option of donation & their decision is supported.	The donor is evaluated & found to be a suitable candidate for donation.	Optimal organ function is maintained.	All potentially suitable, consented organs are recovered for transplant.

Shaded areas indicate Organ Procurement Coordinator (OPC) Activities.

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Cardio-Thoracic Donor Management

1. **Early echocardiogram for all donors** — Insert pulmonary artery catheter (PAC) to monitor patient management (placement of the PAC is particularly relevant in patients with an EF < 45% or on high dose inotropes.)
 - use aggressive donor resuscitation as outlined below
2. **Electrolytes**
 - Maintain Na < 150 mcq/dl
 - Maintain K+ > 4.0
 - Correct acidosis with Na Bicarbonate and mild to moderate hyperventilation (pCO₂ 30-35 mm Hg)
3. **Ventilation** — Maintain tidal volume 10-15 ml/kg
 - keep peak airway pressures < 30 mm Hg
 - maintain a mild respiratory alkalosis (pCO₂ 30-35 mm Hg)
4. **Recommend use of hormonal resuscitation as part of a comprehensive donor management protocol** — Key elements
 - **Tri-iodothyronine (T3)**: 4 mcg bolus; 3 mcg/hr continuous infusion
 - **Arginine Vasopressin**: 1 unit bolus; 0.5 - 4.0 unit/hour drip (titrate SVR 800-1200 using a PA catheter)
 - **Methylprednisolone**: 15 mg/kg bolus (Repeat q 24^o PRN)
 - **Insulin**: drip at a minimum rate of 1 unit/hour (titrate blood glucose to 120-180 mg/dl)
 - **Ventilator**: (See above)
 - **Volume Resuscitation**: Use of colloid and avoidance of anemia are important in preventing pulmonary edema
 - albumin if PT and PTT are normal
 - fresh frozen plasma if PT and PTT abnormal (value ≥ 1.5 X control)
 - packed red blood cells to maintain a PCWP of 8-12 mm Hg and Hgb > 10.0 mg/dl
5. **When patient is stabilized/optimized** repeat echocardiogram. (An unstable donor has not met 2 or more of the following criteria.)
 - Mean Arterial Pressure ≥ 60
 - CVP ≤ 12 mm Hg
 - PCWP ≤ 12 mm Hg
 - SVR 800-1200 dyne/sec/cm⁵
 - Cardiac Index ≥ 2.5 l/min/M²
 - Left Ventricular Stroke Work Index > 15
 - dopamine dosage < 10 mcg/kg/min

HIV = human immunodeficiency virus; VDRL = Venereal Disease Research Laboratory; CMV = cytomegalovirus; CVP = central venous pressure; CXR = chest x-ray; CBC = complete blood count; UA = urinalysis; C & S = culture and sensitivity; PT = prothrombin time; PTT = partial thromboplastin time; RBCs = packed red blood cells; ABGs = arterial blood gases; H & H = hemoglobin and hematocrit; BUN = blood urea nitrogen; Rx = prescription; Bx = biopsy; FiO₂ = fraction of inspired oxygen; PCO₂ = partial pressure of carbon dioxide; NG = nasogastric tube; EKG = electrocardiogram; SaO₂ = arterial oxygen saturation; PEEP = positive end-expiratory pressure; VS = vital signs; BP = blood pressure; HR = heart rate; PaO₂ = partial arterial oxygen pressure; DC = discontinuous.