### Critical Pathway for Donation After Cardiac Death

#### Collaborative Practice

- The following health care professionals may be involved in the Donation After Cardiac Death (DCD) donation process:
  - Physician (MD)
  - Critical Care RN
  - Nurse Supervisor
  - Medical Examiner / Coroner
  - Respiratory Therapy (RT)
  - Laboratory
  - Pharmacy
  - Radiology
  - Anesthesiology
  - OR/Surgery Staff
  - Clergy
  - Social Worker
  - Organ Procurement Coordinator (OPC)
  - Organ Procurement Organization (OPO)

#### Phase I: Identification & Referral

- Prior to withdrawing life support, contact local OPO for any patient who fulfills the following criteria:
  - Devastating neurologic injury and/or other organ failure requiring mechanical ventilatory or circulatory support
  - Family and/or care giving team initiate conversation about withdrawal of support

- Following referral, additional evaluation is done collaboratively to determine if death is likely to occur within one hour (or within a specified timeframe as determined by caregiving team and OPO) following withdrawal of support

- Patient conditions might include the following:
  - **Ventilator dependent for respiratory insufficiency**: apneic or severe hypopneic; tachypnea ≥ 30 breaths /min after DC ventilator
  - **Dependent on mechanical**

#### Phase II: Preliminary Evaluation

- Physician
  - Supportive of withdrawal of care and has communicated grave prognosis to family
  - Review DCD procedure with OPC
  - Will be involved in withdrawal/pronouncement
  - Will designate a person to be involved with withdrawal and/or pronouncement

- Family
  - Has received grave prognosis
  - Understands prognosis
  - In conjunction with care giving team, decide to withdraw support

- Patient
  - Age
  - Weight
  - Height
  - ABO
  - Medical Hx
  - Surgical Hx
  - Social Hx
  - Death likely < 1 hour following withdrawal (determined)

#### Phase III: Family Discussion & Consent

- Support services offered to family
- OPC/Hospital Staff approach family about donation options
- Legal next-of-kin (NOK) fully informed of donation options and recovery procedures
- Legal NOK grants consent for DCD following withdrawal of support
- Family offered opportunity to be present during withdrawal of support

- OPC obtains
  - Witnessed consent from legal NOK for DCD
  - Signed consent
  - Time
  - Date
  - Detailed med/soc history

#### Phase IV: Comprehensive Evaluation & Donor Management

- MD, in collaboration with OPO, implements management guidelines
- Establish location and time of withdrawal of support
- Review plan for withdrawal to include:
  - Pronouncing MD (should be in attendance for duration of withdrawal of support, determination of death, and may not be a member of the transplant team)
  - Comfort Care
  - Extubation and discontinuation of ventilator support
- Establish plan for continued supportive care if pt survives > one hour or predetermined time interval after withdrawal of support

- Notify OR/Anesthesia
- Review patient’s clinical course

#### Phase V: Withdrawal of Support /Pronouncement of Death/Organ Recovery

- Withdrawal occurs in
  - ____ OR
  - ____ ICU
  - ____ Other

- Family present for withdrawal of support
  - yes
  - no

- OR/Room prepared and equipment set up
- Transplant team in the OR (not in attendance during withdrawal)
- Care giving team present
- Administration of pre-approved medication (e.g. Heparin/Regitine)
- Withdrawal of support according to hospital/MD practice guidelines
- Time
- Date

- Vital signs are monitored and recorded every minute (See attached sheet)
- Pt pronounced dead and appropriate documentation completed
mechanical circulatory support (LVAD; RVAD; V-A ECMO; Pacemaker with unassisted rhythm < 30 beats per minute.

- Severe disruption in oxygenation: PEEP ≥ 10 and SaO2 ≤ 92%; FiO2 ≥ .50 and SaO2 ≤ 92%; V-V ECMO requirement
- Dependent upon pharmacologic circulatory assist: Norepinephrine, epinephrine, or phenylephrine ≥ 0.2 ug/kg/min; Dopamine ≥ 15 ug/kg/min
- IABP and inotropic support: IABP 1:1 and dobutamine or dopamine ≥10 ug/kg /min and CI ≤ 2.2 L/min/M2; IABP 1:1 & CI ≤ 1.5 L/min/M2

(released collaboratively by evaluating: injury, level of support, respiratory drive assessment)

- withdrawal plan and potential organ recovery procedures
- has restrictions

Stop Pathway if –

- Family, ME/Coroner denies consent
- Patient determined to be unsuitable candidate for DCD
- Patient progresses to brain death during evaluation – refer to brain dead pathway

Transplant Team initiates surgical recovery at prescribed time following pronouncement of death

Allocation of organs per OPTN/UNOS policy

If cardiac death not established within 1 hour or predeter-

mined time interval after withdrawal of support – Stop
Pathway. Patient moved to predetermined area for continuation of supportive care.

Post mortem care administered

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**Labs / Diagnostics**

- ABO
- Electrolytes
- LFTs
- PT/PTT
- CBC with Diff
- Beta HCG (female pts)
- ABG

Repeat full panel of labs additionally:

- Serology Testing infectious disease profile
- Blood cultures X 2
- UA & Urine culture
- Sputum Culture
- Tissue typing

**Respiratory**

- Maintain ventilator support
- Pulmonary toilet PRN

- Respiratory drive assessment
  - RR _________
  - VT _________
  - VE _________
  - NIF _________

- ABGs as requested
  - Notify RT of location and time of withdrawal of support

- Transport with mechanical ventilation using lowest FiO2 possible while maintaining the SaO2 >90%

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Date _________

Time _________

MD _________

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- Notify recovery teams
- Prepare patient for transport to pre-arranged area for withdrawal of support
- Patient transported to prearranged area
- Note: Should the clinical situation require premortum femoral cannulation, the following should be reviewed:
  - family consent or understanding
  - MD inserting cannula
  - Time and location of cannula insertion
  - If death does not occur, determine if cannula should be removed

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Time _________

Date _________

MD _________

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Post mortem care administered
<table>
<thead>
<tr>
<th>Minutes off ventilator</th>
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<tbody>
<tr>
<td>♦ <strong>Hemodynamics while off ventilator</strong></td>
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<td>HR _________</td>
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<td>SaO₂ _________</td>
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**Treatments / Ongoing Care**
- Maintain standard nursing care to include:
  - ♦ Vital signs q 1 hour
  - ♦ I & O q 1 hour

**Medications**
- ♦ Provide medications as directed by MD in consult with OPC
- ♦ Heparin and other medications prior to withdrawal of support

**Optimal Outcomes**
- The potential DCD donor is identified & a referral is made to the OPO.
- The donor is evaluated & found to be a suitable candidate for donation.
- The family is offered the option of donation & their decision is supported.
- Optimal organ function is maintained, withdrawal of support plan is established, and personnel prepared for potential organ recovery.
- Death occurs within one hour of withdrawal of support and all suitable organs and tissues are recovered for transplant.

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