I. POLICY STATEMENT:

Grady Health System respects the rights of patients to have life support removed and to donate organs if they or their surrogate wish to do so. All patients and families have the right and will be offered the option of making an End-of-Life choices regarding donation. Every effort will be made to honor their wishes and meet the needs of the patient and family. All patients shall receive the highest level of medical care in an attempt to save lives prior to any discussion of donation after cardiac death. Grady Health system believes that patients or their surrogates may decide to forgo life-sustaining measures and that it is ethically appropriate to consider organ recovery from donors who are declared dead by cardiac or respiratory criteria in accordance with acceptable medical standards. This policy does not apply to patients in the Neonatal Intensive Care Unit.

II. PURPOSE:

The purpose of this policy is to provide guidance for organ donation in patients who are on life sustaining measures, and for whom the decision has been made to withdraw them with the expectation that the patient will experience cardiac death shortly after withdrawal, but whom brain death has not been declared.

III. PROCEDURES:

1. Suitable Candidate Selection
   a. A patient who has suffered a non-recoverable neurological injury and/or other system failure resulting in ventilator dependency may be a suitable candidate for DCD if they have met any of the following triggers listed below:
      i. GCS< 5 (not sedated),
      ii. unresponsive or posturing,
      iii. no pupillary or corneal reflex,
      iv. no cough or gag,
      v. no spontaneous respiration,
      vi. Discussion of DNR
vii. Discussion of withdrawal of life-sustaining therapies including pharmacological support for mechanically ventilated patients

viii. Family requests information regarding organ donation

b. The medical team establishes that the patient’s clinical condition is irreversible and communicates this grave prognosis to the family or surrogate. This discussion must be documented in the medical record.
   i. NOTE: The patient who has not fulfilled brain death criteria or who may become unstable prior to the completion of the brain death evaluation may be considered for DCD.

c. The decision to withdraw life-sustaining measures is made by the patient care team, patient, family or surrogate and documented in the patient’s chart.
   i. NOTE: Decisions concerning the treatment and management of patients (including withdrawal of mechanical support and/or medications) are made separately and prior to discussion of organ donation.

d. The Life Link coordinator, in consultation with the patient’s healthcare team and the Life Link medical director on call, will make an assessment and determine donation suitability using current established criteria that allows donation following withdrawal of life sustaining measures.

2. Medical Management and Evaluation

   a. It is the healthcare professional’s responsibility to optimize the patient’s care and comfort.
   b. The medical staff, in collaboration with Life Link, will implement management guidelines in the care and evaluation of the patient and be responsible for writing all orders for patient while in the ICU.
   c. The patient must be maintained on a ventilator and thermodynamically supported for organ perfusion until the withdrawal of life-sustaining measures.
   d. The Life Link coordinator will work in conjunction with the medical staff to request medical consultation (if needed) and laboratory studies to determine the suitability of the organs for transplantation.

3. Informed Consent

   a. Life Link, in collaboration with the hospital care team, will inform the patient’s authorized surrogate of their opportunity for organ donation, only after the family and medical staff have determined that life support will be discontinued.
   b. The patient’s authorized surrogate will be fully informed of donation options and recovery procedures.
   c. The physician withdrawing life-sustaining therapies and the Life Link team should include the following in their discussions with the family and/or the patient:
      i. the process of removal of life-sustaining therapy
      ii. the process of organ recovery after cardiac death
      iii. the requirement of an arterial catheter
      iv. while death is expected during or shortly after discontinuation of life-sustaining measures, removal of support may not always lead to death of the patient within a time frame that allows donation
      v. organs will not be procured until after the patient is declared dead

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vi. organs designated for donation may not be recovered (e.g. due to ischemic injury)

vii. death will be certified in accordance with existing Georgia law

viii. consent may be withdrawn at any time

4. Notifications

a. The Life Link Coordinator will immediately contact the Vice President, Patient Care Services (or designee) [5-7358] or the Health System Administrator on duty (evenings, nights, weekends and holidays) [404-319-7367] when a DCD is being considered.

b. The Life Link Coordinator will immediately contact the Anesthesiologist in charge of the operating room (OR) [404-690-9933] during the elective schedule, the OR charge nurse and the OR Front Desk (5-4575) to notify them of the planned withdrawal of life sustaining measures in the OR and the possibility of organ recovery so that an OR suite can be made available.

5. Care of the Donor Family

a. Staff present notifies a chaplain to partner with Life Link and provide family support.

b. An appropriate waiting area for family is determined and the Life Link coordinator will be notified of the location.

c. Appropriate areas where families are allowed to say “good-bye” include but are not limited to:
   i. ICU
   ii. In the OR. suite after careful planning with the OR. staff, Life Link, and family members
   iii. After recovery of organs, in a private area post-op.

d. Life Link will have discussion with the family regarding whether the family wishes to be present at the moment of the patient’s death and whether the family wishes to see the patient after organs have been recovered.

6. Withdrawal of Life Sustaining Measures

a. After obtaining consent, a plan that details the timing of the transfer to the O.R. suite and process for withdrawal of life sustaining measures (e.g., endotracheal tube removal if indicated, withdrawal of life-supporting medications) will be formulated by Nursing and Respiratory Therapy staff, under the direction of the withdrawing physician.

b. Pronouncement of death will be made by the withdrawing physician, according to the Cardiopulmonary Criteria set forth in this policy.

c. Continuous care and support will be provided to the family during the withdrawal of life-sustaining measures.

    d. If the patient does not progress to cardiac death within a time frame that allows donation after the removal of life-sustaining measures, efforts to recover organs for transplantation will cease.
e. A pre-established plan for supportive care should be initiated if the patient survives after more than the predetermined time after withdrawal of support. Patient will be transferred to the previously assigned area for continuation of palliative care.

7. Declaration of Death

a. No surgical incision may be made until the three criteria for cardiac death (explicitly defined in Section 7b) have been simultaneously satisfied and the patient has been observed to satisfy those criteria continuously for five (5) minutes.

b. Cardiac Death Criteria are simultaneous and irreversible unresponsiveness
   i. to verbal and tactile stimuli,
   ii. apnea,
   iii. absence of circulation continuously for 5 minutes.

c. The diagnosis of death by cardiopulmonary criteria requires confirmation of both EKG lead placement and arterial catheter patency. The pulse pressure must be zero via the arterial catheter or by definition the heart is still beating. A pulse pressure of zero for 5 minutes associated with any one of the following electrocardiographic rhythms is sufficient cardiac criteria for certification of death:
   i. ventricular fibrillation or
   ii. electrical asystole (i.e., no complexes, agonal baseline drift only) or
   iii. Electromechanical dissociation.

8. Organ Recovery

a. Scheduling of DCD cases will follow the routine hospital policy for scheduling donations and will be prioritized accordingly.

b. The Transplant Center organ recovery team members shall not be present in the OR until certification of death. To keep warm ischemia time to a minimum, other appropriate preparations (e.g. skin preparation and sterile draping) for the procurement operation may take place prior to death if approved by the critical care physician.

c. After cardiac death has been established and the five (5) minute interval was observed, the Life Link coordinator and transplant recovery team will take over care of the deceased and initiate the organ recovery process.

d. A standard OR team is required in the DCD process, which will include: the circulating RN and scrub technician/RN.

e. During transport to the O.R. and during terminal management, all equipment (e.g., for assisted ventilation and monitoring) and drugs shall be brought from the ICU. Should additional medications be required, medications will be retrieved from either the holding area Pyxis or hospital pharmacy. Anesthesia technicians may provide technical support, including oxygen, compressed air, and suction equipment.

f. If opioids and sedatives are administered, these drugs must be titrated to the patient’s need for provision of comfort. The administration of clinically appropriate medications in appropriate doses to prevent discomfort is acceptable per standard palliative care protocol, with titration of medication predicated on signs indicative of pain, anxiety, or other signs/symptoms of distress. If these medications have secondary effects, e.g. hypoventilation or hypotension, this is acceptable for the above palliative reasons. Analgesics and sedatives should not be used with the intent to hasten death.
g. Interventions intended to preserve organ function but which cause discomfort to the patient are prohibited except:

i. When the medications are necessary for DCD to occur. For example, heparin, in the time frame being considered, is not harmful to the potential donor, makes organ donation possible, and may be given.

ii. When the placement of venous and arterial cannula by the critical care team as indicated for drug administration and monitoring of circulation before death is required. The venous cannula (cannulation) may be used to infuse organ preservation solution AFTER the patient’s death has been certified. If required, and after consent by the patient or surrogate, the cannula may be placed by a member of the organ recovery team.

h. If organ ischemia is prolonged (e.g., beyond two hours), it may not be possible to utilize organs designated for donation, and procurement may not be performed. The decision to cancel organ recovery because of prolonged ischemia rests with the Life Link medical director on call. Under these circumstances, the Primary Care team and Palliative Care team should be notified. The patient then should be transferred to their previous hospital room where the family might remain with the patient and palliative care can be continued.

i. Within 7 days of the termination of each DCD case, those parties involved in the care of the patient will review the case and debrief. The meeting will be coordinated through the DCD task force in conjunction with the Organ Donation Advisory Council and Life Link.

9. Financial Considerations

a. Donor patients will not be charged for the costs of organ recovery or donation related charges (e.g., the use of the O.R., special personnel, or medications used in the OR).

10. Conflict of Interest Safeguards

a. The Transplant Center organ recovery team shall in no way participate in the deceleration of care process (i.e. administration of comfort medications, the weaning process of the donor), with the exception of vascular catheter insertion, if specific consent is provided by the patient or the surrogate decision maker.

b. The Transplant Center Organ recovery team, anesthesiologists, nurses and other hospital staff who later might be involved in the management of recipients of the donated organs shall not participate in the weaning process or other forms of the donor’s medical management.

c. The physician who declares death must not be involved in the procurement or transplantation of donor organs.

11. Ethical Considerations

a. Healthcare professionals shall not be required to participate in, and have the right to “opt out of,” the procedures described in this policy if such participation is against their personal, ethical, or religious beliefs in accordance with hospital policy. In the
event that a healthcare professional chooses not to participate in the procedures described in this policy, they shall notify their respective department chief or manager to facilitate locating replacement healthcare provider.

b. Any member of the healthcare team can request an ethics consult if they perceive an ethical problem with the case.
   i. If two or more members of the team perceive an ethical issue with the case, DCD cannot continue until the ethics consult has taken place and the issue has been reasonably resolved by staff present.

IV. DEFINITIONS:

Surrogate: An individual who is legally or ethically authorized to make decision on behalf of an incapacitated patient.

Donation after Cardiac Death (DCD): An organ donation from a deceased, non-heart-beating donor, whose death was determined by demonstrating irreversible cessation of cardiopulmonary function and pronounced by a licensed physician based on acceptable medical standards, from which organs are procured for the purpose of organ transplantation. The three required elements of cessation of cardiopulmonary function criteria are simultaneous and irreversible 1) unresponsiveness, 2) apnea, and 3) absent circulation. This process for DCD is made available to the patient’s authorized surrogate after such time that s/he has made a decision to withdraw care for the patient who suffered some type of neurological injury.

Organ Donation After Cardiac Death (DCD): A deceased patient, whose cardiac death was determined and pronounced by a licensed physician based on acceptable medical standards, from which organs are procured for the purpose of organ transplantation. This is a process made available to the legal next of kin after such time that they have made a decision to withdraw life support for those patients who suffered some type of neurological injury.

Death: An individual who has sustained either:
   (1) irreversible cessation of heartbeat and respiratory functions, or
   (2) irreversible cessation of all functions of the entire brain, including the brain stem, is dead.
   a. Brain death- irreversible cessation of brain function, including the brain stem, established by neurological criteria.
   b. Cardiac death- irreversible cessation of all circulatory and respiratory functions.

Time of Death: The time that the physician pronounces that the patient is dead.

Controlled DCD: With Controlled DCD, organ recovery follows a death that occurs after planned withdrawal of life-sustaining therapy. In this situation, the patient or family has refused life sustaining therapy, including cardiopulmonary resuscitation. Instead, they
have opted to withdraw life support, and then consent to organ donation after death. If the patient expires and death has been pronounced, and the organs remain viable for transplantation, only then may the organ recovery surgery occur. This policy pertains to the Controlled DCD.

**Cannulation:** The process of placing silastic tubes (cannula) into large blood vessels for the administration of fluids and/or medications, withdrawal of blood, or cold flushing of organs.

**Heparin:** An anticoagulant medication that is used in organ procurement to keep vessels open and to maximize blood flow to the organs. Potentially, can cause bleeding complications.

**Ischemia:** Lack of oxygen supplied to the tissues and organs. Warm ischemia refers to the period of time from the onset of hypoxemia until the organs have been cooled. Usually only 30-45 minutes can be tolerated by organs. Cold ischemia is the time from cold perfusion until the organ is transplanted into the recipient.

V. REFERENCES, CROSS REFERENCES OR REGULATORY INDEXING:

Defining Death: Medical, Legal And Ethical Issues In The Determination Of Death. (1981: 162). *Report of the medical consultants on the diagnosis of death to the President’s commission for the study of ethical problems in medicine and biomedical and behavioral research. Guidelines for the determination of death in the President’s commission for the study of ethical problems in medicine and biomedical and behavioral research.*

The Uniform Determination of Death Act (1980)

Appendix A

Staff Responsibilities

Critical Care Physician

Responsibilities:
- The patient’s attending physician must agree with the proposed procedure and this should be noted in the medical record. In the event the attending does not agree with the proposed procedure he/she is required to notify their respective chief that they do not wish to participate. The chief will locate an alternative attending that can facilitate the procedure.
- Communicate with the family the grave prognosis.
- Support withdrawal of treatment process.
- Review DCD procedure with Life Link staff regarding withdrawal and pronouncement of death.
- Provide medical management of the patient, in conjunction with Life Link staff.
- Ensure that any questions the patient, family, or surrogate may have are answered.
- Decide, in coordination with Life Link, when to initiate transfer of the patient to the OR.
- Manage the patient’s care in the OR, with the assistance of a critical care nurse.
- Inform the procurement team when it is acceptable to start surgical preparation.
- Certify death. The physician certifying death must not be involved either in procuring organs or the care of any of the potential transplant recipients.
- Complete death packet (if you are the Service withdrawing care of the patient in the OR).
- Complete death note and discharge summary in the medical.

Criteria:
- The physician must either attend in an intensive care unit (ICU) and have responsibility for the critical care management of the patient identified as a potential DCD donor or be an ICU Fellow involved in the patient’s care.
- The physician must have personal experience with termination of life support, and specifically with removal of life sustaining measures from patients who have been designated “comfort measures only”.
- The physician must have no current clinical responsibilities on a transplantation service, or be caring for potential recipients of organs from the patient who may become a DCD donor.
- Physicians who have any other basis for conflicts of interest in individual cases in withdrawal of life support and certification of death should be excluded from managing the withdrawal of treatment process for a potential DCD case.

ICU Nursing Staff

- Continue to provide care for the patient. In situations in which staffing levels create challenges for the primary nurse to accompany the patient to the OR, the primary nurse will work with the Critical Care charge nurse to make arrangements for
coverage. Ideally, the nurse who has established rapport with the patient and the family will be the nurse to accompany the patient to the OR.

- Support the family throughout the process.
- Provide care of the patient, in conjunction with Life Link staff and patient’s physician.
- Facilitate withdrawal of vital function support with other departments if applicable, i.e., Respiratory Therapy.
- Transport the patient back to previous ICU to provide palliative care if patient does not expire in OR.
- Notify the charge nurse and the unit clerk on the previous ICU to release bed if patient expires in the OR.
- Responsible for completing death packet timely. Death packet goes to the Morgue with the patient

**OR Nursing Staff**

- Provide OR suite, equipment and OR team (i.e. circulating nurse, scrub tech/RN).
- Coordinate with Life Link staff regarding surgical needs, i.e., equipment set-up, etc.
- Assist with transferring patient to table, positioning, prepping and draping. Once prep is complete, may leave the room and return for procurement.
- Notify Bed Management/Admissions to discharge patient once organ recovery is complete.

**Anesthesia**

- Not required to administer care to DCD patients

**Chaplaincy Care**

- Support the donor family and members of the patient care team, in conjunction with Nursing and the Life Link staff.

**Palliative Care**

- Facilitate appropriate management of the patient’s end of life care and to ensure support for the patient, surrogate, family and staff.

**Respiratory Therapy**

- Assist ICU nurse and physician in transporting patient to the OR.
- Aid in withdrawal of mechanical ventilator support.

**Life Link Staff**

- Evaluate the patient for DCD and determine suitability of organs for transplantation.
- Request and secure consent for appropriate potential organs from the patient’s authorized surrogate.
- Obtain permission from the Medical Examiner’s office, if applicable
- Coordinate with staff regarding withdrawal of treatment, declaration of death, availability of the transplant team, and availability of an OR suite/team.
- Provide continued support for the family and patient care team members.
Appendix B

Grady Health System
Donation after Cardiac Death (DCD) Process Flow

Eff. October 11, 2011

Approved By: Medical Executive Team; Nurse Executive Team