Clinical Process Instruction Manual

Non-Perfused Organ Donation (NPOD) Following DCC Attempt Process Instruction

Policy:

Donation after Death Determination by Circulatory Criteria (DCC) refers to the process of solid organ donation after death for patients pronounced dead via circulatory, rather than neurologic criteria. Trillium Gift of Life Network (TGLN) facilitates the option of DCC for patients on life support, where death has not been pronounced via neurological criteria and withdrawal of life support (WLS) is planned.

Non-Perfused Organ Donation (NPOD) following DCC attempt refers to consented DCC donors where lungs have been accepted for donation and who die between three and 24 hours after withdrawal of life-sustaining measures (WLSM). See Exhibit 1 *NPOD Following DCC Attempt – Process Flow*.

Consent for NPOD following DCC attempt donation is requested from the Substitute Decision Maker (SDM) after the lung transplant program confirms that they would accept the donor lungs for NPOD following DCC attempt. Consent for multi-tissue (MT) donation is completed at the time of initial consent.

Hospital staff are required to continue to monitor the vital signs and blood pressure of potential NPOD following DCC attempt patients where lungs have been accepted, and to continue use of the nasogastric (NG) tube. This monitoring is required to facilitate suitability assessment for NPOD donation.

Process:

1. For donors at hospitals identified as able to facilitate NPOD following DCC attempt, the Clinical Services Coordinator (CSC) will confirm with the lung transplant program whether they would accept the lungs for DNC, DCC and NPOD following DCC attempt, at the time of initial offer. The CSC will notify the Specialist - Organ and Tissue Donation (S-OTD) assigned to the donor case if the lungs have been accepted for NPOD following DCC attempt.

    1.1. The S-OTD will approach the NOK for NPOD following DCC attempt consent for lungs. Note: In some situations, the S-OTD may proceed with obtaining NPOD following DCC attempt consent in advance of acceptance.

2. NPOD lung donation will be considered at hospitals within a 2 hour (120 minute) driving distance of Toronto General Hospital (at night). See Exhibit 5 *Non-Perfused Organ Donation (NPOD) (Lung) Following DCC Attempt – Participating Hospitals* for a list of hospitals considered within the catchment areas for NPOD lung donation following DCC attempt.

3. In instances where the patient does not have cessation of circulation in the timeframe deemed acceptable for donation by the recovery team(s) in attendance, the patient is returned to the intensive care unit (ICU) or predetermined area for continuation of end-of-life care. The recovery team will leave the donor hospital.

4. Prior to leaving the donor hospital, the S-OTD, CSC and Manager On-Call (MOC) will complete an NPOD Following DCC Attempt Transition Huddle. See Exhibit 2: *NPOD Following DCC Attempt Transition Huddle Guidelines*. Additional huddles may be called by anyone, at any time, as required.

5. The supplies and all associated paperwork and labels used for the initial DCC attempt will remain at the donor hospital OR (Operating Room) desk, to be accessed by the Surgical Recovery Coordinator (SRC) that is dispatched for the NPOD following DCC attempt. The SRC and S-OTD will determine where the supplies will be stored after consultation with the OR staff.

6. Hospital staff are required to continue to monitor the vital signs and blood pressure of NPOD following DCC attempt patients where lungs have been accepted, and to continue use of the NG tube.

7. After consultation with MOC on the *NPOD Following DCC Attempt Transition Huddle* (see Exhibit 2) with regards to resources, either a CSC, Referral Triage Coordinator (RTC) or S-OTD will continue to monitor the case and check-in with the hospital on the patient status. A check-in should be completed every 4 hours and at the time of shift changes.

8. When the systolic blood pressure of the patient is 50 mmHg or less, the Registered Nurse (RN) from the hospital is required to call the PRC. The CSC will complete a preliminary assessment of recovery team and SRC resources at this time, and dispatch the S-OTD to the donor hospital. The S-OTD will contact the OR after dispatch to confirm OR resources. If there is no S-OTD available to go on-site, the case will proceed with telephone support provided by an on-call S-OTD. If the S-OTD identifies the need for further support, the MOC will assign a second S-OTD to support the primary S-OTD.

    8.1. If, at the time SBP is ≤ 50, a decision is made to not pursue the case, the S-OTD who has been dispatched will notify the hospital and continue to go onsite to inform the family. The S-OTD will close the case as per current practices for DCC donation.

Dispatch & Recovery

9. Upon receipt of the call regarding the time of death, the CSC will contact the NPOD lung physician, or designate, to confirm interest in pursuing the case. Once interest is confirmed, the CSC will then complete the following:

    9.1. Contact the Multi-Organ Transplant Coordinator (MOTC) to assess recovery team availability.

    9.2. Contact the Manager on Call (MOC) to advise of status of case, and to determine TGLN resources.

9.2.1. When assessing resources for surgical recovery, any SRC that has already been assigned to a consented case with a pending donor OR should not be reassigned for NPOD following DCC attempt donation.

9.3. Contact the SRC to confirm availability and prepare to be dispatched to the donor hospital.

9.4. If tissue accepted, notify the Tissue Coordinator (TC) of the time of death.

10. If after consultation with the MOC, it is determined that there are insufficient resources from the donor hospital or the lung recovery team, the case will be closed for NPOD. If after consultation with the MOC, it is determined that there are insufficient SRC and S-OTD resources available, the case will be closed for NPOD.

11. If the SRC has not already been dispatched, the SRC will proceed to the donor hospital. The SRC will provide updates to the CSC if any unexpected delays should occur that may delay the start of the donor OR.

12. Once the CSC has confirmed with the NPOD lung physician that the case will proceed, the S-OTD will:

12.1. Notify the OR of the pending recovery and book the OR appropriately as an urgent case.

12.2. Confirm that Exhibit 3 *Pronouncement of Death: Non-Perfused Organ Donation* form has been completed by two physicians, as specified below:
- One of the two physicians must be a staff physician (i.e., Staff ICU Physician, Anesthetist, any non-transplant surgeon in the hospital, ER Physician)
- The second physician can be a resident or fellow

12.3. Ensure that the Most Responsible Physician (MRP) has contacted Anesthesia to advise of the patient status.

12.4. Ensure patient is re-intubated by hospital staff and lung recruitment is initiated. Recruit 30 cm H_2O for 30 seconds. Recruitment maneuver should be initiated no sooner than 10 minutes following the pronouncement of death, which occurs after a 5 minutes hands-off period.

12.5. Ensure patient is placed in the prone position.

12.6. The minimum time from pronouncement of death to ventilation is at least 10 minutes. Ensure vent settings are set to pressure control 10 cm H_2O, rate 10; PEEP 10 cm H_2O, FiO_2 0.21.

12.7. If a coroner's case, ensure the Coroner's Office has been updated that the case is proceeding as an NPOD following DCC attempt.

12.8. Ensure the patient is transferred to the OR for prepping and draping in the prone position.

12.9. Ensure that the ICU team is available to assist in unproning the patient once in the OR.

12.10. Provide updated information to the Tissue Coordinator to reassess suitability for tissue recovery.

13. The CSC will notify and make arrangements for the lung recovery fellows to travel to the donor site.

14. Once onsite, the SRC and lung recovery fellows initiate the set-up of the OR.

15. A rapid huddle must be initiated by the S-OTD after death has occurred, reintubation of the patient has been completed, and the OR has been booked. The rapid huddle must take place prior to skin cut. See Exhibit 4: *NPOD Following DCC Attempt Rapid Huddle Guidelines*.

16. The recovery of the organ begins in the OR. Heparin will not be administered a second time. Recovery of the lungs must occur within 180 minutes from the time of death.

Post-Recovery Responsibilities

17. The S-OTDC will remain at the hospital during recovery and be available to debrief with the OR and ICU teams after the recovery is completed.

18. When the recovery is complete and the lungs are en route to the transplant hospital, the CSC provides the estimated time for organ arrival to the NPOD lung physician via the MOTC.

19. The SRC arranges transportation of the organ and the lung recovery fellows to the transplant hospital per *Transportation Coordination Process Instruction, CPI-9-404.* NPOD lungs are placed on Ex-Vivo Lung Perfusion (EVLP) and evaluated for potential transplant.

20. The SRC will drop off any donor samples to the appropriate laboratories.

21. The CSC will confirm with the appropriate labs that the samples were received.

Clinical Process Instruction Manual

Non-Perfused Organ Donation (NPOD) Following DCC Attempt Process Instruction

Records:

Record Name	Form No. (if applicable)	Record Holder	Record Location	Record Retention Time (as a minimum)
Pronouncement of Death: Non-Perfused Organ Donation	CSF-9-223	PRC	PRC	16 years

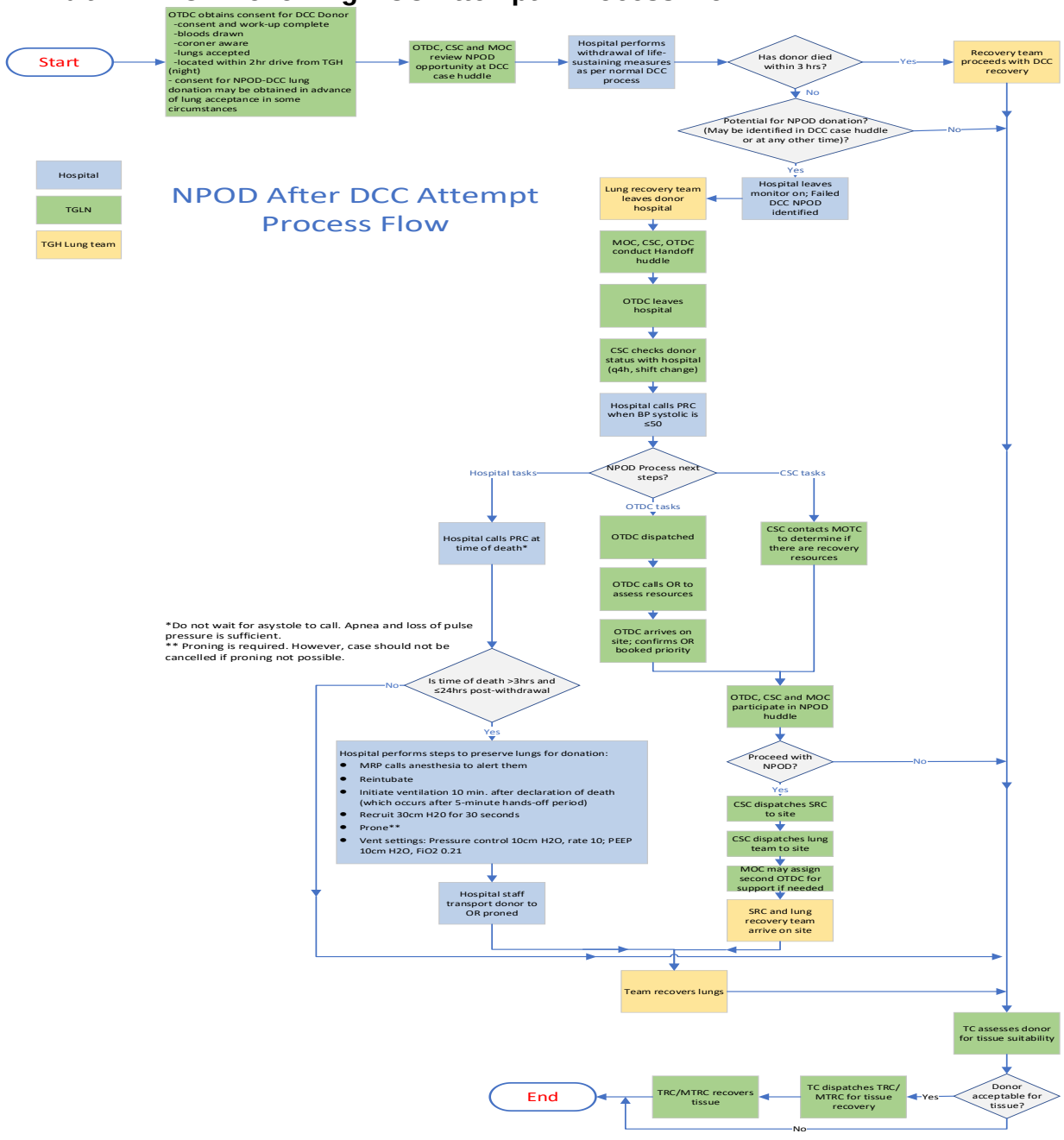
References:

- *CPI-9-440, DCC On-Site Coordination Process Instruction*
- *CPI-9-242, Non-Perfused Organ Donation (NPOD) Process Instruction*
- *CPI-9-404, Transportation Coordination of Teams, Bloods and Organ Process Instruction*
- *CSF-9-224, NPOD Following DCC Attempt – Process Flow*

Clinical Process Instruction Manual

Non-Perfused Organ Donation (NPOD) Following DCC Attempt Process Instruction

Exhibit 1: NPOD Following DCC Attempt – Process Flow



Clinical Process Instruction Manual

Non-Perfused Organ Donation (NPOD) Following DCC Attempt Process Instruction

Exhibit 2: NPOD Following DCC Attempt Transition Huddle Guidelines

Huddle team members:

- Manager-on-call (MOC)
- CSC/TL
- RTC
- S-OTD

The following to be reviewed prior to transitioning off site following DCC attempt recovery:

- ☐ WLSM time
- ☐ Time out time (WLSM time + 24hrs)
- ☐ Confirm plan for check-in by CSC, S-OTD or RTC q4 hours and at shift changes
- ☐ Confirm plan with RN to contact TGLN when SBP < 50
- ☐ Confirm plan for the patient to be declared x2
- ☐ Confirm plan for patient to be re-intubated with vent settings: Pressure Control: Peep 10cm H20, rate 10, Fio2 0.21
- ☐ Confirm plan for recruitment 30cm H20 for 30 seconds
- ☐ Confirm plan to prone patient
- ☐ Heads up to OR - are there any concerns?
- ☐ Does the OR have an available sternal saw?
- ☐ Confirm where lung supplies are being stored at donor hospital
- ☐ Confirm family plans for remaining with patient and at time of death
- ☐ Confirm “Case Milestone Report” documentation to be left with pt. chart

Clinical Process Instruction Manual

Non-Perfused Organ Donation (NPOD) Following DCC Attempt Process Instruction

Exhibit 3: Pronouncement of Death: Non-Perfused Organ Donation

CSF-9-78

Ontario Health
Trillium Gift of Life Network

Patient I.D

Confirmation of Death Determination by Circulatory Criteria (DCC) for the Purposes of Organ Donation

This form is also to be used in Non-Perfused Organ Donation (NPOD) lung donation after DCC/Withdrawal of Life-Sustaining Measures (WLSM).

TGLN ID:		
Assessment Method		
Indicate the method used to establish confirmation of permanent cessation of circulation.		
☐ Indwelling arterial catheter monitoring	☐ Continuous electrocardiogram (ECG) monitoring	
In circumstances where the patient does not have an indwelling arterial catheter, the only acceptable alternative method is continuous electrocardiogram (ECG) monitoring. No other non-invasive monitoring devices (e.g., point-of-care ultrasound/echocardiography) are acceptable.		
Confirmation of Death Determination by Circulatory Criteria		
Section 1: Observation Period A 5-minute observation period is required to proceed with organ donation following DCC as noted on page 2.		
Date/time of the start of the observation period	(DD-MM-YY):	(00:00):
Section 2: Time of Death For the purposes of post-mortem transplant, the legal time of death shall be determined at the end of the observation period.		
This patient fulfills the criteria for DCC as noted on page 2.	☐ Yes	☐ No
Date/time of death	(DD-MM-YY):	(00:00):
First Clinician (print):	Signature:	
Second Clinician (print):	Signature:	

Both physicians must be available to attend to the patient until the organ flush has commenced. The Ontario Health (TGLN) Coordinator will inform the physicians once organ flush has begun and relieve them of their duty.

July 26, 2023

Clinical Process Instruction Manual

Non-Perfused Organ Donation (NPOD) Following DCC Attempt Process Instruction

Exhibit 4: NPOD Following DCC Attempt Rapid Huddle Guidelines

Huddle team members:

- Manager-on-call (MOC)
- CSC/TL
- S-OTD
- SRC (if available)

The following must be reviewed prior to NPOD Following DCC Attempt Recovery:

- ☐ What was the Time of Death?
- ☐ Has the patient been declared x2?
- ☐ Confirm documents received and uploaded into iTransplant
- ☐ What is our current time and time out time (count down time remaining)
- ☐ Confirm patient re-intubated with vent settings: Pressure Control Peep 10 cm H_20, rate 10, FiO_2 0.21
- ☐ Confirm patient in the proned position.
- ☐ Is the OR booked and are there any concerns?
- ☐ Have recovery teams arrived at hospital/what is their estimated time of arrival?
- ☐ Tissue logistics

Clinical Process Instruction Manual

Non-Perfused Organ Donation (NPOD) Following DCC Attempt Process Instruction

Exhibit 5: Non-Perfused Organ Donation (NPOD) (Lung) Following DCC Attempt – Participating Hospitals

The following hospitals are **within a 2 hour (120 minute) driving distance** of Toronto General Hospital (at night) and are considered within the catchment area for NPOD lung donation following DCC attempt.

Hospital Name	Est. Driving Time (minutes)	Hospital Name	Est. Driving Time (minutes)
Brant Community Healthcare System	85	Peterborough Regional Health Centre	100
Brantford General Hospital	85	Ross Memorial Hospital	100
Cambridge Memorial Hospital	85	Royal Victoria Regional Health Centre	90
Grand River Hospital	90	Scarborough Health Network – Birchmount	29
Guelph General Hospital	85	Scarborough Health Network – Centenary	30
Halton Healthcare – Oakville	42	Scarborough Health Network – General	31
Hamilton Health Sciences	56	St. Joseph's Health Care – Hamilton	56
Headwaters Health Care Centre (ID and transfer)	70	St. Joseph's Health Centre – Toronto	16
Joseph Brant Hospital	45	St. Mary's General Hospital Kitchener	85
Lakeridge Health – Ajax	41	St. Michael's Hospital	7
Lakeridge Health – Bowmanville	70	Southlake Regional Hospital	47
Lakeridge Health – Oshawa	53	Sunnybrook Health Sciences Centre	21
London Health Sciences Centre	120	The Hospital for Sick Children	1
Mackenzie Health	38	Toronto East Health Network – Michael Garron Hospital	20
Markham Stouffville Hospital	35	Trillium Health Partners – Credit Valley	35
McMaster Children's Hospital	56	Trillium Health Partners – Mississauga	27
Mount Sinai Hospital	1	University Health Network – General	0
Niagara Health System	85	William Osler Health System – Brampton Civic Hospital	55
North York General Hospital	24	William Osler Health System – Etobicoke General Hospital	40
Northumberland Hills Hospital	90	Woodstock General Hospital	110
Orillia Soldiers' Memorial Hospital	110		