Donnation cardiaque et donneurs après décès cardiocirculatoire (DDC)
DCD heart donation in Canada

Sam D. Shemie

Colloque Annuel, Société québécoise de transplantation (SQT) Oct 6th 2018, St. Sauveur

McGill University Health Centre, Montreal Children's Hospital, MUHC Research Institute
Division of Critical Care

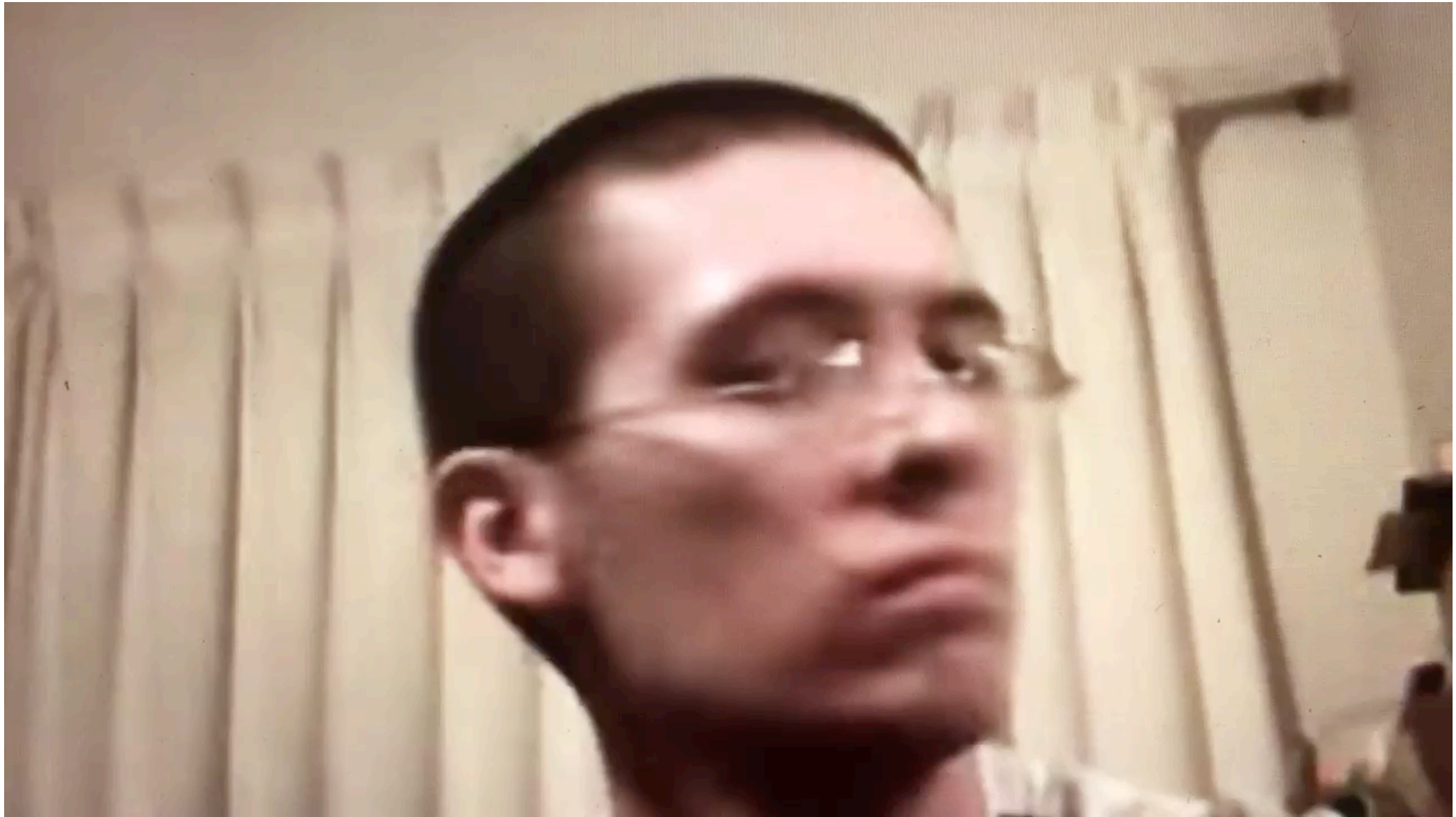
McGill University
Professor of Pediatrics

Canadian Blood Services
Medical Director, Deceased Donation

Disclosures

1. Full time pediatric med/surg/cardiac ICU physician
2. ECMO specialist & former ECMO team medical director
3. Trauma team leader
4. Research and health policy program in organ replacement during critical illness, deceased organ donation and death determination
5. Medical advisor for deceased donation at Canadian Blood Services, a non-profit, government funded organization to coordinate the donation & transplant system in Canada
6. No industry funding
7. No transplant society funding

Attention DDC cardiaque : l'éthique vous fera tourner la tête



Deceased Donation Leading Practices 2003-2018

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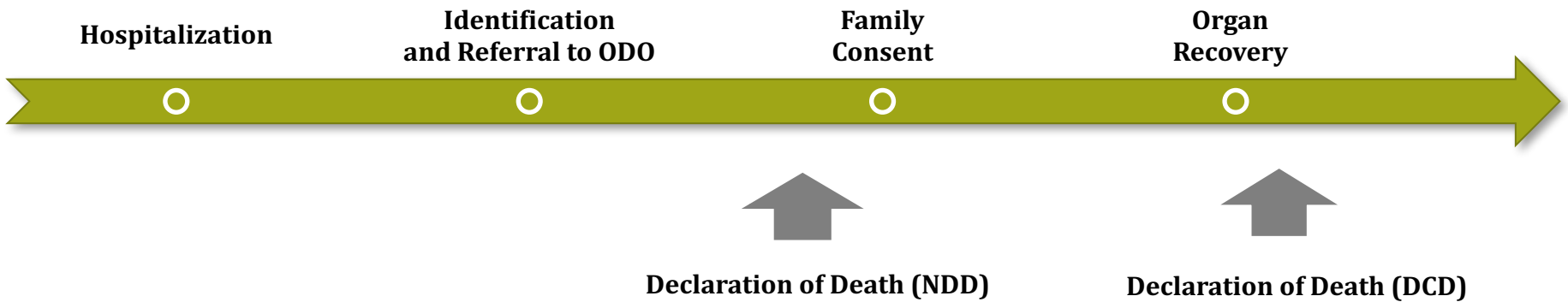


- ✓ Death Determination, NDD, DCD (2003, 2005, 2007, 2012)
- ✓ Donor Management (2004)
- ✓ Controlled DCD (2005)
- ✓ Donation Physician Specialists (2011, 2015)
- ✓ System OTDT Ethics (2011)
- ✓ End-of-life Family Conversations/ Consent (2014)

- ✓ Pediatric DCD (2014-16)
- ✓ Death Audits/Medical Record Review (2015-17)
- ✓ Donor ID&R System Accountability (2015-17)
- ✓ ECMO-CPR-organ donation (2016-18)
- ✓ OD Conscious Competent Patient (2016-18)
- ✓ DCD Quality Assurance (2016-18)
- ✓ Donor Management CPG update (2016-18)
- ❖ DCD Heart Donation and Transplantation (2018)

Canadian Blood Services
BLOOD PLASMA STEM CELLS ORGANS & TISSUES

Collaborative Effort in Canada

Source: Canadian Organ Replacement Register, 2008

Population: **35.5 million Canadians**
Size: **9.7 million square kilometers**

- Canadian Blood Services
- 10 Provincial Organ Donation Organisations
- 80 Transplant Programs
- 286 Intensive Care Units/Emergency Departments

2016 Statistics

- 758 deceased donors
- 545 living donors
- 2903 transplants
- 4541 waiting list
  - 260 deaths

Canadian Blood Services
it's in you to give

Provincial Organ Donation Organizations

New Nouveau Brunswick CANADA

BC TRANSPLANT
An agency of the Provincial Health Services Authority

Legacy of Life
Nova Scotia Organ and Tissue Donation Program
Don de vie
Programme de don d'organes et de tissus de la Nouvelle-Écosse

Alberta Health Services

TRANSPLANT QUÉBEC

OPEN
The Organ Procurement Exchange of Newfoundland & Labrador

Trillium Gift of Life Network

Transplant Manitoba
Gift of Life

Saskatoon Health Region

Canadian Blood Services
it's in you to give

Le don après un décès d'origine cardiocirculatoire au Canada

Sam D. Shemie, Andrew J. Baker, Greg Knoll, William Wall, Graeme Rocker, Daniel Howes, Janet Davidson, Joe Pagliarello, Jane Chambers-Evans, Sandra Cockfield, Catherine Farrell, Walter Glannon, William Gourlay, David Grant, Stéphan Langevin, Brian Wheelock, Kimberly Young, John Dossetor

CMAJ·JAMC

10 octobre 2006, Vol. 175; N° 8 (suppl):SF1–10

Recommandations nationales pour le don après un décès d'origine cardiocirculatoire

Donation After Cardiocirculatory Death:

A Canadian Forum

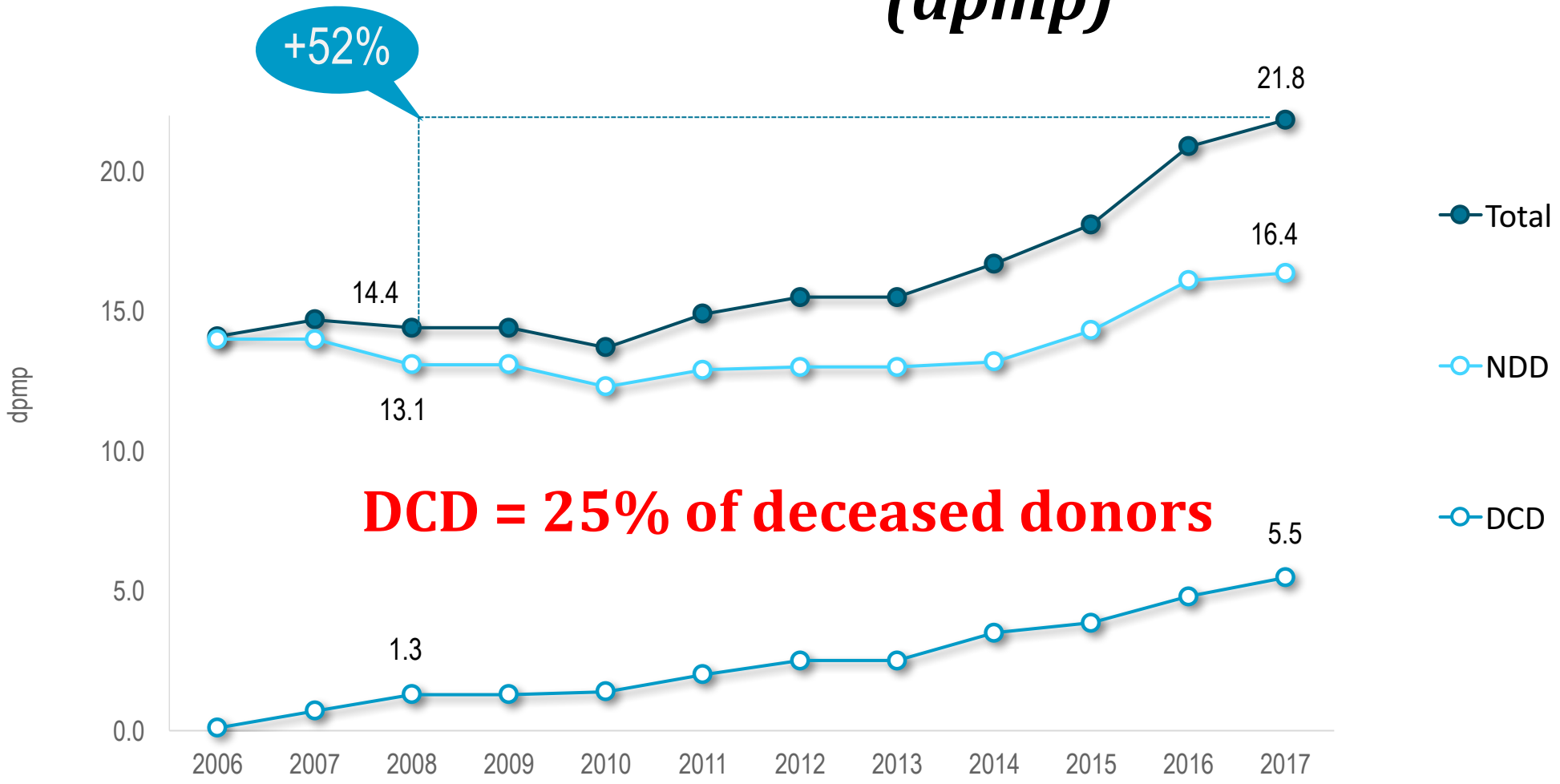
February 17–20, 2005

Vancouver, British Columbia

Report and Recommendations

Established the medical, ethical and legal framework for the practice of DCD in Canada

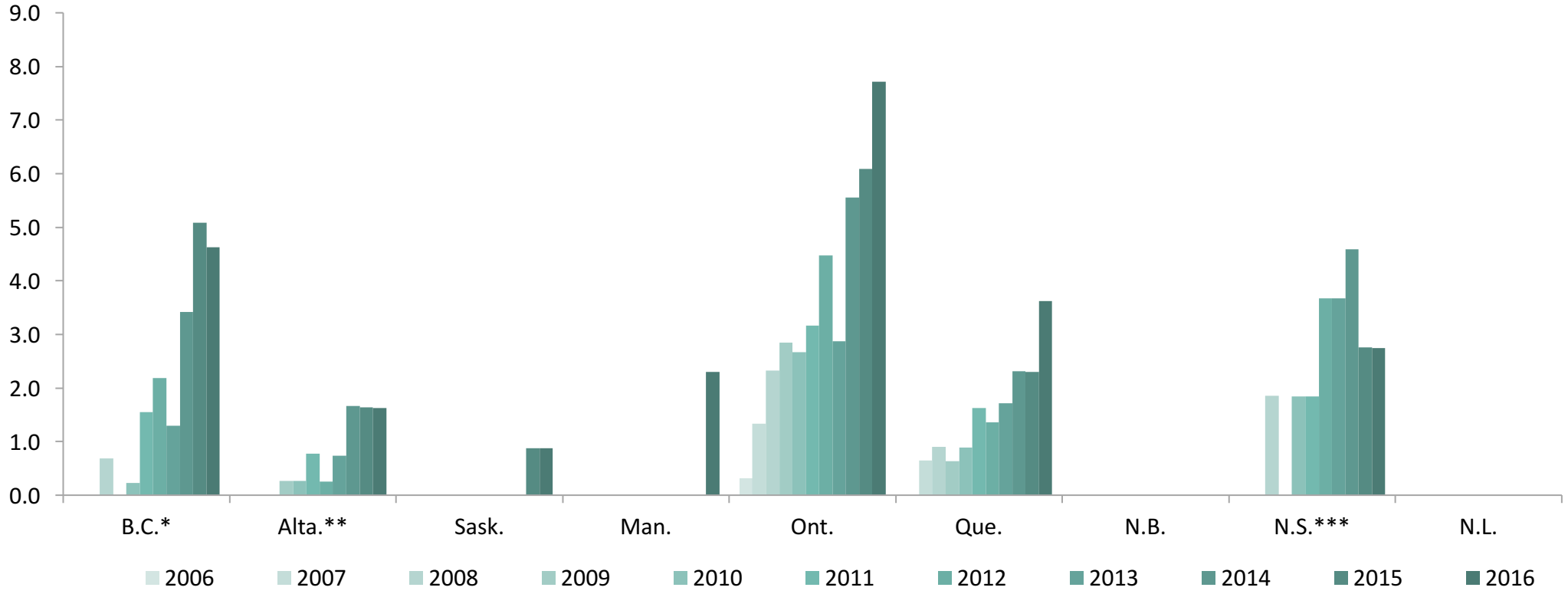
Canada: deceased donation rate by donor type, 2006 – 2017 (dpmp)



Canadian Blood Services
BLOOD PLASMA STEM CELLS ORGANS & TISSUES

Results reported may be subject to change pending final validation

DCD donors per million population by province & year 2006–2016

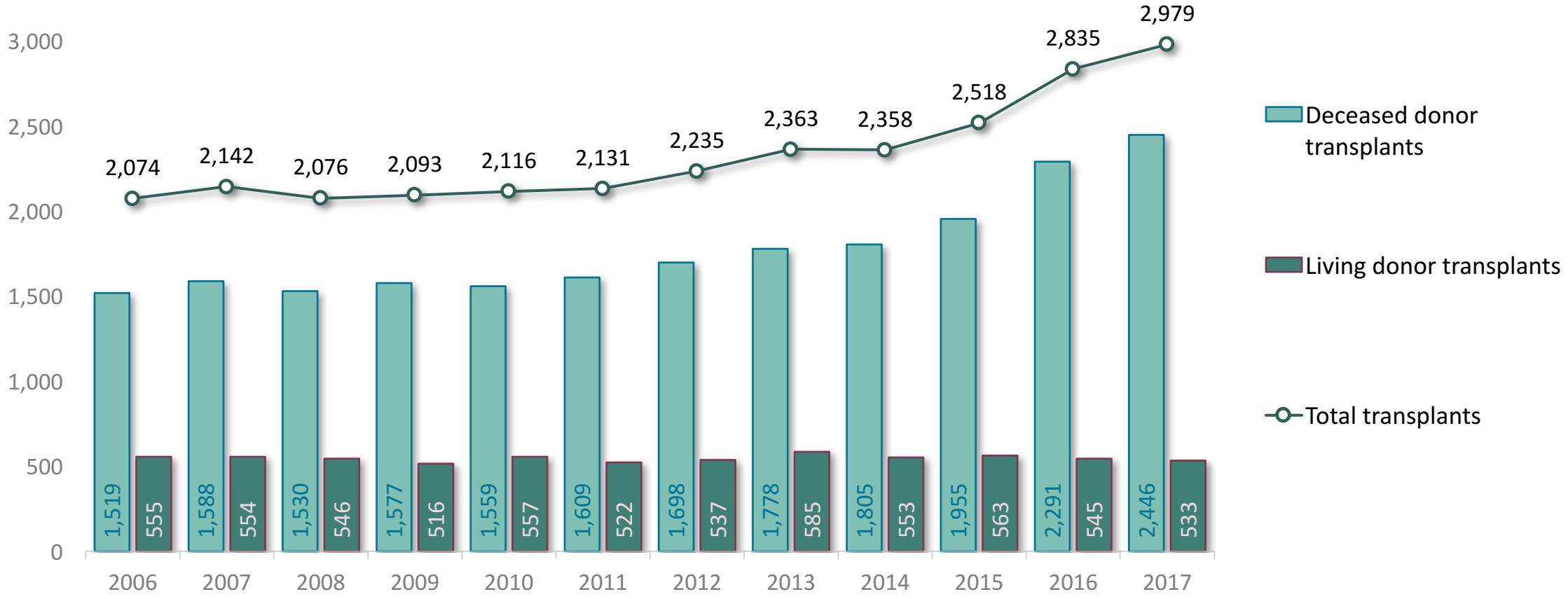


Canadian Blood Services
BLOOD PLASMA STEM CELLS ORGANS & TISSUES

*Rates for BC - population of Yukon is included
**Rates for Alberta - populations of NWT & Nunavut are included.
***Rates for NS – population of PEI is included.

2016 results reported are preliminary and may be subject to change pending validation

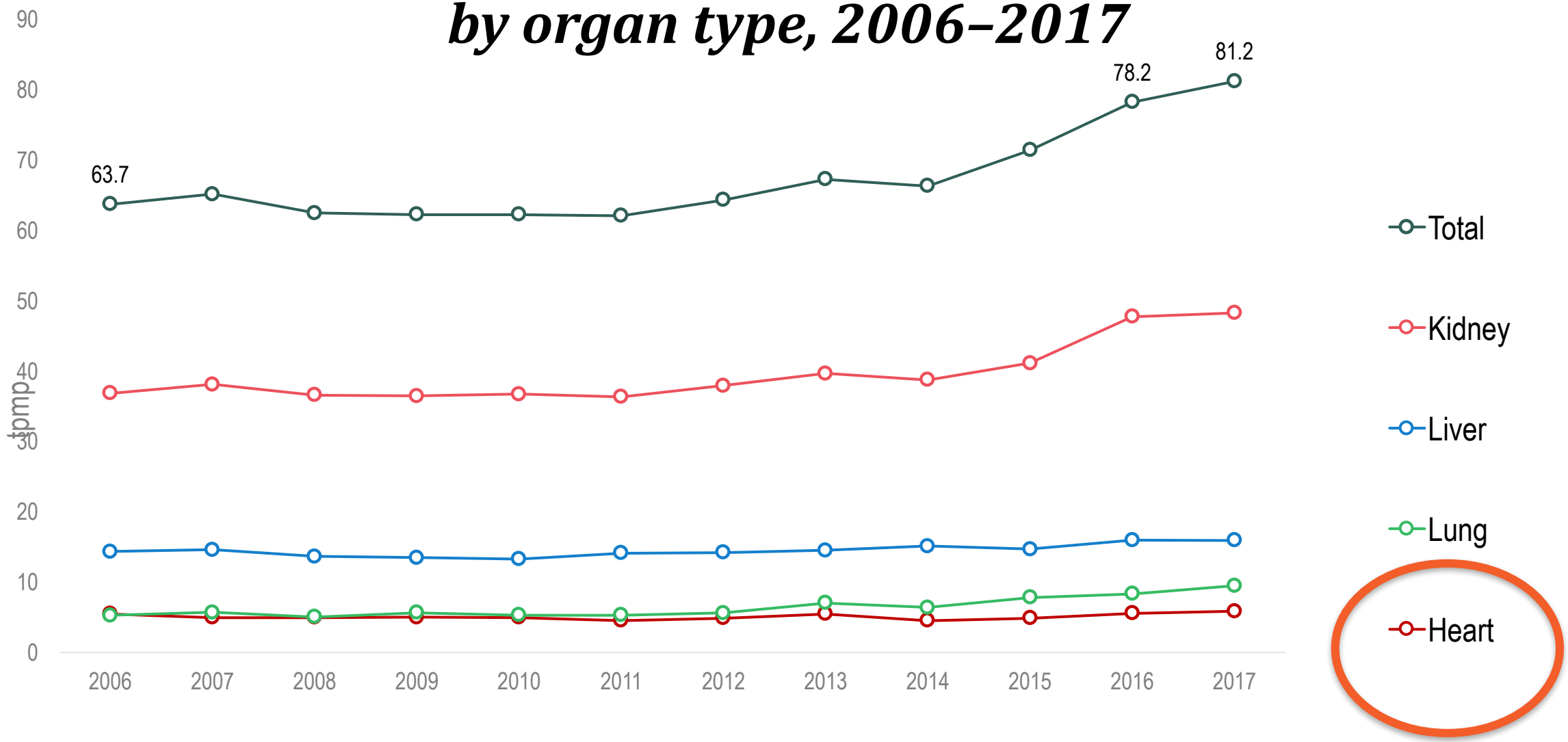
Number of solid organ transplants in Canada by donor type, 2006–2017



Canadian Blood Services
BLOOD PLASMA STEM CELLS ORGANS & TISSUES

Results reported may be subject to change pending final validation

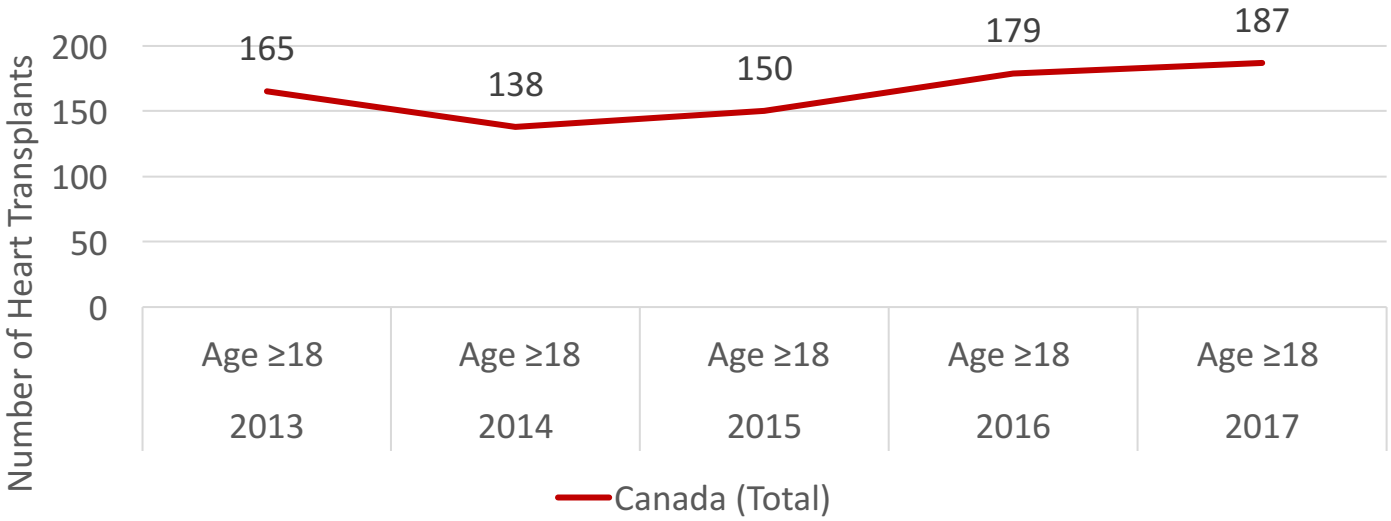
Transplants per million population (TPMP) in Canada by organ type, 2006–2017



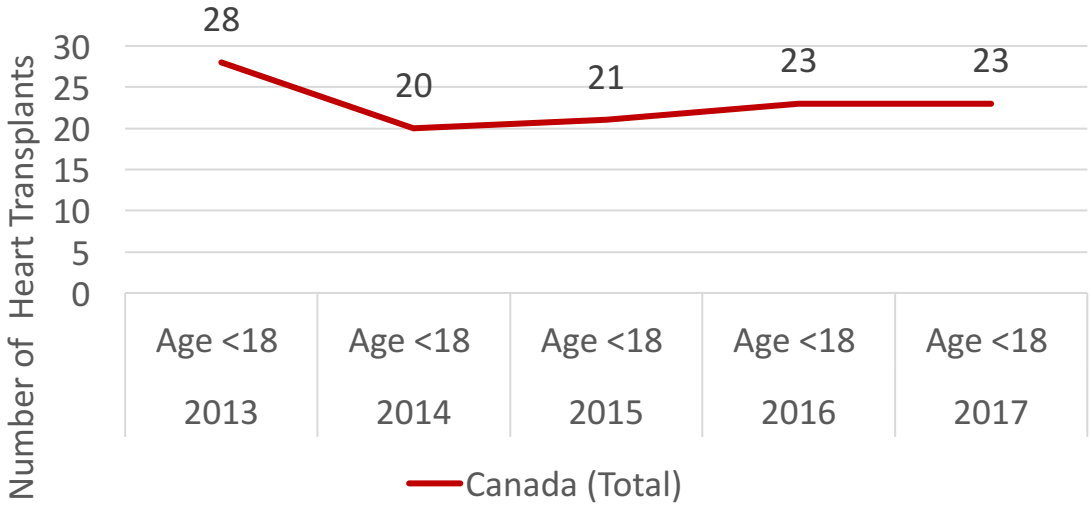
Canadian Blood Services
BLOOD PLASMA STEM CELLS ORGANS & TISSUES

Results reported may be subject to change pending final validation

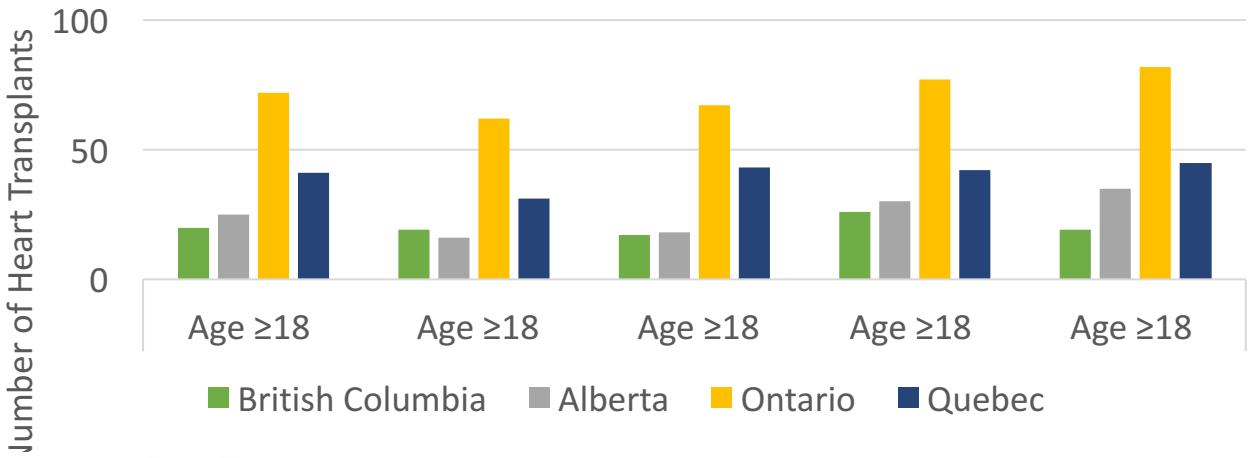
adult heart transplants Canada, 2013 - 2017



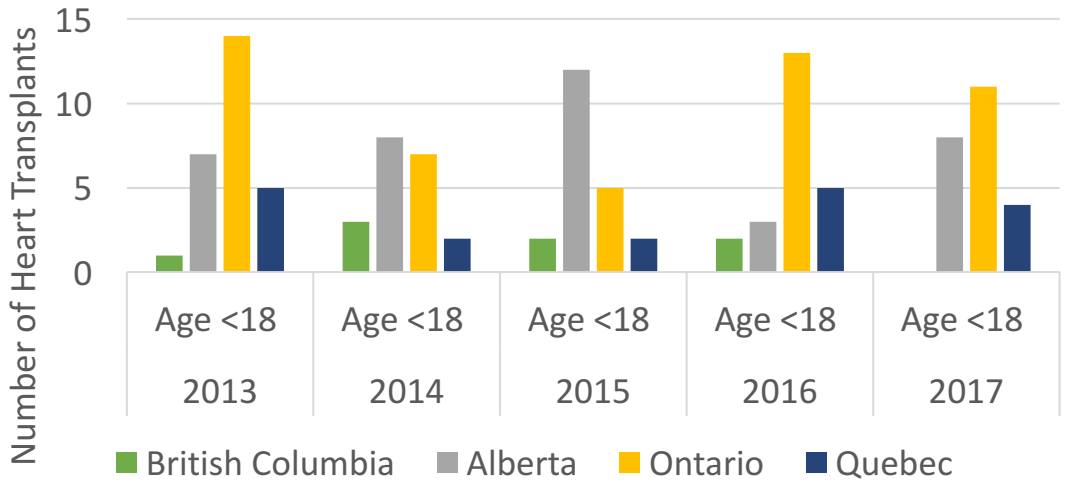
pediatric heart transplants Canada 2013 - 2017



adult heart transplants by province 2013-2017



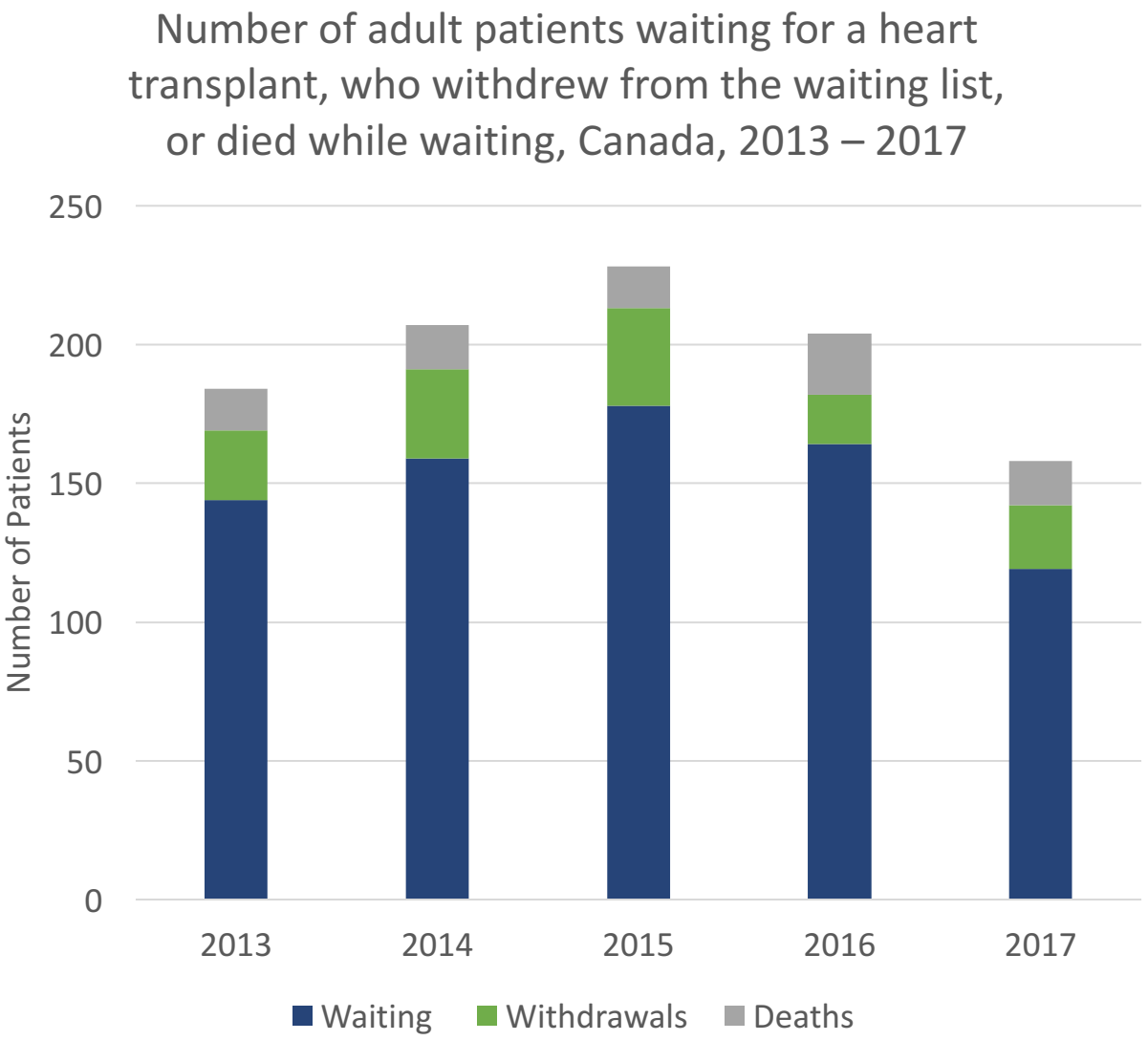
pediatric heart transplants by Province, 2013 - 2017

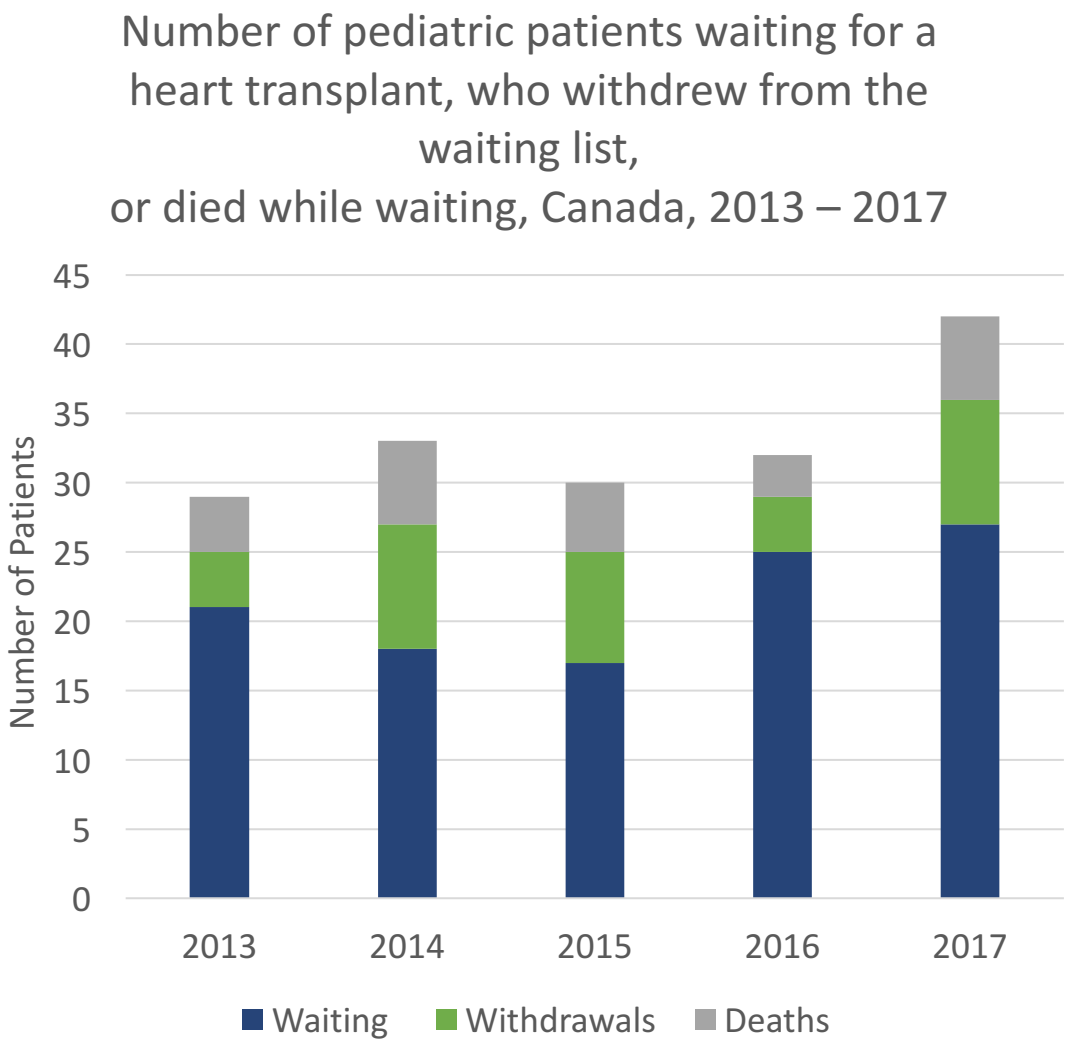


Canadian Blood Services
BLOOD PLASMA STEM CELLS ORGANS & TISSUES

CORR/CIHI, Lindsay Wilson with thanks

Canadian Heart Waitlist
Withdrawals, Deaths: Adults 20-25% Children 30-50%





CORR/CIHI, Lindsay Wilson with thanks

Heart DCD International Advances

CASE REPORTS

Cardiac Recovery in a Human Non–Heart-beating Donor After Extracorporeal Perfusion: Source for Human Heart Donation?

Ayyaz Ali, MRCS,[a] Paul White, PhD,[b] Kumud Dhital, FRCS,[a] Marian Ryan, RGN,[a] Steven Tsui, FRCS,[a] and Stephen Large, FRCP, FRCS[a]

Successful renal, liver and more recently lung transplantation using organs from non–heart-beating donors (NHBDs) has been reported. Regarding the heart, it has generally been assumed that warm ischemic insult would result in overwhelming and irreversible myocardial damage. We report recovery of cardiac function in a human NHBD by using extracorporeal perfusion 23 minutes after cardiorespiratory arrest. Successful cardiac resuscitation in the NHBD represents a potential source of increased donor organ supply for clinical heart transplantation.
J Heart Lung Transplant 2009;28:290–3. Copyright © 2009 by the International Society for Heart and Lung Transplantation.

JHLT 2009

ELSEVIER

The Journal of Heart and Lung Transplantation
http://www.jhltonline.org

SPECIAL FEATURE

Outcome after heart transplantation from donation after circulatory-determined death donors

Simon Messer, MBChB,[a] Aravinda Page, MBBChir,[a] Richard Axell, PhD,[a] Marius Berman, MD,[a] Jules Hernández-Sánchez, PhD,[b,c] Simon Colah, BSc,[a] Barbora Parizkova, MD,[a] Kamen Valchanov, MD,[a] John Dunning, MBChB,[a] Evgeny Pavlushkov, MD, PhD,[a] Sendhil K. Balasubramanian, MBBS,[a] Jayan Parameshwar, MBBS, MD, MPhil,[a] Yasir Abu Omar, MBChB, DPhil,[a] Martin Goddard, BMBCh,[a] Stephen Pettit, MBBS, PhD,[a] Clive Lewis, MBBChir, PhD,[a] Anna Kydd, MBBS, MD,[a] David Jenkins, MBBS, MS,[a] Christopher J. Watson, MBBChir, MD,[d] Catherine Sudarshan, MBBS, MD,[a] Pedro Catarino, BMBCh,[a] Marie Findlay,[a] Ayyaz Ali, MBBS, PhD,[a] Steven Tsui, MBBChir, MD,[a] and Stephen R. Large, MBBS, MS, MBA[a]

From the [a]Department of Transplantation, Papworth Hospital National Health Service Foundation Trust, Papworth

JHLT 2017

CURRENT OPINION

Donation after circulatory death heart transplantation

Kumud K. Dhital[a,b,c], Hong C. Chew[a,b,c], and Peter S. Macdonald[a,b,c]

2017

CURRENT OPINION

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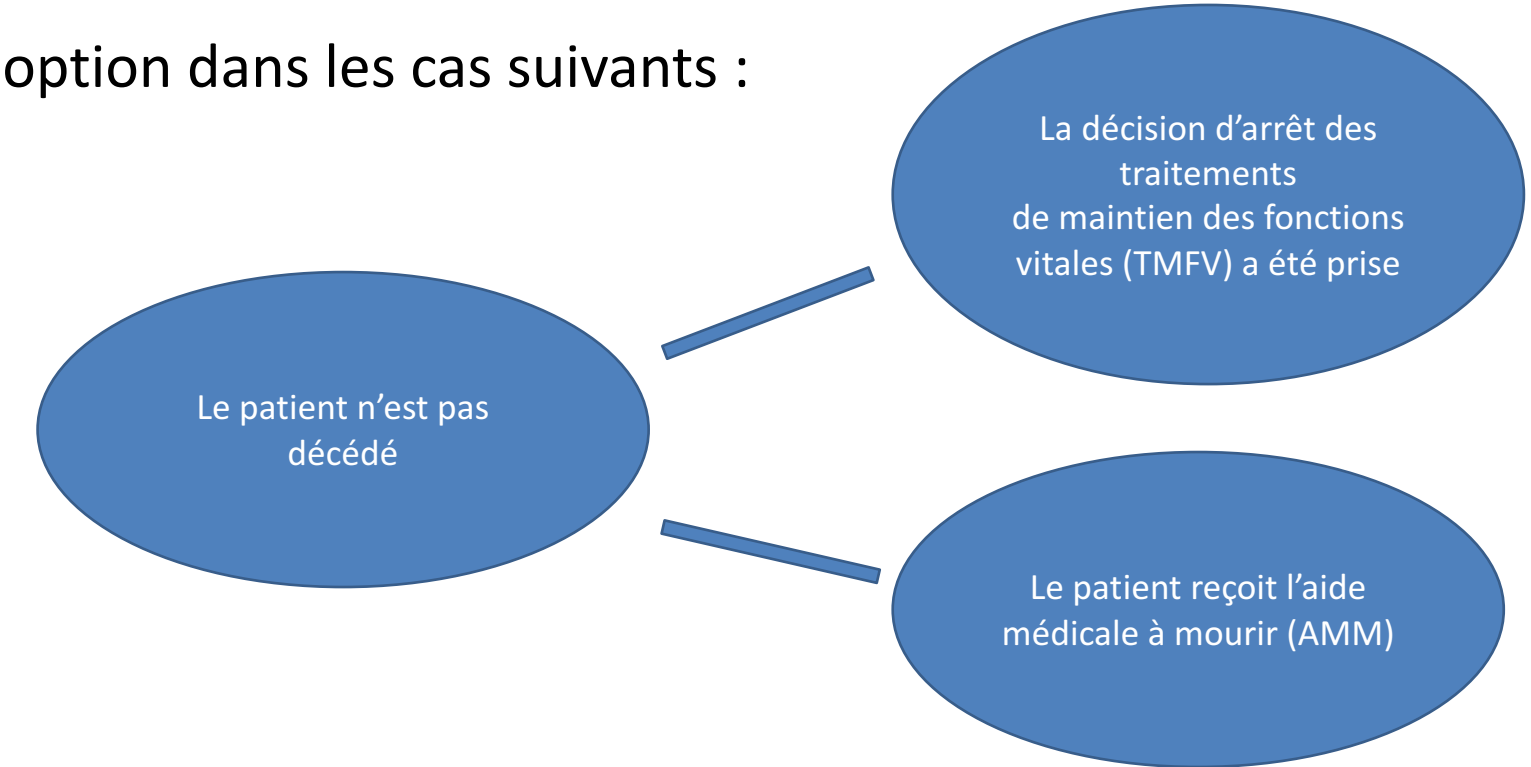
Table 5. Donation after circulatory death heart transplant outcomes

	Procurement strategy	No DCD heart transplants	30-Day survival (%)	6-Month survival	1-Year survival
St Vincent's Hospital, Sydney, Australia	DP-ESP	14	100	100	100
Harefield Hospital, London, UK[a]	DP-ESP	4	75	75	75
Papworth Hospital, Cambridge, UK[a]	DP-ESP	14	100	85.7	78.6
	NRP-ESP	13	100	100	100
Total		45	97.8	93.3	91.1

DCD, donation after circulatory death; DP-ESP, direct procurement and ex-situ perfusion; NRP-ESP, normothermic regional perfusion in the donor followed by ex-situ perfusion.
[a]Personal communication.

Le don d'organes au Canada

- Au Canada, le don d'organes s'effectue selon deux trajectoires :
  - Don après un décès neurologique (DDN) (ou mort cérébrale) : 75 % des donneurs après décès
  - Don après un décès circulatoire (DDC) : 25 % des donneurs après décès
- Le DDC peut être une option dans les cas suivants :



Canadian Blood Services
BLOOD PLASMA STEM CELLS ORGANS & TISSUES

Canadian Legislation on Death Determination

1. In provincial/territorial tissue gift acts (ex MB- vital stats, Qc civil code)
2. Determined in accordance with “accepted medical practice” (ex AB, Qc, MB (brain), Nun)
3. At least 2 physicians (ex AB, Nun)
4. No association with propose transplant recipient (ex Qc, Nun)
5. Not involved in surgical removal or transplant (ex Nun)

Canadian Legislation for Death Determination

Province/Territory	Legislation	
PEI	*Human Tissue Donation Act*, RSPEI 1988 c H-12.1.	**11(1)** The fact of death of a donor of tissue shall be determined by at least two medical practitioners in accordance with accepted medical practice. **(2)** No medical practitioner who has had any association with the proposed recipient of tissue shall take any part in the determination of the fact of death of the donor of that tissue. **(3)** No medical practitioner who took any part in the determination of the fact of death of the donor of tissue shall participate in any way in the transplant of that tissue. **(4)** The requirement in subsection (1) for the fact of death to be determined by at least two medical practitioners does not apply where (a) only non-perfusible tissue is to be removed from the donor; and (b) the fact of death of the donor has been determined by a medical practitioner following cessation of the donor's heart function. **(5)** Subsections (2) and (3) do not apply to a medical practitioner in respect of non-perfusible tissue.
Newfoundland & Labrador	*Human Tissue Act*, RSNL 1990 c H-15.	**9(1)** For the purpose of an after death transplant, the fact of death shall be determined by at least 2 legally qualified medical practitioners in accordance with accepted medical practice. **(2)** A legally qualified medical practitioner (a) who takes part in the determination of the fact of death of the donor; or (b) who has had an association with the proposed recipient that might influence his or her judgment shall not participate in the transplant procedure. **(3)** Nothing in this section affects a legally qualified medical practitioner in the removal of eyes for cornea transplants.
aYukon Territories	*Human Tissue Gift Act*, RSY 2002 c 117.	**7(1)** For the purposes of a post-mortem transplant, the fact of death shall be determined by at least two medical practitioners in accordance with accepted medical practice. **(2)** No medical practitioner who has had any association with the proposed recipient that might influence their judgment shall take any part in the determination of the fact of death of the donor. **(3)** No medical practitioner who took any part in the determination of the fact of death of the donor shall participate in any way in the transplant procedures. **(4)** Nothing in this section in any way affects a medical practitioner in the removal of eyes for a cornea transplant.
Northwest Territories	*Human Tissue Donation Act*, SNWT 2014 c 30.	**14(1)** The fact of death of a donor shall be determined by at least two medical practitioners in accordance with accepted medical practice. **(2)** A medical practitioner shall not take any part in the determination of the fact of death of a donor if the medical practitioner (a) has ever had an association with the proposed recipient of the tissue; or (b) will participate in the removal of the tissue or its transplantation in the proposed recipient. **(3)** Subsection (2) does not apply to a medical practitioner engaged in the removal of a donor's eyes for cornea transplantation.
Nunavut	*Human Tissue Act*, RSNWT 1988 c H-6.	No provisions.

Canadian Legislation for Death Determination by Province/Territory

Province/Territory	Legislation	
British Columbia	*Human Tissue Gift Act*, RSBC 1996 c 211.	**7(1)** For a post mortem transplant, the fact of death must be determined by at least 2 medical practitioners in accordance with accepted medical practice. **(2)** A medical practitioner who has had any association with the proposed recipient of the post mortem transplant that might influence the medical practitioner's judgment must not take any part in the determination of the fact of death of the donor. **(3)** A medical practitioner who took any part in the determination of the fact of death of the donor must not participate in any way in the transplant procedures. **(4)** Nothing in this section in any way applies to a medical practitioner in the removal of eyes for cornea transplants.
Alberta	*Human Tissue and Organ Donation Act*, SA 2006 c H-14.5.	**6(1)** A physician shall not participate in the determination of a donor's death for the purposes of a [post mortem] donation…for transplantation if the physician (a) has had any association with the proposed recipient that might influence his or her judgment or (b) will remove the tissue or organ or perform the transplantation **(2)** Subsection (1) does not apply to a physician who will remove a donor's eyes for corneal transplantation
Saskatchewan	*Human Tissue Gift Act*, 2015 c H-15.1	**13(1)** Subject to subsection (2), for the purposes of a transplant after death, the fact of death must be determined in accordance with accepted health care provider practice. **(2)** For the purpose of a transplant after death of organs, the fact of death must be determined by at least two physicians in accordance with accepted medical practice. **(3)** No physician who has had any association with the proposed recipient that might influence the physician's judgment shall take any part in the determination of the fact of death of the donor. **(4)**No physician who took any part in the determination of the fact of death of the donor shall participate in any way in the transplant procedures. **(5)** This section does not apply to a physician who will remove a donor's eyes for corneal transplantation.
Manitoba	*Human Tissue Gift Act*, CCSM c H180.	**8(1)** Any determination of the occurrence of brain death within the meaning of *The Vital Statistics Act* (see below) with circulation still intact, that may be necessary for the purposes of a successful transplant of tissue pursuant to this Act shall be made by at least two physicians and subject to subject to (2) and (3). **(2)** A physician who has or has had an association with a proposed recipient of tissue by way of transplant pursuant to this Act, where the association is or was of such a nature that it is likely to influence the judgment of the physician, shall not participate in the making of a determination under subsection (1) of the death of the person from whose body the tissue is to be removed. **(3)** A physician who participates in (a) a determination of death under subsection (1); or (b) the withdrawal or withholding of life-prolonging medical treatment in accordance with a health care directive made under *The Health Care Directives Act*; in respect of a person from whose body tissue is to be removed for a proposed transplant shall not participate in the transplant operation.

Canadian Legislation for Death Determination

Province/Territory	Legislation	
	Vital Statistics Act, CCSM c V60.	**2** For all purposes within the legislative competence of the Legislature of Manitoba the death of a person takes place at a time at which irreversible cessation of all that person's brain function occurs.
Ontario	*Trillium Gift of Life Network Act*, RSO 1990 c H 20.	**7(1)** For the purposes of a post mortem transplant, the fact of death shall be determined by at least two physicians in accordance with accepted medical practice. **(2)** No physician who has had any association with the proposed recipient that might influence the physician's judgment shall take any part in the determination of the fact of death of the donor. **(3)** No physician who took any part in the determination of the fact of death of the donor shall participate in any way in the transplant procedures. **(4)** Nothing in this section in any way affects a physician in the removal of eyes for cornea transplants.
Quebec	Civil Code of Québec, SQ, 1991, c 64.	**45** No part of the body may be removed before the death of the donor is attested by two physicians who do not participate either in the removal or in the transplantation.
New Brunswick	*Human Tissue Gift Act*, SNB 2014, c 113.	**7(1)** For the purposes of the post-mortem removal of a human body part or parts for implantation in a living human body, the fact of death must be determined by at least 2 medical practitioners in accordance with accepted medical practice. **(2)** No medical practitioner who has had any association with the proposed recipient that might influence his or her judgment shall take any part in the determination of the fact of the death of the donor. **(3)** No medical practitioner who took any part in the determination of the fact of death of the donor shall participate in any way in the removal or implantation procedures.
Nova Scotia	*Human Organ and Tissue Gift Act*, 1989 c 215. *Human Organ and Tissue Donation Act*, SNS 2010 c 36. (not yet in force)	**8(1)** For the purposes of a post-mortem transplant, the fact of death shall be determined by at least two physicians in accordance with accepted medical practice. **(2)** No physician, who has had any association with the proposed recipient that might influence his judgement, shall take any part in the determination of the fact of death of the donor. **(3)** No physician, who took any part in the determination of the fact of death of the donor, shall participate in any way in the transplant procedures. **(4)** Nothing in this Section in any way affects a physician in the removal of eyes for cornea transplants **15** The specific medical tests to demonstrate that death has occurred are those established by the medical profession from time to time. **16(1)** For the purposes of organs donated after death for transplantation, the fact of death must be determined by at least two physicians who have skill and knowledge in conducting the specific medical tests established by the medical profession for determining death. **(2)** No physician, who has had any association with the proposed organ recipient that might influence physician's judgment, shall take any part in the determination of death of the organ donor. **(3)** No physician, who took any part in the determination of death of the organ donor, shall participate in any way in the organ transplant procedures.

Canadian Blood Services BLOOD PLASMA STEM CELLS ORGANS & TISSUES

Rosanne Dawson, CBS, with thanks

Constatation du décès

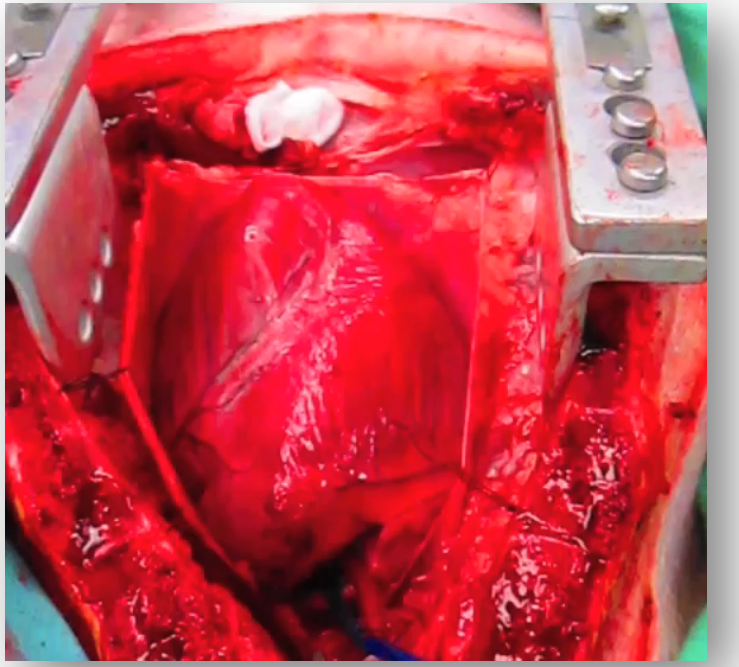
- La période d'observation de cinq minutes a pour but de confirmer l'interruption permanente de la circulation avant la constatation du décès et le prélèvement des organes.
- Bernat (2010) établit une importante distinction entre la permanence et l'irréversibilité :
  - Irréversibilité : la circulation *ne peut* reprendre spontanément ni être rétablie au moyen des technologies disponibles
  - Permanence : la circulation *ne reprendra pas* spontanément et ne sera pas rétablie par une intervention parce que la décision a été prise de ne pas tenter de la rétablir
- La cessation permanente de la circulation est une pratique médicale acceptée pour la constatation du décès selon des critères circulatoires.
- Aux fins du don après un décès circulatoire, lorsque la circulation du donneur a cessé de manière permanente, le donneur est considéré comme décédé.

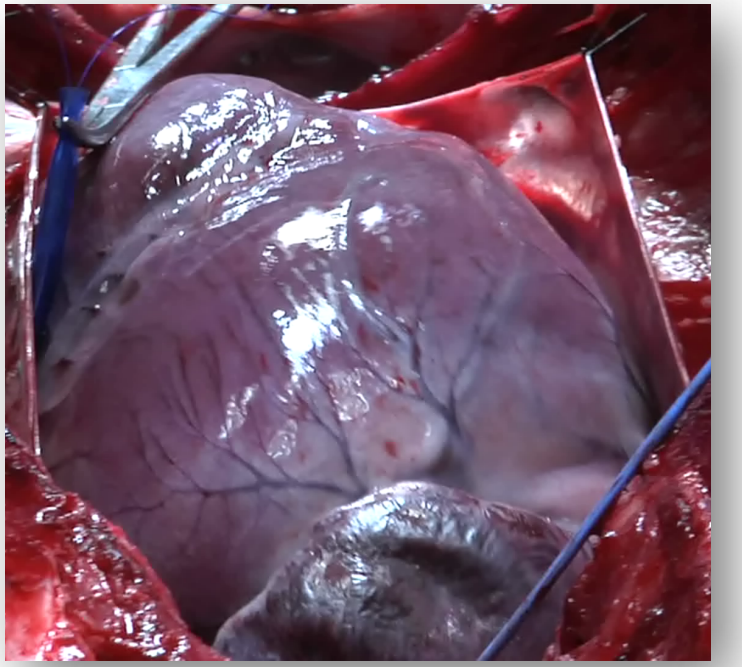
Processus actuel de DDC

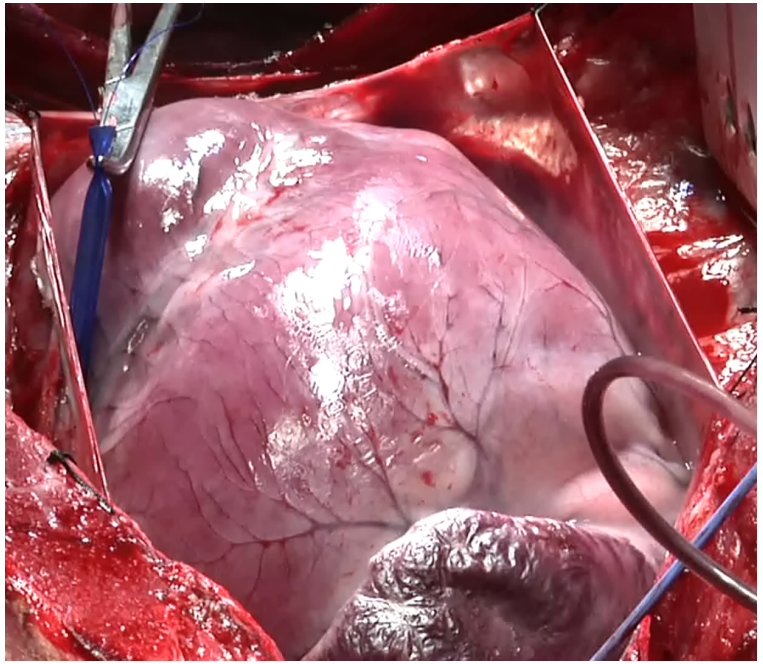
pas de réanimation cardiopulmonaire

Arrêt des TMFV → Arrêt circulatoire → Période d'observation de cinq minutes → Déclaration de décès

Historiquement, le cœur des donneurs DDC n'était pas prélevé.

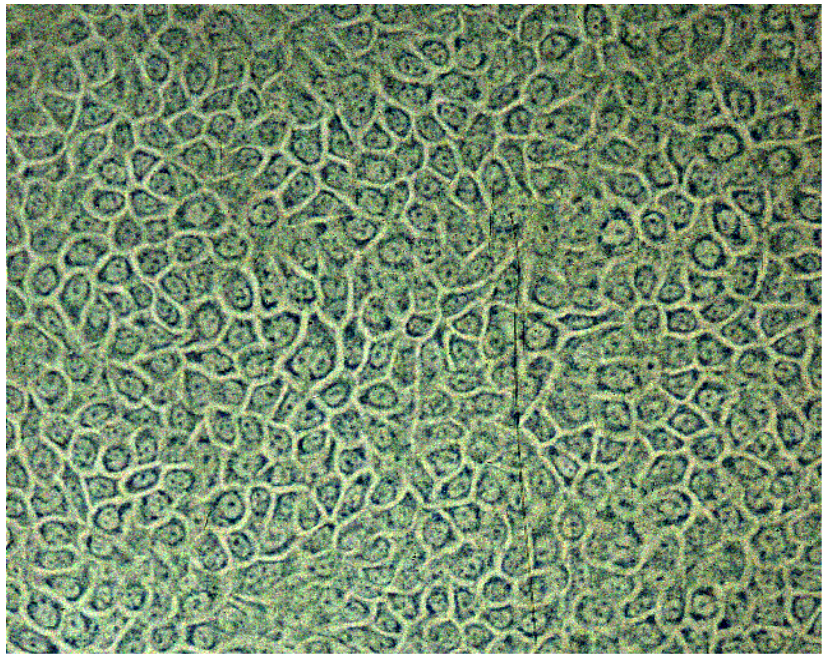






Darren Freed, with thanks, CCCF 2017

La biologie de la vie, une question d'acheminement d'oxygène et de nutriments

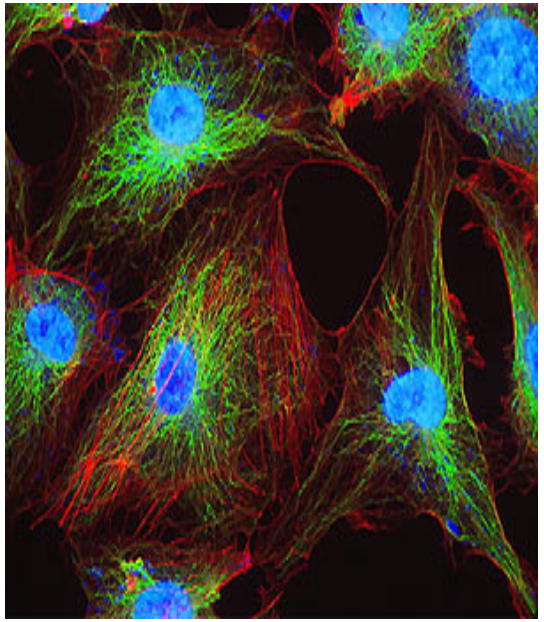


Monolayer cell culture

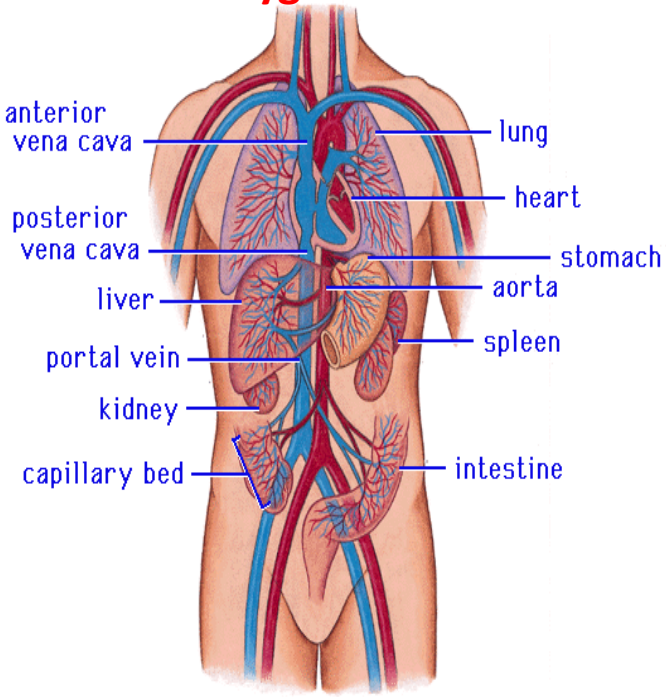
Mitochondria

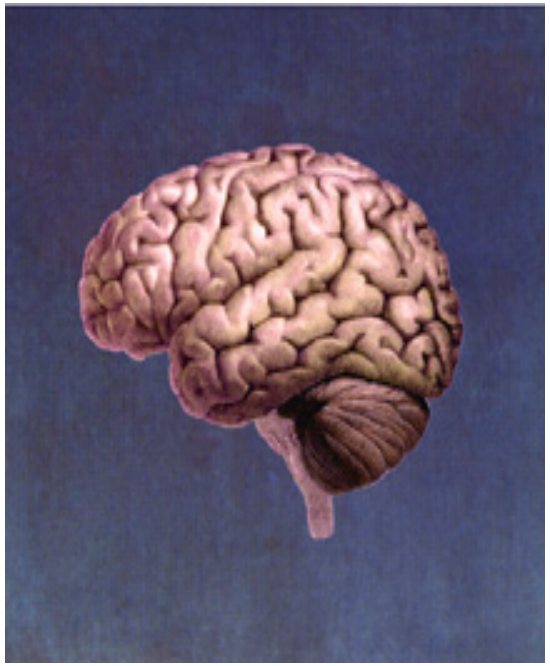
Human Cellular Respiration
Consumes Oxygen
To Create Energy Required for Cell Life

La biologie de la vie, une question d'acheminement d'oxygène et de nutriments



Oxygenated Circulation





Organs as Functioning Parts

Lungs load O2

Red blood cells carry O2

Blood vessels are delivery pipes

Heart circulates

Liver metabolizes, Kidney filters

Le mourir et la mort sont des processus biologiques.

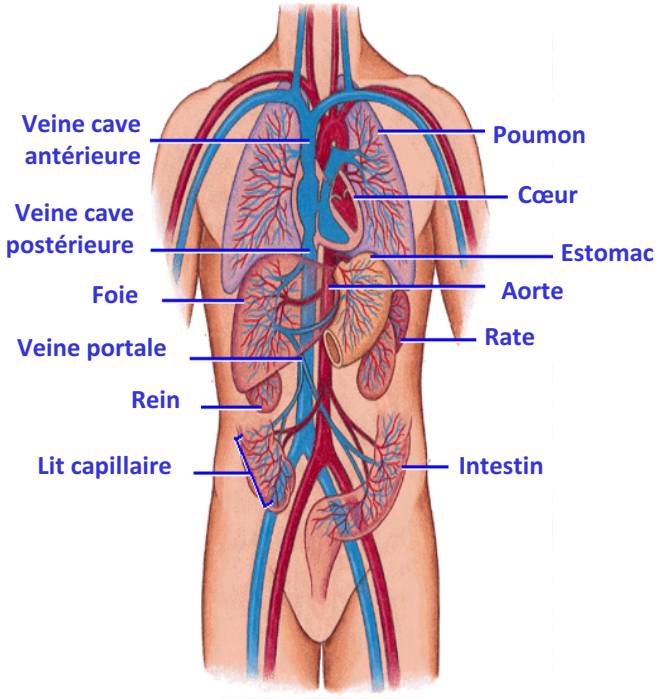
Les organes et les cellules meurent en l'absence d'oxygène.

Les organes et les cellules meurent à des vitesses différentes.
Le processus varie selon la résistance à l'absence d'oxygène.

La constatation du décès est un
événement
dans ce processus.

La biologie de la vie, une question d'acheminement d'oxygène et de nutriments

Si la circulation oxygénée cesse dans une partie du corps ou un groupe d'organes et *ne reprend pas* après une période déterminée, le corps ou l'organe ne fonctionnera plus jamais.



Mais... la circulation oxygénée vers où?

Delimiting the Donor

The Dead Donor Rule

by JOHN A. ROBERTSON

The scarcity of vital organs has prompted several calls to either modify the dead donor rule or interpret it more broadly. Given its symbolic importance, however, the rule should be changed only cautiously.

infants) or will be executed (death row prisoners).[1] These proposals do not challenge the rule's core function of protecting persons against unwanted demise. They do not, for example, propose a "survival lottery" in which persons are picked by chance to be killed to provide organs to several others.[2] Nor would they permit competent persons to choose suicide by organ retrieval in order to save others. Instead, they would modify the rule at the margins of human life.

Proposals to permit donation from anencephalic infants or condemned prisoners aim to maintain respect for the core values underlying

Fondement médical, éthique et juridique de la confiance et de l'intégrité du système de don et de transplantation

Hastings Center Report 1999

Les mots que nous utilisons

“Cœur non battant”
= absence de pulsation cardiaque = pas de circulation

“Don après décès cardiaque”
= mort du cœur

“Don après un décès cardiocirculatoire”
= cœur et circulation

“Don après un décès selon des critères circulatoires”
= décès basé sur l’absence de circulation

Mais où la circulation est-elle censée s’arrêter?

- **Dans tout le corps = extrémités, abdomen, thorax et cerveau?**
- **Thorax et cerveau?**
- **N’importe où sauf dans le cerveau?**

Éditorial

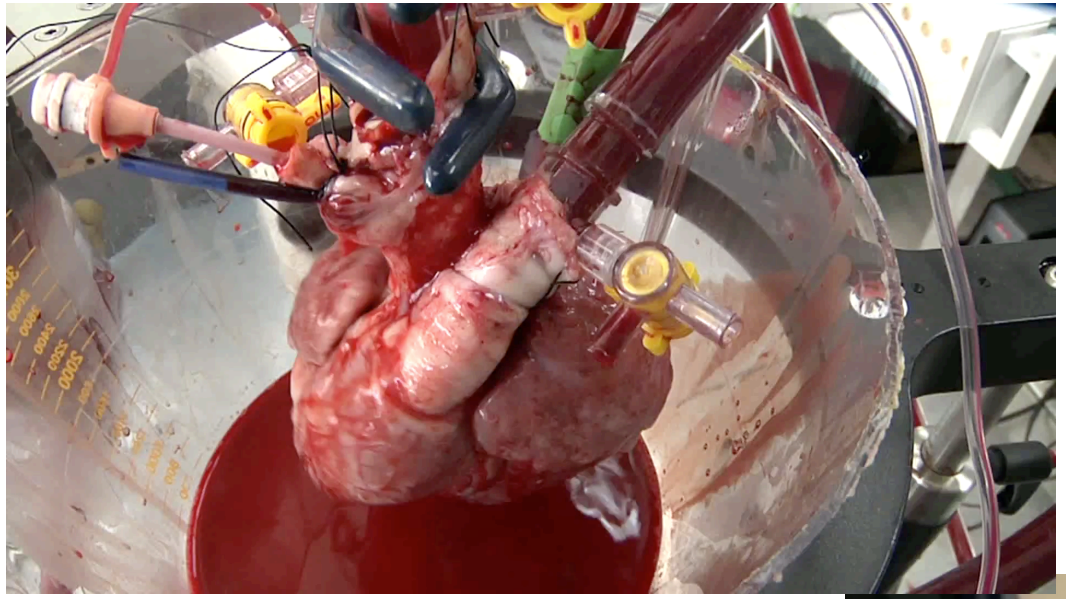
Le prix de nos illusions et les mythes à propos de la règle du donneur décédé

Robert Truog

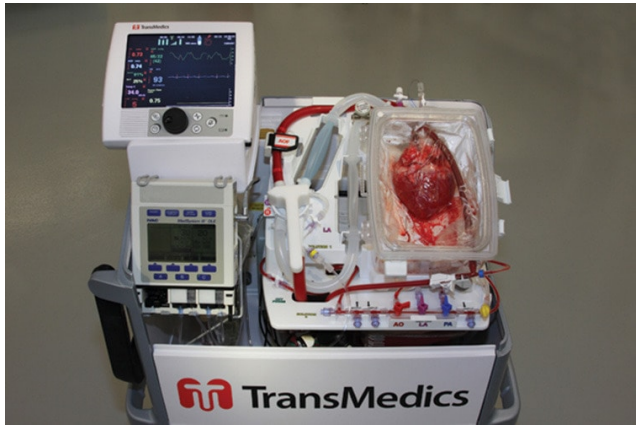
« le milieu de la transplantation s'est livré à toutes sortes de contorsions pour justifier le caractère éthique des moyens de plus en plus artificiels utilisés pour prélever des organes fonctionnels sur des gens réputés décédés. »

Truog R. J Med Ethics 2016;42:318–319.

Ex-Vivo Oxygenated Circulation



Edmonton Ex-vivo Cardiac Program
D Freed with thanks



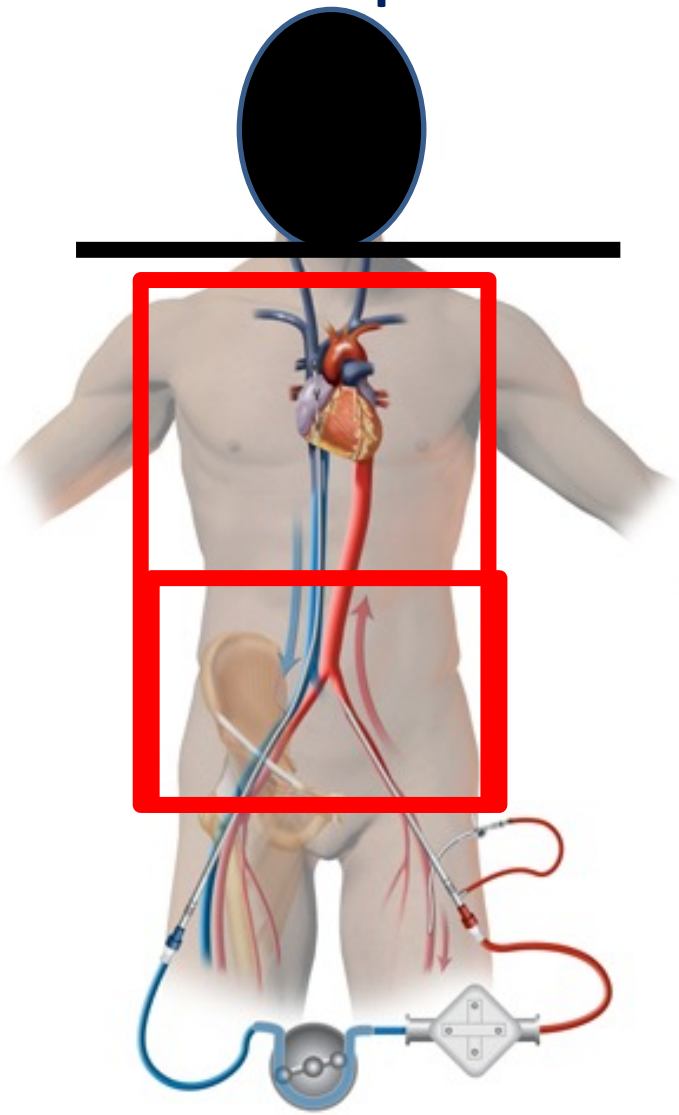
Toronto Ex Vivo Lung Program
Keshavjee, Cypel with thanks

Restauration de la circulation oxygénée *après le décès*

DDC cœur et circulation régionale normothermique =

oxygénation extracorporelle après le décès

Reperfusion abdominale +/- thoracique +/- cœur



ELSEVIER

The Journal of Heart and Lung Transplantation
http://www.jhltonline.org

SPECIAL FEATURE

Outcome after heart transplantation from donation after circulatory-determined death donors

Simon Messer, MBChB,[a] Aravinda Page, MBBChir,[a] Richard Axell, PhD,[a]
Marius Berman, MD,[a] Jules Hernández-Sánchez, PhD,[b,c] Simon Colah, BSc,[a]
Barbora Parizkova, MD,[a] Kamen Valchanov, MD,[a] John Dunning, MBChB,[a]
Evgeny Pavlushkov, MD, PhD,[a] Sendhil K. Balasubramanian, MBBS,[a]
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Martin Goddard, BMBCh,[a] Stephen Pettit, MBBS, PhD,[a]
Clive Lewis, MBBChir, PhD,[a] Anna Kydd, MBBS, MD,[a] David Jenkins, MBBS, MS,[a]
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Steven Tsui, MBBChir, MD,[a] and Stephen R. Large, MBBS, MS, MBA[a]

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doi: 10.1111/ajt.14214

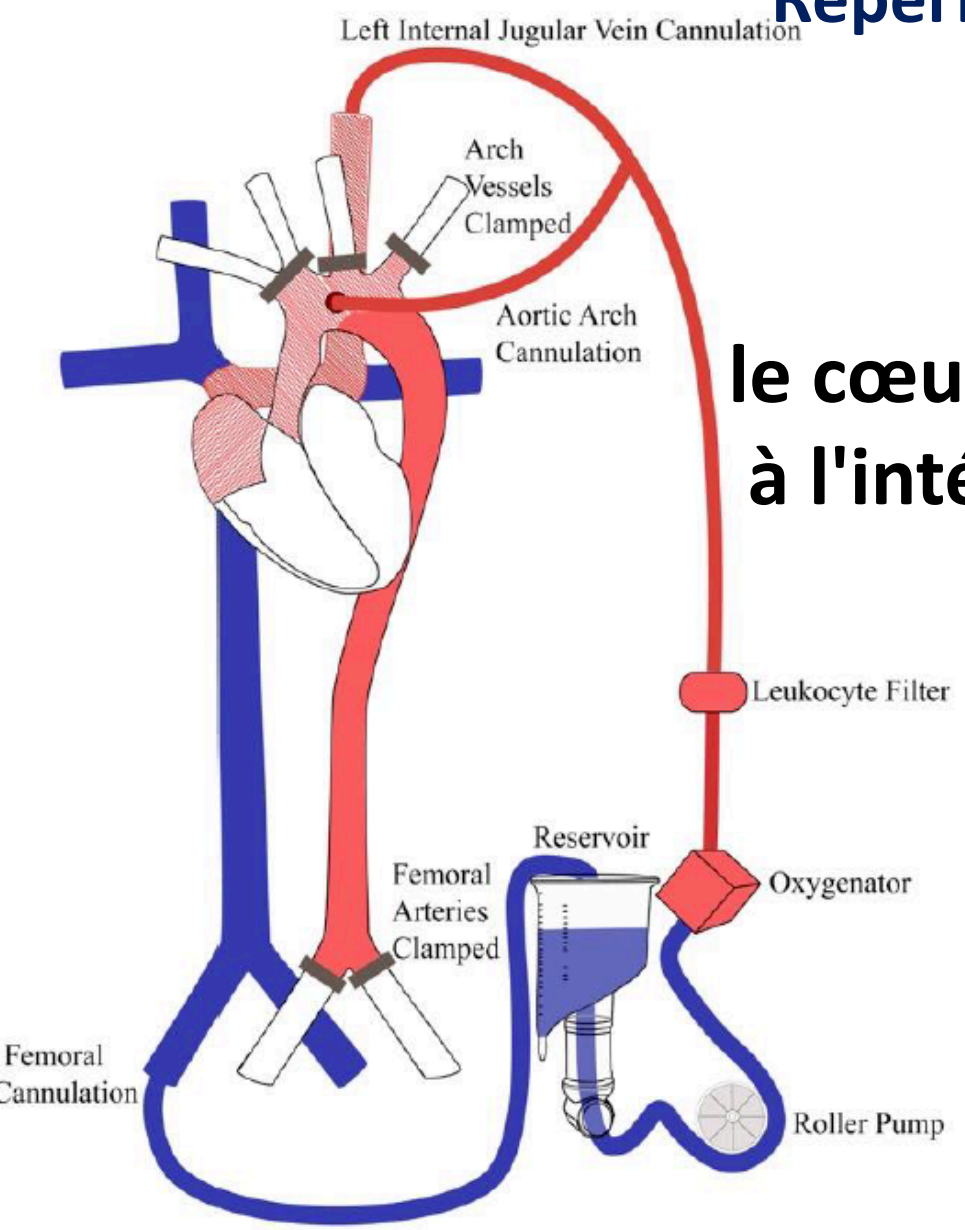
Improving the Outcomes of Organs Obtained From Controlled Donation After Circulatory Death Donors Using Abdominal Normothermic Regional Perfusion

E. Miñambres[1,*], B. Suberviola[2], B. Dominguez-Gil[3], E. Rodrigo[4], J. C. Ruiz-San Millan[4], J. C. Rodríguez-San Juan[5] and M. A. Ballesteros[2]

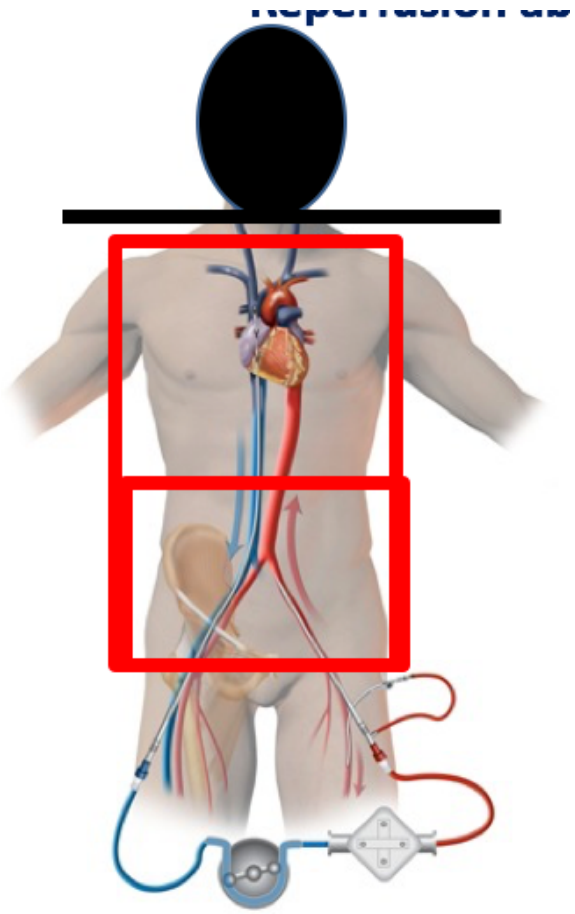
Abbreviations: ALT, alanine transaminase; AST, aspartate transaminase; cDCD, controlled donation after circulatory death; CIT, cold ischemic time; DBD, donation after brain death; DCD, donation after circu-

DDC cœur et CRN = oxygénation extracorporelle après le décès
Reperfusion abdominale, thoracique et cardiaque

CRN : circulation régionale normothermique



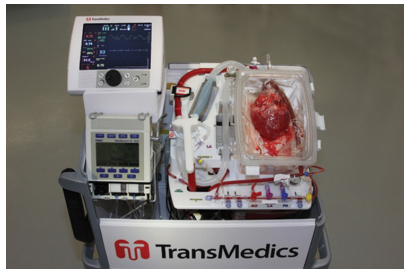
le cœur recommence à battre
à l'intérieur du corps du donneur



NRP to cold storage
With thanks, Simon Messer, CCCF 2017

Prélèvement du cœur après un décès circulatoire

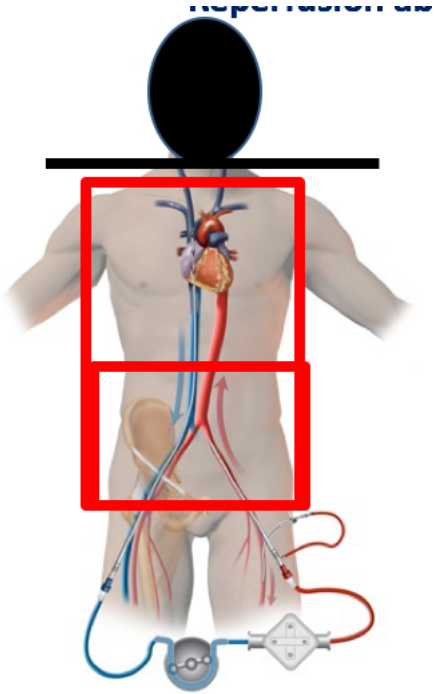
Prélèvement direct et perfusion (PDP)



Prélèvement du coeur → Système OCS™ HEART → Transplantation

De la perfusion normothermique au système OCS™ HEART

CRN au moyen de l'oxygénation extracorporelle → Prélèvement du cœur → Système OCS™ HEART / Entreposage frigorifique → Transplantation



Heart DCD in Canada
Developing the Medical, Ethical and Legal Framework

October 15-16, 2018, Ottawa, Canada

Canadian Blood Services

BLOOD
PLASMA
STEM CELLS
ORGANS
& TISSUES

Trillium Gift of Life Network

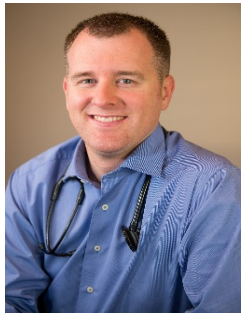
Planning Committee

Dr. Sam Shemie
CBS Co-Chair

Laura Hornby
CBS

Sylvia Torrance
CBS

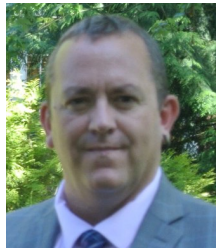
Jim Mohr
CBS



Dr. Andrew Healey
TGLN: Co-Chair

Lindsay Wilson
TGLN

Janet MacLean
TLGN



Clay Gillrie
CBS

International Experts

Dr. Stephen Large
Consultant Surgeon,
Papworth Hospital
NHS Foundation Trust, UK

Dr. Kumud Dhital
Cardiothoracic Specialist & Transplant Surgeon,
St. Vincent's Hospital, AUS

Dr. Dale Gardiner
National Clinical Lead Organ Donation
NHSBT, UK
Intensive Care Consultant
Nottingham University Hospital

Canadian Cardiac Transplant Advisors

Dr. Darren Freed
Edmonton

Dr. Mitesh Badiwala
Toronto

Canadian Blood Services
BLOOD PLASMA STEM CELLS ORGANS & TISSUES

Trillium Gift of Life Network

Canadian DCD Heart Participant List

- **Bioethics**
  - Dr. Brendan Leier, AB
  - Christy Simpson, NS
  - **Marie-Chantal Fortin, QC**
- **Cardiac Surgery**
  - Dr. Mitesh Badiwala, ON
  - **Dr. Michel Carrier, QC**
  - Dr. Darren Freed, AB
  - Dr. Fraser Rubens, ON
  - Dr. Osami Honjo, ON
  - Dr. Stephen Large, UK
  - Dr. Kumud Dhital, AUS
- **Cardiology**
  - Dr. Phyllis Billia, ON
  - Dr. Sabe De, ON
- **Chief Coroner**
  - Dr. Dirk Huyer, ON
- **Communications**
  - Peggy John, BC
- **Donation Physician (ICU/Neuro Critical Care)**
  - Dr. Sean Keenan, BC
  - Dr. Andrew Baker, ON
  - Dr. Ian Ball , ON
  - Dr. Andreas Kramer, AB
  - **Dr. Matthew Weiss, QC**
  - Dr. Mike Hartwick, ON
  - Sonny Dhanani, ON
  - Dale Gardiner, UK
- **ICU/Neuro Critical Care Physicians**
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  - Dr. Kimia Honarmand, ON
  - Dr. Jeanne Teitelbaum, ON
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  - Rosanne Dawson, ON
- **Nursing (ICU, OR)**
  - **Catherine Becker, QC**
  - Pam Hruska, AB
  - Catherine Hogan, ON
- **Organ Donation Organization**
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  - Leanne Appleton, BC
  - Clare Payne, ON
  - Jeanette Chua, ON
- **Patient/Family Partners**
  - **Sylvain Bédard, QC**
  - Diana Brodrecht, ON
  - Thomas Shing, UK
  - Everad Tilokee, ON
  - Heather Berrigan, NS
  - Jonathan Towers, NS
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  - Frank VanStaalduinen, AB
- **Transplant Surgeons**
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Dr. Christy Simpson, Dr. Marie-Chantal Fortin, Dr. Brendan Leier

Ethical Considerations in Relation to Heart Donation from DCD Donors

National Forum of Chief Coroners and Chief Medical Examiners

Forum national des coroners en chef et des médecins légistes en chef

Oct 4th 2018

Canadian Blood Services

Trillium Gift of Life Network

Rosanne Dawson

Canadian Legislation for Death Determination

Background Document

Western

Ian Ball, Kimia Honormand

London Health Sciences Centre

CARDIAC DONATION AFTER CIRCULATORY DEATH
A SURVEY OF CANADIAN STAKEHOLDERS

Table 1. List of organizations & societies for healthcare professional survey distribution.

1. Canadian National Transplant Research Program (CNTRP)
2. Canadian Transplant Society (CST)
3. Canadian Critical Care Society (CCCS/ SCSI)
4. Canadian Cardiac Transplant Network (CCTN)
5. Canadian Critical Care Trials Group (CCCTG)
6. Canadian Association of Critical Care Nurses (CACCN)

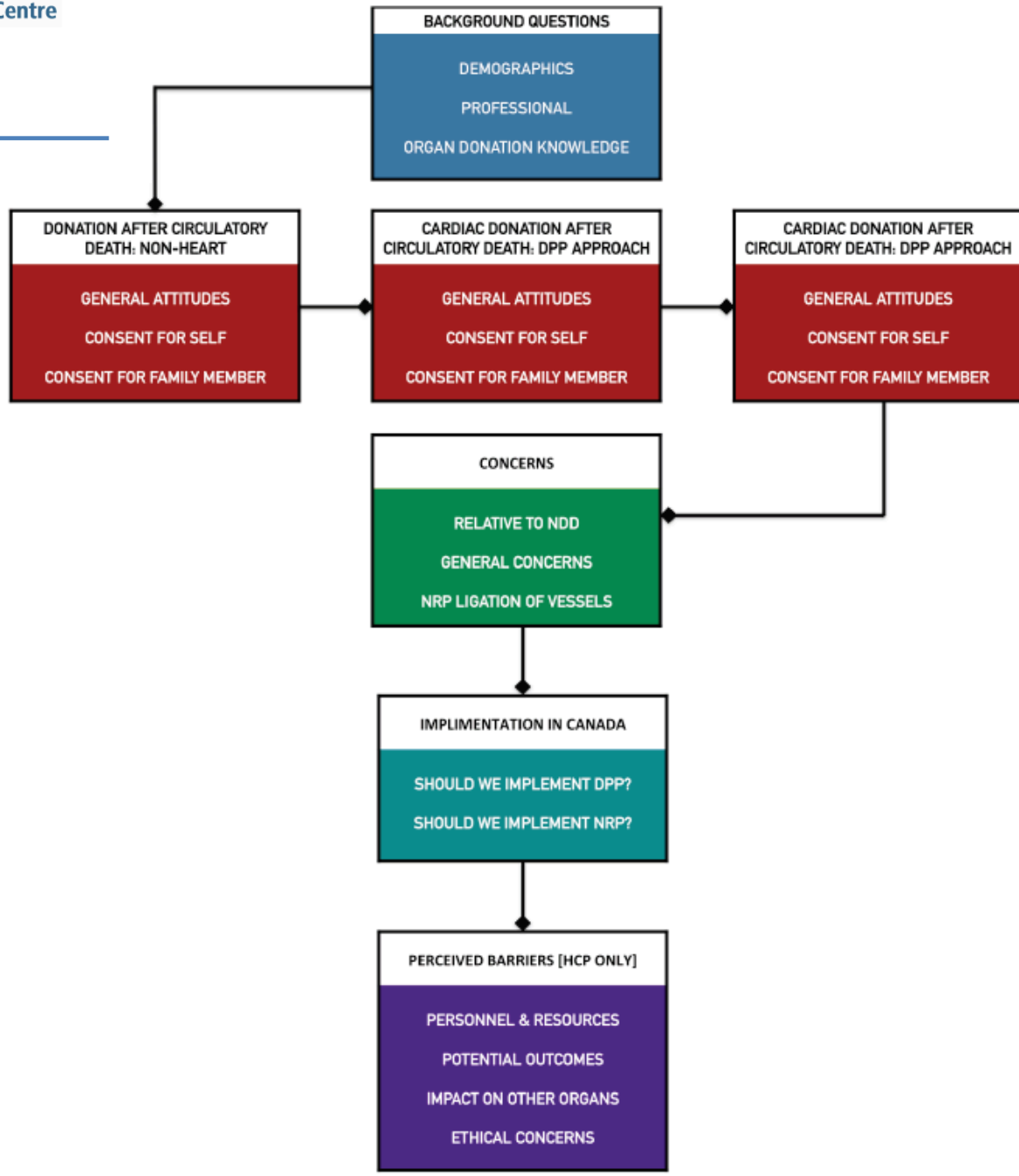
1. Health Professional Survery
2. Ipsos General Public Survey

n= 1,001 Canadians >=18 years

PSI FOUNDATION

Canadian Blood Services

FIGURE 1. SURVEY FLOW.



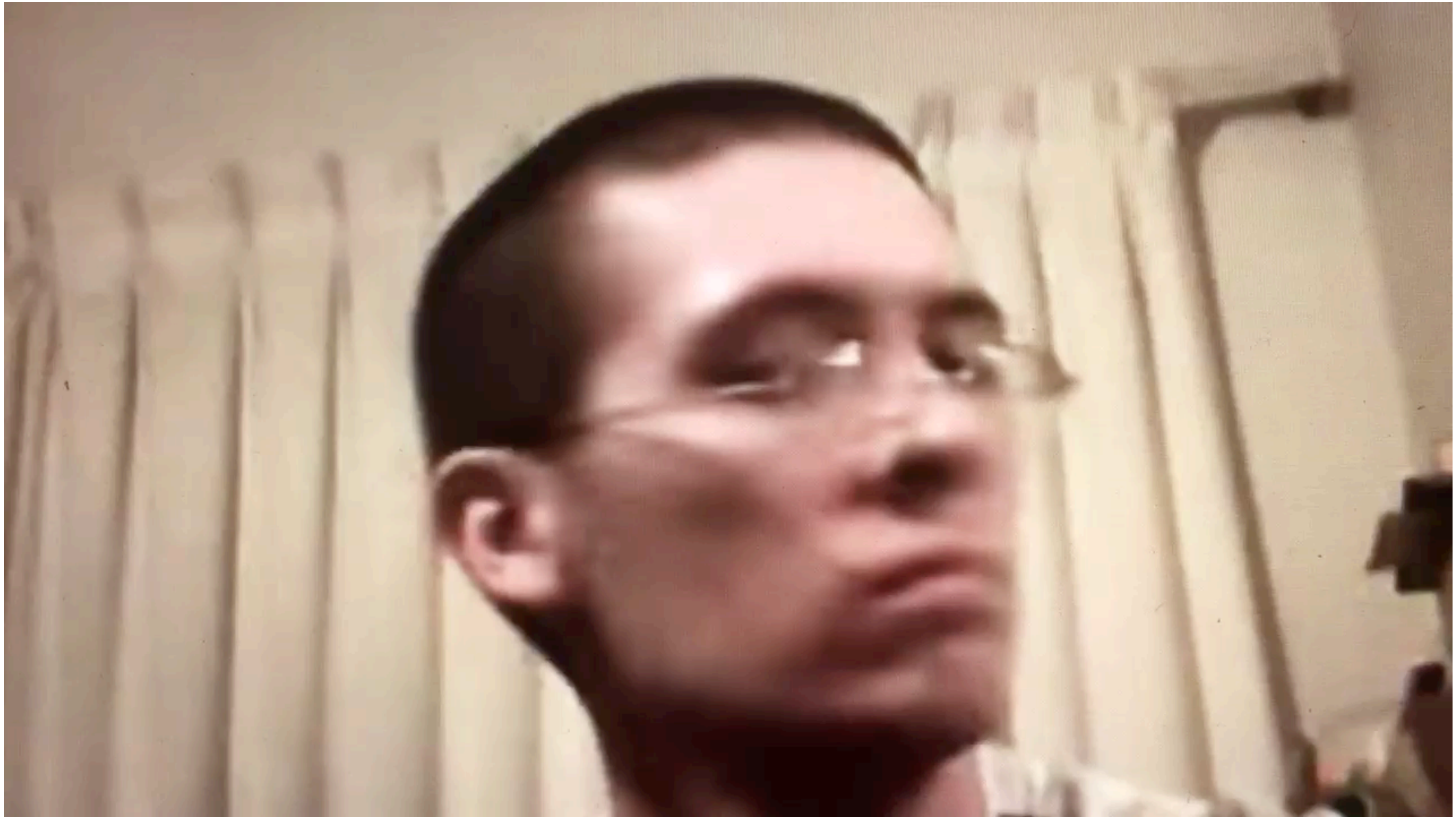
Discussion

1. Le fait de redémarrer le cœur du donneur DDC après le décès au moyen du système OCS™ HEART a-t-il une incidence sur la constatation du décès selon des critères circulatoires?

2. Le fait de redémarrer le cœur du donneur DDC chez le receveur d'une transplantation a-t-il une incidence sur la constatation du décès selon des critères circulatoires?

3. Le fait de redémarrer le cœur et la circulation dans le corps du donneur DDC après son décès, tout en empêchant le rétablissement de la circulation cérébrale, a-t-il une incidence sur la constatation du décès selon des critères circulatoires?

4. Le fait d'empêcher la circulation cérébrale par le clampage des vaisseaux de la crosse aortique avant de redémarrer le cœur et la circulation du donneur DDC dans son propre corps après son décès suscite-t-il des préoccupations?

5. Si la cause du décès est une lésion anoxique attribuable à un arrêt cardiaque, le fait que le cœur soit transplanté, donc non disponible pour des tests supplémentaires au cours d'un examen post-mortem, suscite-t-il des préoccupations?

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