Canadian National TRANSPLANT Research Program

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FAST FACT: ETHICS

Ethical Issues in Organ & Hematopoietic Stem Cell Donation and Transplantation

INTRODUCTION

Advances in organ donation and transplantation raise a number of ethical issues. This document addresses solid organs, vascular composite allografts (VCA) and hematopoietic stem cells (HSC), giving a brief overview of the main ethical issues in the field. It does not address the ethical issues in the donation of tissues (such as corneas, bone, tendons, skin, and heart valves) as they differ from those of organs e.g. supply, ability to be processed and stored, and procurement fees. The ethical issues can be divided into three main categories: 1) defining death 2) procurement 3) allocation of organs[1].

DEFINING DEATH

Definitions of death are legally, socially, morally, and culturally determined and vary throughout the world. These definitions may influence perceptions of organ donation. The definitions used in Canada are explored in Fast Facts on Definitions of Death[2]. Defining death is ethically and legally important because of the *dead donor rule,* which stipulates that organs can only be procured from individuals who have been declared dead.

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PROCURING ORGANS

Deceased Donation

- Refers to the retrieval of organs from individuals who are pronounced dead by either neurological (NDD) or cardio-circulatory criteria (DCD).
- Canada operates under an opt-in system whereby organs are only taken from those who are believed to have wanted to donate. Organ donation is firmly rooted in the process of informed consent and the ethical value of voluntariness.
- A deceased donor (DD) may have recorded their wish to donate after death in an organ and tissue donation registry. Where the family overrides the deceased's previously expressed capable wish to donate, the healthcare team has to balance respect for the donor's wish with the desire to comfort the grieving family[3].

Living Donation

- Can occur through combinations of emotionally and/or genetically related or unrelated donors and recipients, and through exchange programs. The recipient may be specified or non-specified e.g. donation from an anonymous living donor[4].
- Based in the values of autonomy, voluntarism, beneficence and generosity. The term altruism is often used in these situations, though it is not well defined[5].
- Ethical issues include the potential for coercion or undue pressure to donate, balancing of the potential medical and psychosocial risks and benefits of donation, and questions about donor motivations and intentions[6].

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ALLOCATION

The global demand for organs far exceeds the supply, such that allocating scarce resources in a just and fair manner is of ethical importance.

Balancing justice and medical utility

- Justice refers to the equitable allocation of the organ, such as prioritizing by medical urgency or by length of time on the wait-list.
- Medical utility refers to allocation practices that maximize the greatest good for the greatest number of transplant patients, such as prioritizing based on the potential length of graft survival.

DONATION FROM DECEASED AND LIVING DONORS

Different systems exist for the distribution of organs from deceased (DD) and living donors (LD).

Donation from Deceased Donors (DDs):
Organs are allocated according to algorithms which are based on meeting listing criteria, medical need and waiting times. Priority is given to the sickest. This process reflects equity and impartiality.

Donation from Living Donors (LDs):
Traditional (i.e. genetically or emotionally related) LDs direct their organ to a known recipient, demonstrating partiality based on relationship. The needs of other potential recipients are not considered. Organs from anonymous LDs are allocated through exchange programs or to patients on the waiting list where allocation is made according to the same criteria as for deceased organ donors.

HEMATOPOIETIC STEM CELLS (HSC)

- HSC are cells in blood-forming tissues that can generate all blood cell types and self-renew[7].
- The transplantation of HSC from living or deceased donors has both similarities and differences to that of solid organs and tissues, e.g. public solicitations for HSC donors are much more accepted than for a kidney or liver lobe.
- Minors may be HSC donors to related recipients, whereas the law establishes a minimum age for donation of organs[3]. The ages of consent to be a living organ donor vary by province. Ethical issues include the ability of the minor to consent, potential parental consent and conflict of interest, impact on family dynamics, and challenges in determining best interests of the donor child.
- Ethical issues include:
    1. using pre-implantation genetic diagnosis to conceive a child to save a sibling who is Human Leukocyte Antigen-matched with a sibling needing a hematopoietic stem cell transplant[8]
    2. the responsibilities of Healthcare practitioners in counseling families about the ethical issues that arise in caring for savior siblings.

VASCULAR COMPOSITE ALLOGRAFT (VCA)

- Includes face, limb and keratolimbal donation and transplantation.
- Differs from other organ transplants in two important ways:
    1. The transplanted body part is visible and touchable by the recipient and others
    2. The goal is to improve function. The transplant neither saves nor extends life; it may decrease life expectancy. These factors impact the recipient's risk/benefit ratio.

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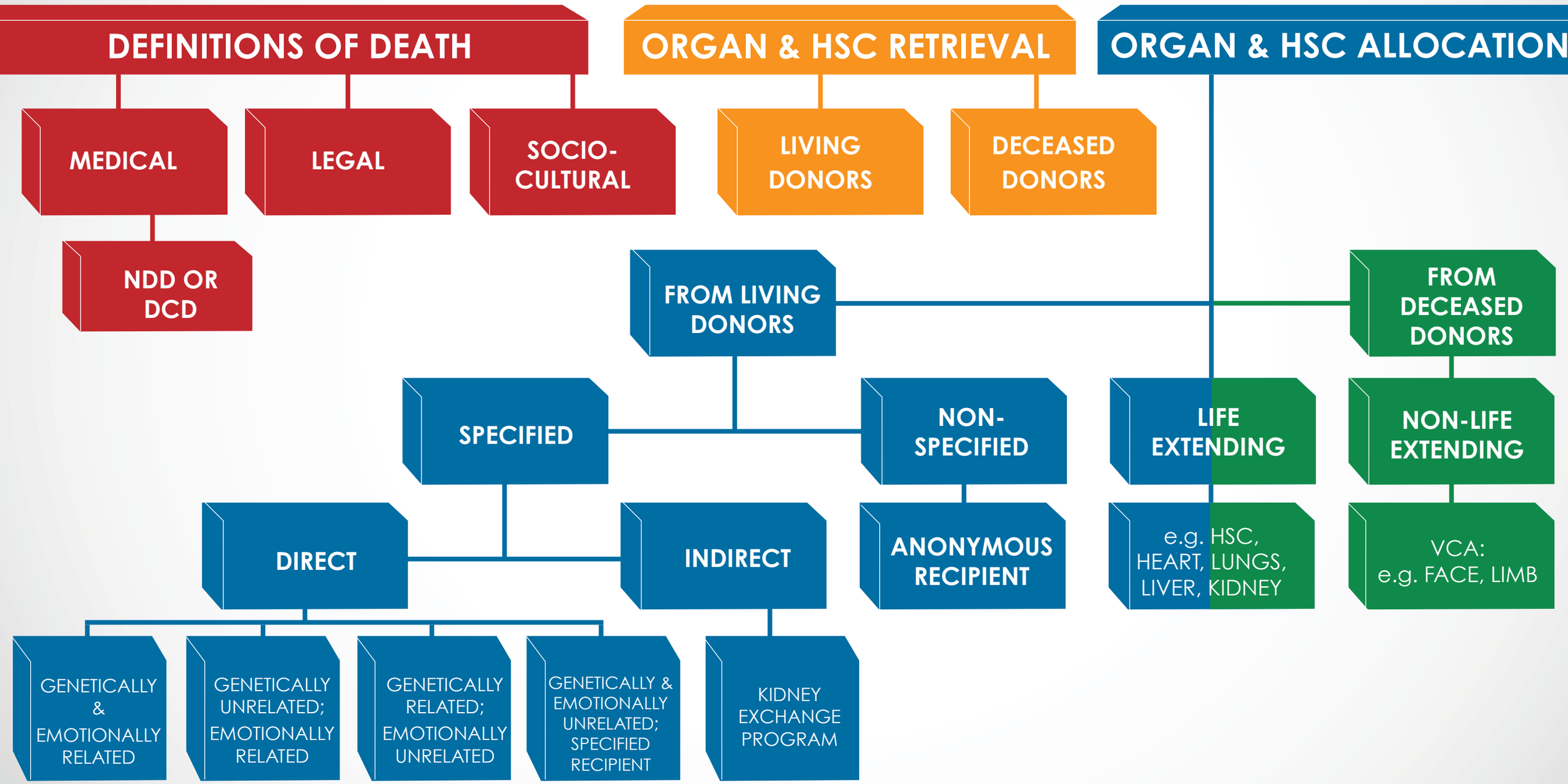

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The CNTRP is a national research initiative designed to increase organ and tissue donation in Canada and enhance the survival and quality of life of Canadians who receive transplants.

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