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WHAT'S NEW IN INTENSIVE CARE

Ten ethical challenges in donation after circulatory death (DCD): a practical guide for intensivists

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Organ transplantation remains one of the great successes of modern medicine, but its sustainability depends on the availability of organs. Alongside donation after brain death (DBD), donation after circulatory death (DCD) now accounts for a substantial and increasing proportion of deceased organ donation worldwide, expanding the donor pool in many countries [1, 2].

Unlike DBD, however, DCD discussions occur before a definitive diagnosis of death, with families and Intensive Care Unit (ICU) teams negotiating the delicate transition between end-of-life care and organ procurement. This process is fraught with unique ethical challenges. Recent systematic reviews highlight that although ICU professionals generally support DCD, they perceive it as ethically more problematic and emotionally more stressful than DBD [3, 4].

Our aim is to provide a pragmatic, clinically oriented framework that identifies ethical dilemmas in daily practice and offers concise strategies to mitigate them (Fig. 1).

1. Prognostic fog. Rushed decisions, regret, and intensive care for organ donation over-reach

Early after the prospect of withdrawal of life-sustaining treatment (WLST) is raised, prognostic uncertainty, both neurological and systemic, can be substantial [5]. Pressures linked to donation logistics may inadvertently compress the recommended observation period or neuroprognostication timeline, risking later regret for families and clinicians and increasing the chance of self-fulfilling prophecy or prognostic nihilism. In neurocritical patients, premature WLST may also preclude natural evolution toward brain death, thus restricting access to DBD pathways.

Recommendation: Separate the decision to proceed to DCD from the decision to WLST. Utilize time-limited trials and expert second opinion.

2. Dead enough? The ambiguity of death

In DCD, death is declared following a short period of cardiac arrest, typically 2–5 min. During this time no resuscitation attempts are made, even though theoretically they could [6]. Although the concepts of permanence (the function will not return) and irreversibility (the function cannot return) were historically used interchangeably, the distinction has regained relevance with technologies such as extracorporeal membrane oxygenation (ECMO), which theoretically challenge the irreversibility standard [6, 7].

Recommendation: Adopt nationally consistent protocols defining death by circulatory criteria based on permanence, not irreversibility.

3. Clock watching. The no-touch dilemma

The mandated "no-touch" interval after circulatory arrest is designed to exclude autoresuscitation. Yet, it varies considerably worldwide, from as little as 2 min to as long as 20. Short intervals may be perceived as premature by families or staff, while longer delays risk organ viability; this tension exposes underlying disparities between ethical caution and transplant urgency [8].

Recommendation: standardize the no-touch interval (similar attempts have been made for the operational definition of death[9]).

4. Double agent. The conflict of interest

DCD requires ICU teams to provide end-of-life care while simultaneously preparing for donation,

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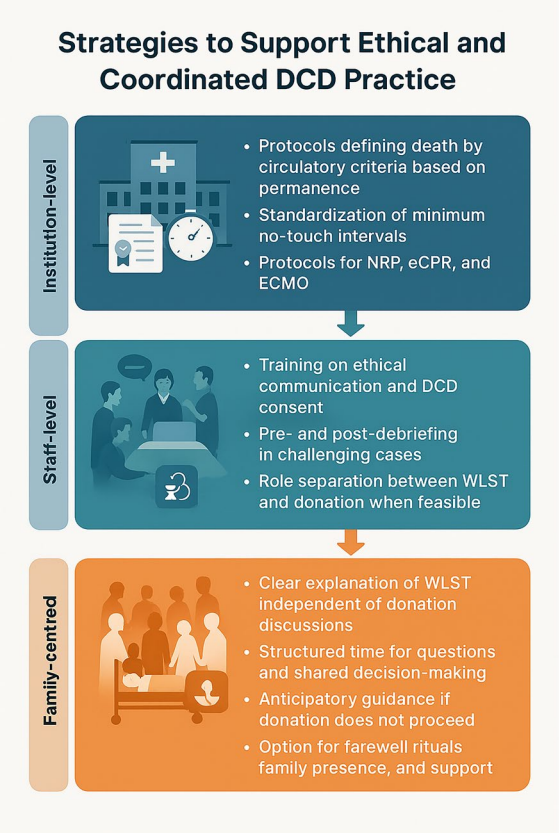

Fig. 1 Strategies to support ethical and coordinated donation after circulatory death (DCD) practice across institutional, staff, and family levels. The figure illustrates a three-tiered framework promoting ethical consistency and compassionate care in DCD programs. Institution-level strategies emphasize the development of standardized protocols defining death by circulatory criteria, no-touch intervals, NRP/eCPR/ECMO procedures, and withdrawal of life-sustaining treatment (WLST) independent from donation decisions. Staff-level strategies focus on training in ethical communication and consent, structured pre-/post-debriefings, clear role separation between WLST and donation processes, and access to clinical ethics support. Family-centered strategies highlight transparent explanation of WLST, dedicated time for questions and shared decision-making, anticipatory guidance if donation cannot proceed, and opportunities for farewell rituals and family presence. *DCD* donation after circulatory death, *WLST* withdrawal of life-sustaining treatment, *NRP* normothermic regional perfusion, *eCPR* extracorporeal cardiopulmonary resuscitation, *ECMO* extracorporeal membrane oxygenation

which may create perceived or real conflicts of interest. This dual obligation becomes particularly evident when titrating analgesia or sedation: clinicians may fear under-treating suffering or being misinterpreted as hastening death [10]. Similarly, supporting the family while approaching the topic of donation may be a difficult balance to strike, especially in smaller ICUs, where specialist donation teams are absent, and the line between providing end-of-life care and preparing for DCD may become blurred.

Recommendation: Ensure separation and transparency of roles whenever possible. If separate teams are unavailable, decisions must be explicitly documented to prioritize patient comfort and integrity.

5. Heparin before farewell. Organ-preserving interventions

To preserve organ viability, new interventions such as heparin administration, vasodilators, or vascular cannulation may be initiated before death to improve transplant outcomes, despite providing no direct therapeutic benefit to the patient. Even with prior consent, the ethical question remains whether such measures cross the boundary between respecting the dying process and prioritizing procurement logistics.

Recommendation: Apply proportionality and minimal invasiveness. Only interventions with strong justification and minimal burden should be used before death.

6. The stolen death. When logistics eclipse the good death

In controlled DCD, withdrawal of life support often occurs in the operating theatre. Families may experience this as a loss of intimacy and dignity, with farewells curtailed in a highly medicalized setting. Nurses have described DCD as "stealing the death" from the patient, transforming a human moment into a technical process [3]. Failure to preserve the symbolic and relational value of dying risks moral harm and public distrust.

Recommendation: Allow family presence and farewell rituals whenever possible, including structured moments before transfer to theatre.

7. Nurses left out. Unequal voices in decision-making

Nurses consistently report less involvement than physicians in WLST and DCD discussions [9]. Yet, they carry much of the emotional workload and are closest to families. This exclusion contributes to moral distress, professional frustration, and ethical dissonance.

Recommendation: Promote interprofessional decision-making and include nurses in structured family discussions and debriefings.

8. Not dying on time. When donation fails

In some patients, death does not occur within the expected time frame after WLST, making organ procurement impossible. Families who consented to donation may experience grief, guilt, or frustration, while staff may feel tension between compassion and disappointment [11]. Both parties may struggle with unspoken thoughts, such as hoping for a faster death, which can be psychologically burdensome.

Recommendation: Prepare families pre-emptively for this possibility and conduct pre- and post-procedure debriefings.

9. Regional reperfusion. The risks of technology

Normothermic regional perfusion (NRP) has improved organ quality in DCD, but it also raises 'new' ethical risks [12]. However, if cerebral reperfusion is not fully excluded, the declaration of death may be challenged, raising major ethical and legal debates [13]. Even when technically controlled, the optics of restarting circulation minutes after death can threaten public confidence.

Recommendation: Use NRP only with robust aortic arch occlusion protocols, institutional governance, and transparent communication.

10. Moral residue. The burden on professionals

Healthcare professionals frequently describe DCD as more stressful and ethically complex than DBD[4]. Unresolved doubts, micro-conflicts of conscience, and institutional silence contribute to what has been termed moral residue. The lack of ethical support pathways risks compassion fatigue and burnout across ICU staff.

Recommendation: Provide institutional mechanisms for ethical reflection, including clinical ethics consultation, structured staff support, and confidential debriefing spaces.

This perspective is intended not as an exhaustive ethical analysis, but as a guide to support transparent, ethically grounded DCD programs in ICU. Safeguarding dignity at the end of life, maintaining openness and transparency when engaging with the public, carefully separating treatment decisions from donation logistics, ensuring the equal involvement of nurses and physicians, and providing staff with structured education and debriefing remain fundamental ethical requirements.

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Not applicable.

Declarations

Conflicts of interest

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