Pediatric Organ Donation After Circulatory Death: An Innovative Educational Initiative

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The landscape of healthcare is rife with challenging conversations for which practitioners often describe being unprepared, untrained and poorly equipped (1, 2). On any given day, practitioners are drawn into conversations to convey serious diagnoses, navigate complex treatment decisions, confront treatment failures, acknowledge adverse medical outcomes, and orchestrate conflict-laden situations. Over the course of his or her career, the average physician conducts thousands of healthcare conversations (3). Practitioners often spend more time communicating with patients and families about the technical procedures, treatments and surgeries for which they trained than in carrying out the interventions themselves.

Organ Donation after Circulatory Death: The inherent nature of organ donation after circulatory death (DCD) and the controversies surrounding the practice generate communicative demands and challenges, even under the best of circumstances (4-8). Family-staff conversations focused on pediatric DCD are quite naturally emotionally charged, time sensitive, and complex. Although some families spontaneously initiate discussion about organ donation, most families need the topic to be broached by trusted practitioners in a timely manner with the utmost sensitivity and professionalism (9). There can be differences of opinion among practitioners regarding patient eligibility for DCD and delays in outreach to families given the intensive care trajectory for children. Trust and working relationships between hospital-based practitioners and organ procurement organization (OPO) professionals are of paramount importance and require careful attention and ongoing communication.

At Boston Children's Hospital, an interdisciplinary committee labored for two years to create and approve a pediatric DCD protocol. Focus groups were convened to better understand practitioners' perspectives and to address their concerns (10). Educational efforts were undertaken to inform cardiovascular and critical care staff members of the DCD protocol. However, the abundant ethical complexities, the scope of the educational challenge, and the relative rarity of DCD soon revealed the need for just-in-time educational materials. The hospital leadership requested the Institute for Professionalism & Ethical Practice (IPEP), based at Boston Children's Hospital, to partner with the New England Organ Bank (NEOB) in this effort, ultimately creating an innovative, simulation-based educational film.

Innovative Educational Initiative: The purpose of the film was to sensitize and educate hospital-based practitioners about the underlying ethical issues and the continuum of family-staff conversations that unfold as part of the DCD process. The film begins with a brief overview of the two pathways to organ donation (brain death and circulatory death) and an introduction to the simulated case scenario and intended use of the film. As shown in Table I, the film's DVD menu includes several nodal conversations and debriefings, including the team preparing to talk with the family about DCD (Module One), the family declining consideration of DCD (Module Two), a series of conversations leading to organ procurement (Module Three), and DCD donation not leading to organ procurement (Module Four). The film utilized professional actors to depict family members, a full body mannequin to represent the pediatric patient, and an interprofessional team of clinicians from the hospital and NEOB to function in their typical roles. Disciplines represented in the film include physicians, nurses, social workers and chaplains. In keeping with the pedagogical approach of the Institute's Program to Enhance Relational and Communication Skills (PERCS), the film conversations were not scripted but rather represented "moments of real practice" that could be used as a springboard for reflection, discussion and interprofessional learning (11-13).

Case Scenario: The case scenario presented in the film is that of Danielle Bartlett and her family. Danielle is a seven-year-old previously healthy girl who suffers a near drowning incident at the family's pool during a barbeque party. On Day 4 her neurological examination is consistent with brain death except that she develops shallow respirations at 40 breaths per minute about two minutes into the apnea test. The pediatric intensivist explains the poor neurological prognosis, and the family decides that withdrawal of life support treatment is in Danielle's best interest and the best course of action.

Ethical Complexities, Realistic Concerns and Questions: The actors were coached to embed ethical complexities, raise realistic concerns and ask questions typical of family members considering organ donation. These included concerns about Danielle's care and perception of pain, the motivation behind organ donation, whether donation could be guaranteed if pursued, worry that the family would feel rushed or pressured to consent, and whether the family could change their mind. The following questions and concerns posed by the actor-parents provide a flavor of the film conversations:

TABLE I - DONATION AFTER CIRCULATORY DEATH DVD MENU

• Module One Preparation for talking with the family
• Module Two Family declines consideration of organ donation
• Module Three DCD donation leading to organ procurement – Family agrees to consider organ donation – Family agrees to attempt organ donation – Clinicians plan the logistics of DCD process – Meeting before transport to the OR – Withdrawal of life-support in the OR – Discussion with family after successful procurement
• Module Four DCD donation that does not lead to organ procurement

"You really think that withdrawing the ventilator is the best thing to do, what you would recommend, right? You're not rushing this just to get her organs, are you?"
"These are the last moments we will have with her while she is alive. I want to be able to hold her and be with her. I don't want anyone rushing us."
"Why can't we do all of this here in the ICU where we know everyone and feel comfortable? Why does this need to be done in the operating room?"
"What if we change our minds at the last minute and just can't say good-bye and let her go? We'll try to be strong, but what if we just can't do it? What happens then?"
"If we agree to do this, will anything be done to her that will be painful? How will you make sure she's comfortable?"
"I'm worried that if it looks like she isn't going to die within the 60 minute time frame, somebody might overdose her just to get her organs. I read about a case just like this in California."
"We really hope that she can donate her organs. If she doesn't die in the 60 minute window, this will be just one more loss and disappointment for us. Is there anything you can do to make sure she can donate? We will give you whatever legal permission you need."
"You're going to wait 5 minutes before you take out her organs. Is that long enough? Are you sure she will really be dead? Are you absolutely sure that she won't feel any pain?"

Experience and Lessons Learned: The film has been well received by hospital-based practitioners and has generated significant interest amongst clinical educators. Similarly, Organ Procurement Organizations have expressed interest in the film for purposes of orienting their staff members and illustrating the perspectives of hospital-based practitioners. The film demonstrates the important need for mutual trust and respect between hospital-based practitioners and OPO professionals. The respectful introduction of the OPO personnel to the family by familiar trusted clinical staff not only prepares family members but also confers trust and confidence to the OPO. Hospital-based staff members are particularly curious and eager to be "a fly on the wall" and view the conversation in which the OPO representative explains DCD to the actor-parents. To illustrate the range of family responses, the film includes situations where the actor-parents both agree and decline the option of organ donation. The scene in which the withdrawal of life support treatment is enacted in the operating room has been particularly well regarded, offering a rare glimpse into this part of the DCD process. The two outcomes are likewise depicted, in which the patient is able and not able to donate organs.
Within our own institution, the film has helped to demystify the process of organ donation and to promote mutual understanding between hospital and OPO cultures. By making available simulated, realistic examples of clinical conversations, we have provided an educational tool to access and unpack practitioners' reluctance, skepticism, worries and moral uncertainties about DCD.

It is our hope that the film promotes the goal of providing seamless, high-quality care to DCD candidates and their families through effective collaboration between hospital-based practitioners and organ procurement professionals.

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Using Simulation Root Cause Analysis to Evaluate Dialysis Complications

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Root cause analysis (RCA) is used by high-risk industries to evaluate the causes underlying accidents or adverse, unexpected outcomes. The application of RCA in healthcare is relatively recent, and although mandated in the United States for certain indications, the efficacy of the current technique has never been validated.

We have developed a method of incorporating simulation into the technique of RCA to assess the root cause(s) of adverse outcomes in healthcare. One benefit of simulation-based RCA is that it can more effectively assess the function of complex healthcare systems, identifying deficiencies that contribute to adverse outcomes. The care of patients with renal disease (ESRD) requiring dialysis access is highly complex, involving multiple healthcare providers and locations, and involves a substantial degree of risk, with potentially devastating consequences if care is not optimal.