

# JOURNAL WATCH



## INTRODUCTION

For the second edition of 2024's Journal Watch, the team has uncovered a treasure trove of articles to keep your academic interest stimulated following the TTS Istanbul meeting, where the scientific committee for ISODP Kyoto 2025 also convened.

We feature a range of excellent articles on normothermic regional perfusion, including review pieces, recommendations for improvement, and the use of mobile retrieval teams in smaller hospitals in Tuscany, Italy.

There is also a paper on the use of small donors (< 20 kg), with important implications for pediatric transplantation, as well as a study supporting mild hypothermia in extended criteria donors after brain death.

Two additional papers focus on donor identification and evaluation strategies—one discussing phone call screening to ICUs and EDs in Iran, and another covering the use of a digital donor evaluation tool in Switzerland.

We also present a paper on resilience among organ donor coordinators and an insightful study on having family members present in the room during the apnea test.

To give open access articles more recognition for their accessibility, we will now indicate at the end of each article whether it is open access or subscription-based.

For ISODP members remember that reciprocal reduced-rate TTS membership is available, offering full access to the Transplantation journal—a valuable perk that unlocks full versions of many excellent articles found below. [Join here.](#)

Enjoy reading, and a special thank you to the South Africa team for their efforts in summarizing these articles for you.

### Dr. David Thomson

(Critical Care and Transplant Surgeon)

 [thomson.david@gmail.com](mailto:thomson.david@gmail.com)

### Dr. Thozama Siyotula

(Pediatric Surgeon)

 [thozama.siyotula@uct.ac.za](mailto:thozama.siyotula@uct.ac.za)



## **Normothermic Regional Perfusion in Controlled Donation After the Circulatory Determination of Death: Understanding Where the Benefit Lies**

**Mario Royo-Villanova et. al**  
**Transplant, 17 May 2024**

Corresponding author: Mario Royo-Villanova - [mari-ovr@hotmail.com](mailto:mari-ovr@hotmail.com)

This review article highlights the emergence, benefits and techniques of normothermic regional perfusion (NRP) in Europe and the United States in controlled donation after circulatory death. The article explored the survival outcomes with transplant and ethical considerations. Previously static cold storage was traditionally practiced after standard rapid recovery from these donors with suboptimal post-transplant outcomes reported, and limited utilization rates, especially of the livers.

The authors describe the technique of abdominal and thoracoabdominal NRP, its effects on organ utilization and the post-transplant benefits in a well constructed manner. The maximisation of the donor pool and optimization of recipient outcomes are themes throughout the paper which lay out a strong supporting case for wider uptake and usage of this technique. The case for NRP with the use of extracorporeal membrane oxygenation (ECMO) as an agent for change in donation and transplantation is eloquently made.

NRP antemortem homeostatic and physiological actions were described in detail some of which include restoration of depleted energy substrates, removal of metabolic waste products, and induction of endogenous protective mechanisms to counteract ischemic-reperfusion injury. Abdominal and thoracoabdominal NRP is described with exclusion of brain circulation with each technique. They found that abdominal NRP was associated with a reduced incidence of primary non-function and biliary complications. The article mentioned a few articles comparing outcomes post liver transplantation using NRP vs SRR vs DNDD donors. They also demonstrated that there has been less literature on kidney and pancreatic transplantation outcomes however some literature identified found NRP more beneficial to SRR and DNDD. Despite the older donor age in the TA-NRP group, heart recipients spent less time on ventilatory support, had less need of hemofiltration, and shorter intensive care unit stay compared with the DPP recipients. The authors stress resource and financial limitations have restricted this service and suggest that mobile NRP teams may breach this limitation. Ethical and legal concerns especially regarding re-establishing circulation in a patient already declared dead were elucidated.

Summary prepared by: Dr. Noxolo Mashavave

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## **Hypothermia for expanded criteria organ donors in kidney transplantation in France (HYPOREME): a multicentre, randomised controlled trial**

**The HYPOREME Trial Group**

**Lancet Respir Med, June 11 2024**

Corresponding author: Emmanuel Canet - [emmanuel.canet@chu-nantes.fr](mailto:emmanuel.canet@chu-nantes.fr)

In this French multicentre, randomized controlled trial, the HYPOREME Trial Group looked at the effects of donor hypothermia (34 - 35 degrees) in extended criteria brain dead donors and its influence on the outcomes of renal graft function post-transplantation and the 1-year GFR when compared to the normothermia group.

Over 4 years starting in 2017 365 eligible donors gifted 526 kidneys with no decrease in the frequency of delayed graft function.

Interestingly the secondary end-point of 1-year graft function was better in the hypothermia arm and there was no increase in adverse events or other areas where a difference had been postulated. In donors, the number of organs recovered and transplanted, the total volume of fluids administered, need for vasopressors and inotropes, cardiovascular events, metabolic disturbances, and coagulation disorders were not affected. In recipients, the duration of hospital stay, infections, cardiovascular events, and surgical complications were not different.

The applicability of these findings outside of settings with standard use of hypothermic machine perfusion is not known but mild donor hypothermia does seem a safe and feasible intervention in this setting.

Summary prepared by: Dr. Lulama Luthuli

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## **Tuscany Normothermic Regional Perfusion Mobile Teams for Controlled Donation After Circulatory Death**

**Lazzeri, Chiara et al.**

**Journal of Clinical and Translational Research, Aug 08, 2024**

Corresponding author: Chiara Lazzeri - [lazzeric@libero.it](mailto:lazzeric@libero.it)

Implementation of controlled donation after death (cDCD) in hospitals that are not equipped with extracorporeal membrane oxygenation (ECMO) on-site has motivated some countries to implement ECMO mobile teams for normothermic regional perfusion to increase the potential donor pool.

In this article, an Italian group reviewed their results between 2021 and 2023 after launching a cDCD program at peripheral hospitals supported by these normothermic regional perfusion (NRP) mobile teams.

NRP is postulated to contribute to the repair of ischemic-reperfusion injury, the restoration of depleted energy substrates, and the induction of endogenous antioxidants. It is reported to be associated with increased organ utilization and improved transplant outcomes compared to conventional organ recovery.

During their study period, the donation rate in peripheral hospitals increased, and the majority of the cDCDs were noted to come from peripheral hospitals. Patient outcomes were good, and this study has demonstrated how a highly advanced support service can be effectively used to allow more people to donate organs successfully.

Summary prepared by: Dr. Lulama Luthuli

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## **Favorable Outcome After Single-Kidney Transplantation from Small Donors in Children: A Match-controlled CERTAIN Registry Study**

**Schild, Raphael et al**

**Transplantation August 2024**

Corresponding Author: Raphael Schild - [r.schild@uke.de](mailto:r.schild@uke.de)

With an increasing shortage of deceased donor kidneys, kidney transplants from small donors (SDKTx), those <20 kg or <5 years, are a means to expand the donor pool. These kidneys have inferior graft survival in registry studies as they are associated with a higher risk of graft loss due to vascular complications and concerns of hyperfiltration injury when single kidneys are transplanted.

Retrospective data from the Cooperative European Paediatric Renal Transplant Initiative (CERTAIN) registry were used to perform a matched cohort study of SDKTx. Age-matched recipients of 175 pediatric kidney transplants from small donors were compared to 170 from adult donors, over a period of 10 years from January 2009, with a maximum age difference of 18 months used in the analysis. Donors with diabetes and hypertension were excluded.

The authors showed lower one-year survival for the small donor kidneys but comparable five-year survival. Small donor kidneys showed improved eGFR over time compared to the decline observed in adult donor kidneys. Early graft loss was higher for small donors (9% vs. 3.5%), and the authors did consider the possible influence of anticoagulation practices between aspirin, unfractionated heparin, and low molecular weight heparin.

The paper did include en-bloc kidneys, which accounted for 13.6% of the small donor cohort, with no increased graft loss noted in this group compared to single kidneys from small donors. As a result, the authors favored splitting in "skilled institutions" in their discussion.

This is a very informative and well-thought-out paper with a good dataset that will contribute to the challenging space of pediatric donor allocation practices.

Summary prepared by Dr. Ashton Coetzeel

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## **American Society of Transplant Surgeons Normothermic Regional Perfusion Standards: Ethical, Legal, and Operational Conformance**

**Anji E. Wall et.al**

**Transplantation, Aug 2024**

Corresponding author: Elizabeth A. Pomfret -[elizabeth.pomfret@cuanschutz.edu](mailto:elizabeth.pomfret@cuanschutz.edu)

This well-structured, recommendation-providing article addresses the ethical, legal, and social acceptability of Normothermic Regional Perfusion (NRP) in the United States and globally. American transplant societies were tasked with drafting recommendations and guidelines for the NRP process, and from this, the authors listed 13 recommendations. They thoroughly discuss the definition of death using various medical criteria and legal terms, with further elaboration on the concept of auto-resuscitation. Grey areas between standard practice after medicolegal declaration of death and initiation of NRP are clarified with each recommendation. They highlight that the initiation of NRP does not revive the person but rather enhances the ability of the organs to function with mechanical support. They delve deeper into brain function in the antemortem period and the possible consequences of brain reperfusion at that stage. The vital aspect of NRP, the exclusion of brain perfusion, is emphasized.

The impacts of NRP on donor family members, transplant teams, medical personnel, and the hospitals involved in the process are discussed in the article. The authors made recommendations on effective communication through written protocols by transplant centers to organ procurement organizations (OPOs) and donor hospitals and preparedness for conflict resolution on various aspects of NRP, with the goal of maximizing organ utilization. They emphasize that NRP should be performed by surgeons trained and experienced in this technique. They further recommend hospital policy amendments to allow non-NRP centers that accept NRP grafts to implement this strategy in their facilities.

They conclude that NRP should become standard practice for the procurement of organs and is more likely to result in successful organ donation compared to standard rapid recovery (SRR), thereby offering a greater opportunity to avoid the harm associated with non-donation.


Summary prepared by: Dr. Noxolo Mashavave

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## Donor evaluation tool: a new technology improves donor enrolment on ICU

**The Donor Evaluation Tool (DET)**

- 15<sup>th</sup> of November 2021: introduction of the new donor evaluation tool
- DET allows a **fully electronic, bedside donor evaluation** by the medical advisor (MA) of Swisstransplant
- In response to the omnipresent challenge of **organ shortage** and the ever-changing **contraindications** for organ donation



**01.01.2022 - 31.01.2022**

- **156 requests** - correspond to about 22% of the expected potential of DBD- and DCD-donors per year in Switzerland
- **82%** of marginal DET-donors were included (UTI + EFF)
- Average age of the enrolled donors: **65.3 years** (DET-donors) vs. **56.8 years** for the regularly enrolled donors
- Number of organs successfully transplanted: **1.9 organs/DET-donor** vs. **3.2 organs/regularly enrolled donor**

This worldwide unique tool allows a fully electronic bedside donor evaluation in collaboration with the organ procurement organization which increases the number of organ donations.



Chiara Imbimbo, et al. *Transpl. Int.* 2024  
doi: [10.3389/ti.2024.12227](https://doi.org/10.3389/ti.2024.12227)



## Donor Evaluation Tool: A New Technology Improves Donor Enrolment on ICU

**Chiara Imbimbo et al.**

**Transplant International, July 25 2024**

Corresponding author: Chiara Imbimbo - [chiara.imbimbo@yetnet.ch](mailto:chiara.imbimbo@yetnet.ch)

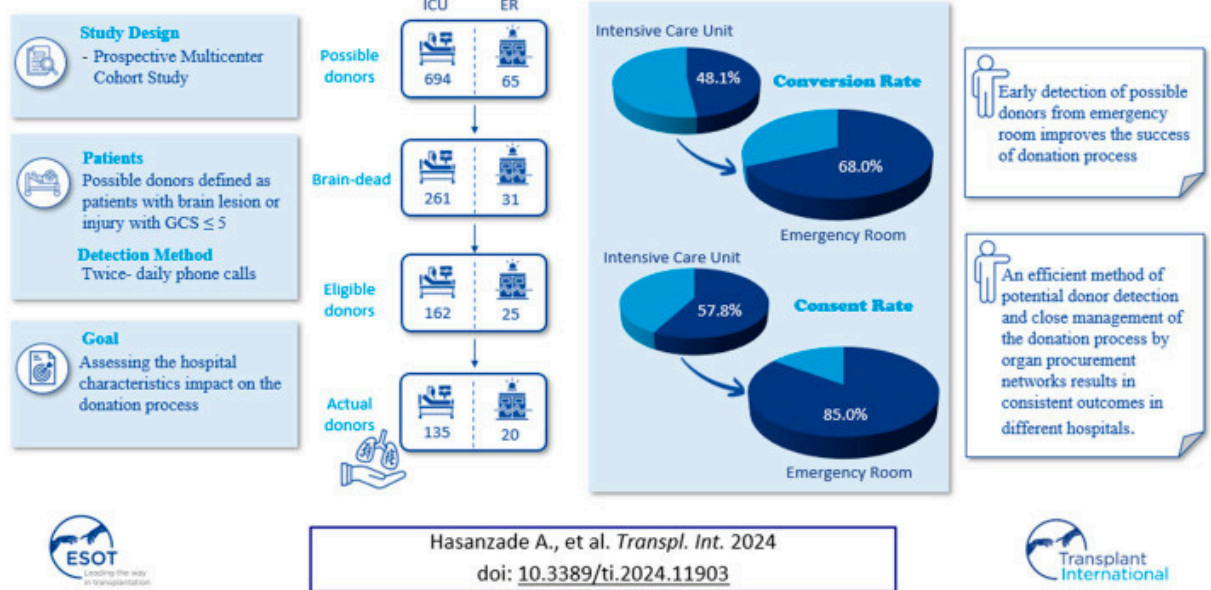
The study analyzes the first full year (2022) of using a novel Donor Evaluation Tool (DET) designed to assist ICU staff in identifying and evaluating potential organ donors. The DET cohort was older (by nearly 10 years) compared to standard referral donors and had a lower donor utilization rate (74% vs. 90%) with fewer organs transplanted per donor (1.9 vs. 3.2). Despite these differences, the tool demonstrated value by providing an alternative mechanism to evaluate donor suitability and potentially increasing overall donation numbers.

Variability in data quality across DET submissions suggested a need for more standardized and granular input to allow for better comparisons between DET and non-DET referral pathways. Addressing these issues would enhance the tool's efficacy and contribute to a more comprehensive analysis of donor outcomes. While the findings are promising, the authors appropriately call for further prospective studies to evaluate the long-term impact of DET on donation rates and transplant outcomes, particularly as the tool gains broader acceptance across hospitals.

Summary prepared by Sr Anja Meyer

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**The Impact of Early Brain-Dead Donor Detection in The Emergency Department on The Organ Donation Process in Iran**



**The Impact of Early Brain-Dead Donor Detection in the Emergency Department on the Organ Donation Process in Iran**

**Hasanzade, Arman et al.**

**Transplant International, Aug 12 2024**

Corresponding author: Fariba Ghorbani - [moc.liamg@inabrohg.f.rd](mailto:moc.liamg@inabrohg.f.rd)

This article reviews the role of early detection of potential brain-dead donors in the emergency department and how this influences organ donation in Iran.

From a single regional organ procurement unit servicing 57 urban hospitals, donors were identified by utilizing five trained coordinators who made phone calls to the ICUs and EDs twice a day. They spoke with head nurses about potential donors with a Glasgow Coma Scale (GCS) score of 5 or less.

Data were collected over one year, from January 1, 2022, to December 31, 2022. During this period, 813 possible donors were identified, with 315 progressing to brain death and 213 being eligible to donate. In Iran, both the treating physician and the donor coordinator jointly attended family meetings but did not discuss donation initially. Requests for donation were only made after the family had processed grief and confirmed brain death.

Regarding successful consent rates, there was no difference between private and public hospitals or between hospitals with trauma and neurosurgical units and those without. However, there was a notable difference between ICU and ED referrals, highlighting the real challenge of obtaining consent in these environments.

Despite the title, this is not a study assessing impact purely across EDs but rather a detailed and well-conducted observational study of an Iranian organ procurement organization (OPO), focusing on various process metrics, the quality of donation, and ethical challenges in deceased donation. This article is informative and encouraging to read, with implications for improving the national healthcare system with respect to organ donation and transplantation.

Summary prepared by Mr Grant Lee Hoffman

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## **Resilience among organ donation coordinators: a Canadian mixed-methods study**

**Silva, Amina et al.**

**Front Public Health, Mar 15 2024**

Corresponding author: Vanessa Silva e Silva - [vsilvaesilva@brocku.ca](mailto:vsilvaesilva@brocku.ca)

Organ and tissue donation coordinators (ODTCs) play a pivotal role in the donation process, but this comes at a cost. This study explores the extent of resilience and influencing factors among Canadian ODTCs through a survey and qualitative interviews, strongly highlighting that the donation process is strenuous for our organ donation coordinators.

Various coping mechanisms are mentioned in the article, including the potential of "venting." This was interesting as the authors highlight that venting may or may not be effective; it can also lead to sharing information that was not intended to be disclosed, despite it being a "safe space."

The study demonstrates that ODTCs are as human as anyone else and underscores the need to support the development of healthy coping strategies. Resilience in donation work develops over time, with one year's experience linked to increased resilience.

It was reassuring to read that resilience does not mean one cannot show emotions at work. However, one must be mindful of the interpretation. For instance, the authors note that it is acceptable to cry with the family sometimes, as it shows empathy and understanding of their pain and the significance of their donation. However, this can also lead to situations where the family might decide not to proceed with donation, adding to the complexity.

An excellent paper highlighting the need for support for organ and tissue donation coordinators worldwide to help them remain resilient.

Summary prepared by Sr Vuyiseka Soyizwapi

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## Apnea Test: The Family in the Room

**Lazaridis, Christos et al.**

**Neurocrit Care, Dec 29 2023**

Corresponding author: Christos Lazaridis - [lazaridis@uchicagomedicine.org](mailto:lazaridis@uchicagomedicine.org)

This well-written study thoughtfully examines issues surrounding family presence during the apnea test, highlighting emotional, ethical, and procedural considerations. It evaluates how this practice affects both family members and healthcare staff. The authors use five selected case-based scenarios to illustrate various challenges and issues encountered in practice when families are present during apnea testing.

The study discusses issues related to inviting or offering family attendance, preparing families, disclosing information, whether family consent is needed, and managing conflict.

In all cases included, it is evident that family presence is achievable despite a range of challenges when supported by a committed team that places the family at the center of the process. The study shows that while family presence can lead to increased numbers of difficult-to-manage situations and varied emotional responses from family members, which can impact clinicians' ability to complete the procedure, it is a complex but necessary balance.

Previously published literature supports the notion that family presence aids in the bereavement and grieving processes. This useful paper will help teams looking to incorporate or refine their processes in this regard.

Summary prepared by Sr Bongise T Ndamase.

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