

The American Society of Transplantation would like to share its statement regarding Normothermic Regional Perfusion (NRP), a technique sometimes used in organ donation.

WHAT IS NRP?

Donation after circulatory determination of death (DCD) is a well-established practice and has increased the number of available organs for transplant. The DCD process involves the withdrawal of life sustaining support followed by a period of assessment during which time the donor is declared dead on the basis of permanent cessation of circulatory and respiratory function. After death is declared, the donated organs are then procured.

In order to improve the quality and function of the organs recovered from DCD donors, a technique called Normothermic Regional Perfusion (NRP) has been developed. This technique is initiated after the donor has been declared dead based on the spontaneous cessation of respiration and circulation. At that time vascular cannulas are placed, and either the thoracic aorta is clamped, or the cerebral vessels are ligated to prevent subsequent blood flow to the brain. Artificial circulation through a mechanical circulatory device (ECMO) is then initiated to perfuse the organs during recovery. This technique that provides oxygen repletion to organs after a period of prolonged warm ischemia also allows for the assessment of organ function and viability for subsequent transplantation. Published reports have demonstrated that NRP use can lead the expansion of the donor organ pool and increased transplant rates.

WHAT IS OUR POSITION?

- Innovation in modalities such as NRP that can increase organ use, reduce organ injury, and improve recipient outcomes is needed and should be utilized. Based on the current procedural, ethical and legal assessments on NRP in DCD donors, the AST supports the use of this technique and the development of associated strategies that promote its broader clinical implementation. This should be done in a transparent ethical framework that involves key stakeholders, including the critical care community, the donating public, and donor families.
- A clear communication plan regarding NRP for donor families and donor hospital personnel should be established for programs that are implementing NRP. Focus-group studies pertaining to how much detail should be shared with families regarding the organ recovery procedure should be conducted consistent with disclosure and authorization best practices already established by organ donation agencies in standard DCD cases.
- Critical ethical analysis of NRP-DCD should continue to ensure adherence to the principles of the dead donor rule and preserve public trust in donation.
- Legal clarification either through updates to the Uniform Determination of Death Act (UDDA) or other legal advisory or guidance should be developed to remove any perceived misalignment or legal barriers to NRP donation either as a clinical or a research protocol.

REFERENCES

<https://doi.org/10.1111/ajt.17066>

<https://doi.org/10.1111/ajt.17046>

<https://doi.org/10.1111/ajt.16959>



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