



## **LifePort® Kidney Transporter Glossary of Terms**

**Acute rejection** – this occurs when the body’s immune system recognizes the transplanted organ, tissue or cell as foreign and begins to attack it. Most acute rejections occur within the first year of transplantation.

**Allograft** – biological material intended for transplantation into another individual of the same species.

**Asystolic donor** – a non-heartbeating donor (see Donation after cardiac death below).

**Cadaveric donor** – a brain dead individual whose organs are removed for transplantation.

**CE Mark** – declaration by the manufacturer that its product meets the requirement of the applicable European Directive.

**Creatinine** – levels of creatinine, a protein produced by muscle and excreted in the urine, are used to determine kidney function.

**Chronic allograft rejection** – rejection of the transplanted organ (allograft) that occurs some time after transplantation took place.

**Donation after cardiac death (DCD)**, also known as a non-heartbeating donor (NHBD) an organ donor who has been declared dead because their heart and breathing have stopped

**Delayed graft function** – up to 40%<sup>1</sup> of transplanted kidneys do not function independently immediately following transplantation and the patient will require dialysis treatments post transplantation. Delayed graft function can increase the risk of acute and chronic allograft rejection.<sup>2</sup>

**Dialysis** – a type of renal replacement therapy which is used to provide an artificial replacement for lost kidney function due to renal failure. Dialysis

duplicates the kidney's functions by removing waste products from the blood and removing excess fluid in the form of urine.

**Donor** – an individual from whom living components, cells, tissues and organs for future transplantation is obtained. A deceased donor is a patient who has been declared dead using either brain death or cardiac death criteria. A living donor is one who donates an organ or segment of an organ for the intent of transplantation.

**End stage renal disease (ESRD)** – permanent loss of kidney function, for which patients need dialysis or a transplant.

**Expanded criteria donor (ECD)** – also known as a marginal donor. A kidney donated for transplantation from any brain dead donor over the age of 60 years; or from a donor over the age of 50 years with health conditions such as high blood pressure, stroke or elevated levels of a protein called creatinine, which were once considered unsuitable for transplantation

**Ex vivo** – outside the body.

**Graft** – the transplanted organ or tissue.

**Hypothermic preservation** – cold temperature preservation of organs intended for transplantation, usually below 8°C.

**Kidney preservation** – the inhibition or reversal of deterioration of kidneys upon the death of the donor.

**LifePort** – The LifePort<sup>®</sup> Kidney Transporter is designed to provide improved kidney preservation, evaluation and transport prior to transplantation. The LifePort provides a sealed, sterile, protected environment where a solution is gently pumped through the kidney at cold temperatures to minimize damage while the organ is outside the body. The LifePort is lightweight and portable allowing organs to be perfused from the time of recovery until transplantation. It can travel unaccompanied by land or air, safely transporting the kidneys across town or between countries. While the kidney is being perfused, the LifePort records data on temperature, flow rate, vascular resistance and pressure every 10 seconds, providing surgeons with additional data prior to transplantation.

**Machine preservation** – preserves the kidney by pumping a specifically designed solution (perfusate) through it while continuously monitoring the organ. Many retrospective clinical outcomes studies have shown that machine preservation improves the quality of a kidney from a cadaveric donor prior to transplantation in comparison to organs statically stored in a cool box.

**Non-heartbeating donor (NHBD)** – an organ donor who has been declared dead because their heart and breathing have stopped also known as donation after cardiac death (DCD) .

**Perfusate** – a specially designed synthetic cold solution that is pumped through the kidney during machine preservation.

**Perfusion** – the passage of a fluid (blood or other) through the vessels of organs or tissues. Deceased donor organs are perfused to keep them viable for transplantation.

**Static storage** – the traditional way of transporting organs for transplantation. Houses the organ in a plastic cup filled with solution and surrounded by ice which is then bagged and placed in a box. Although this provides relative ease of transport it cannot maintain the kidney for long periods, nor can it provide monitoring or evaluation of the kidney.

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<sup>1</sup> Koning OH, Ploeg RJ, van Bockel JH et al. *Transplantation* 1997; 63: 1620-8

<sup>2</sup> Daly PJA, Power RE, Healy DA et al. *BJU International* 2005; 96: 498-501