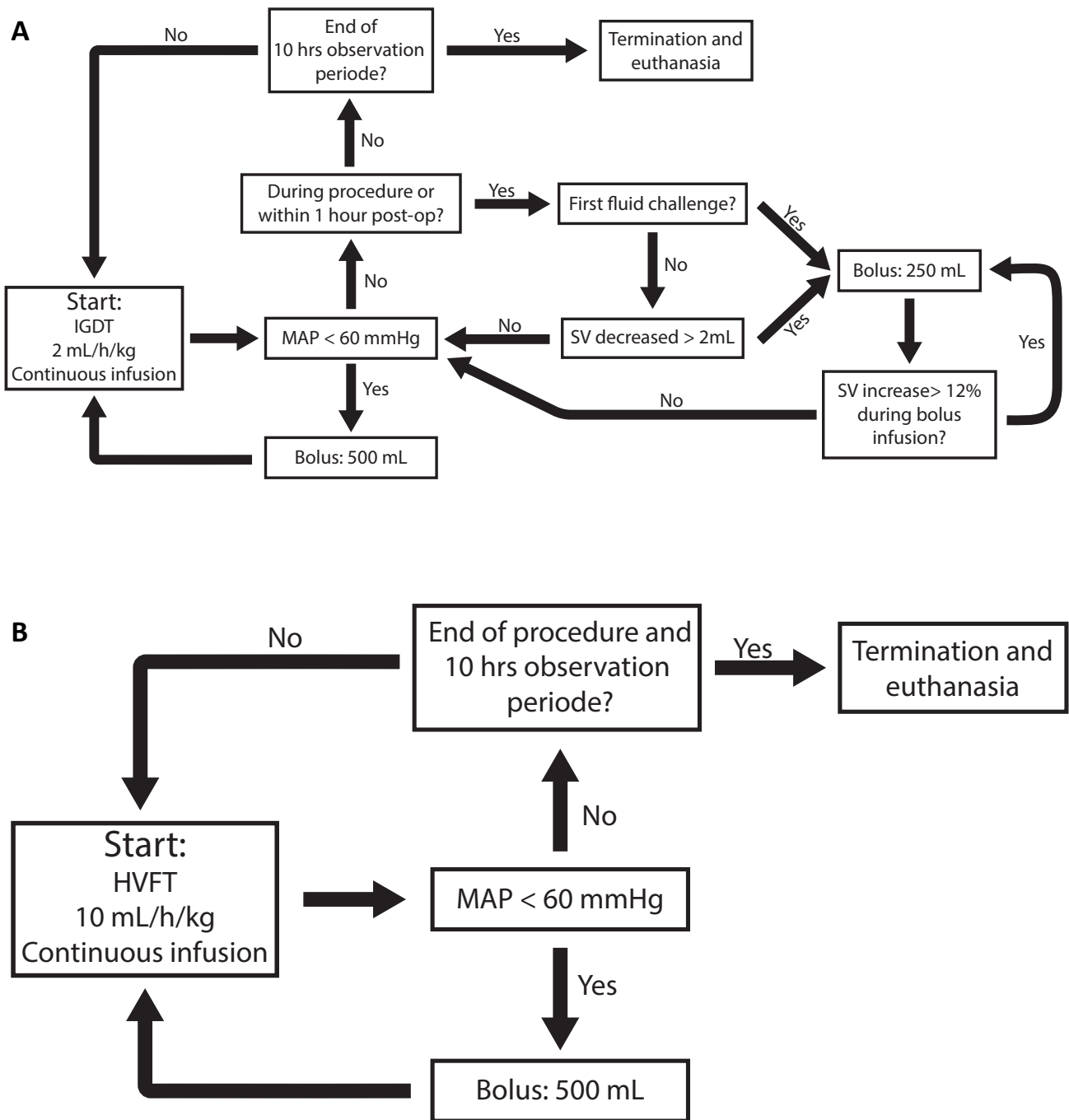


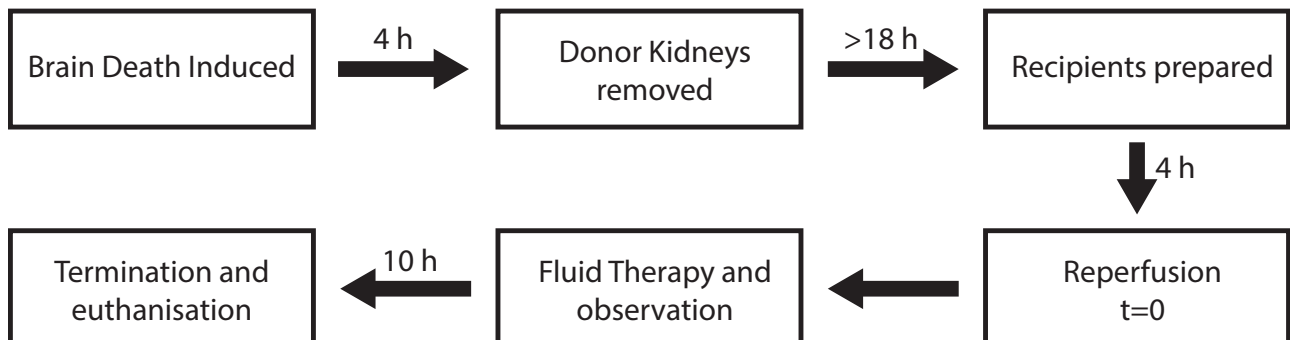
Supplementary Figure 1



Supplementary Figure 1:

Study design. A: Algorithm for individual goal directed fluid therapy (IGDT). **B:** High volume fluid therapy (HVFT) algorithm.

Supplementary Figure 2

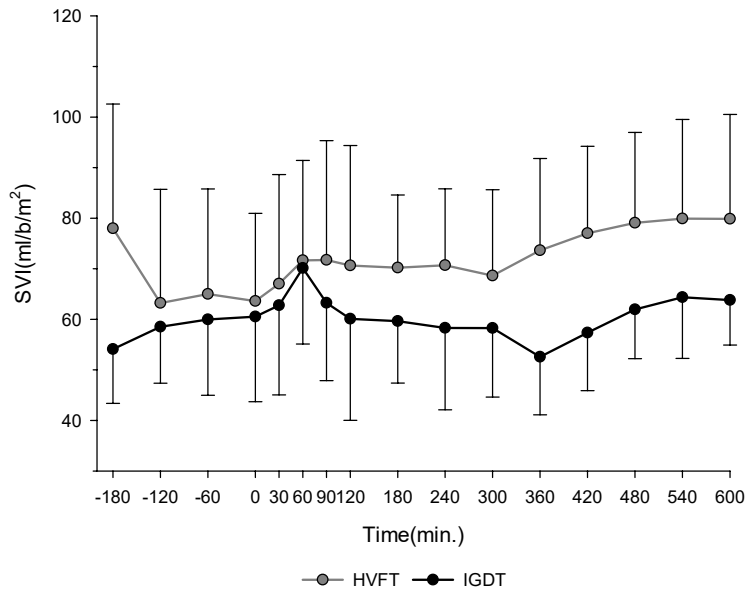


Supplementary Figure 2:

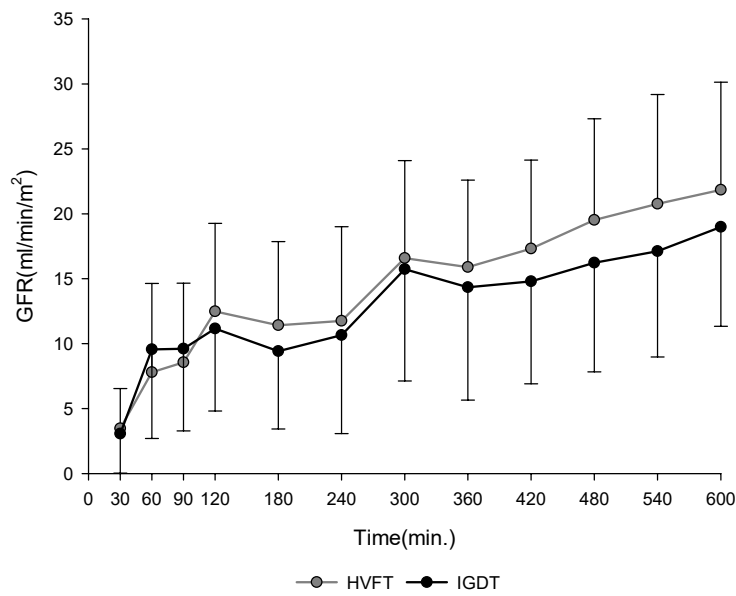
Time line: The donor was anaesthetized upon arrival at the facilities and baseline biopsies and baseline measurements with the optic probes were performed. The donor is a model of a donation after brain death (DBD) in humans and the kidneys for transplantation were removed after a minimum of 4 hours of brain death, followed by termination of the donor. The kidneys were cold stored for a minimum of 18 hours at 4°C, hereafter end-to-end anastomoses were performed to the vessels of the left native kidney of the recipient pig (both native kidneys were removed before insertion of the donor kidney). Reperfusion was timed as t=0, and the pigs were observed for 10 hours after reperfusion, with the first hour being the intervention time period. At the experiment end-point, the transplanted kidneys were removed and tissue samples were taken and treated with exactly the same protocol. The pigs were then terminated.

Supplementary Figure 3

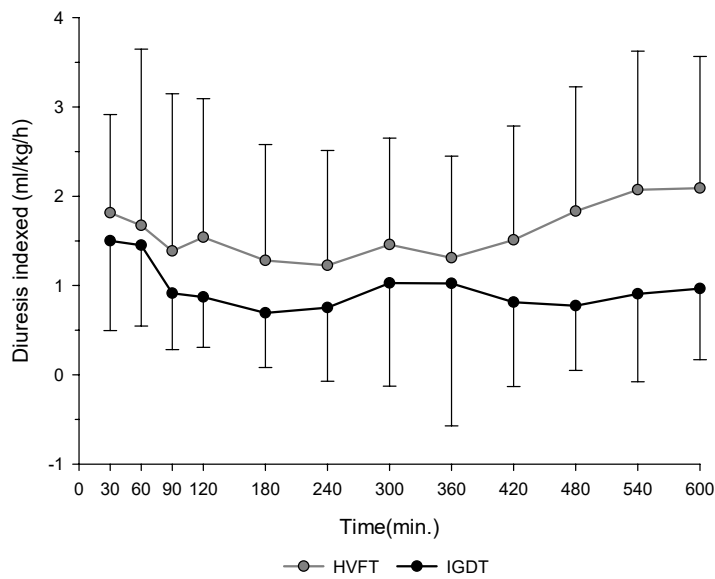
A



B



C



Supplementary Figure 3:

Indexed parameters. A: SV indexed, by estimated surface area. **B:** GFR indexed, by estimated surface area. **C:** Diuresis indexed, by weight.

Supplementary Table 1: Primer sequences for PCR

COX-2 forward	CAAAACCGTATTGCTGCTGA
COX-2 reverse	AAATTGGGTGATGCCATGTT
TNF α forward	GGCTGCCTTGGTTCAGATGT
TNF α reverse	CAGGTGGGAGCAACCTACAGTT
MCP-1 forward	ACTTGGGCACATTGCTTTCCT
MCP-1 reverse	TTTTGTGTTCCACCATCCTTGCA
IL-6 forward	AGACAAAGCCACCACCCCTAA
IL-6 reverse	CTCGTTCTGTGACTGCAGCTTATC
HO1 forward	CTTCACTTTCCCAATGTCG
HO1 reverse	CAGCTGAATGTTGAGCAGGA
β -actin forward	CATCACCATTGGCAATGAGCG
β -actin reverse	CTAGAAGCATTTGCGGTGGAC

COX2: Cyclooxygenase-2, TNF α : Tumor Necrosis Factor α , MCP-1: Monocyte Chemoattractant Protein-1, IL6: Interleukin 6, HO1: Heme Oxygenase 1

Supplementary table 2. Baseline values measured before surgery.

Baseline values					
	Donors (n=14)	HVFT-NE (n=7)	HVFT+NE (n=7)	IGDT-NE (n=7)	IGDT+NE (n=7)
Animal weight (kg)	57.7 ± 3.1	54.2 ± 5.6	56.0 ± 1.3	56.3 ± 5.4	56.3 ± 1.5
Pulse rate (bpm)	61 ± 14	63 ± 13	48 ± 12	58 ± 8	60 ± 16
MAP (mmHg)	74 ± 14	73 ± 17	67 ± 19	71 ± 11	71 ± 13
CVP (mmHg)	3 ± 2	3 ± 2	5 ± 5	2 ± 2	3 ± 2
SVV (%)	11 ± 3	12 ± 2	9 ± 7	12 ± 7	13 ± 7
Temp. (°C)	37.0 ± 0.6	36.8 ± 1.0	37.4 ± 0.6	37.3 ± 1.0	36.7 ± 0.8
paO ₂ (kPa)	27.3 ± 9.5	26.6 ± 10	39.9 ± 25	20.7 ± 2.7	25.7 ± 9.3
paCO ₂ (kPa)	4.9 ± 0.4	5.0 ± 0.6	4.8 ± 0.5	4.8 ± 0.7	5.1 ± 0.6
pH	7.47 ± 0.05	7.47 ± 0.06	7.46 ± 0.08	7.50 ± 0.05	7.49 ± 0.04
Glucose (mmol/L)	5.8 ± 1.6	4.7 ± 0.9	4.8 ± 0.8	4.9 ± 0.5	4.8 ± 0.5
Lactate (mmol/L)	2.1 ± 1.3	2.5 ± 1.4	1.7 ± 0.5	1.6 ± 0.8	1.7 ± 0.5
Creatinine (μmol/L)		123 ± 19	118 ± 12	138 ± 16	111 ± 20
Urea (mmol/L)		2.0 ± 1.1	1.1 ± 0.24	1.5 ± 0.86	1.5 ± 0.62

MAP: mean arterial blood pressure, CVP: central venous pressure, SVV: stroke volume variation.

Values of paO₂, paCO₂, pH, glucose, lactate, creatinine and carbamide are measured in arterial blood.

Supplementary table 3. Values measured periodically through the experiment.

Time	0	60	120	180	240	300	360	420	480	540	600
Plasma pH											
HVTF	7.49 (0.04)	7.48 (0.09)	7.48 (0.06)	7.49 (0.06)	7.49 (0.05)	7.49 (0.05)	7.49 (0.05)	7.50 (0.05)	7.50 (0.05)	7.50 (0.05)	7.50 (0.05)
IGDT	7.50 (0.02)	7.50 (0.04)	7.51 (0.03)	7.50 (0.02)	7.50 (0.02)	7.50 (0.02)	7.51 (0.02)	7.51 (0.02)	7.51 (0.03)	7.51 (0.02)	7.51 (0.03)
pO₂											
HVTF	20.85 (2.50)	21.68 (3.97)	19.69 (2.03)	20.07 (2.72)	19.53 (2.32)	19.37 (2.54)	18.78 (2.32)	18.98 (2.21)	18.95 (2.39)	19.08 (2.16)	18.78 (1.99)
IGDT	21.17 (3.03)	20.20 (2.68)	19.83 (2.82)	19.83 (2.45)	19.04 (2.43)	19.66 (2.92)	19.14 (2.77)	19.45 (3.42)	19.66 (2.94)	20.04 (2.75)	19.29 (2.86)
pCO₂											
HVTF	4.80 (0.35)	4.88 (0.46)	4.90 (0.31)	4.81 (0.32)	4.88 (0.31)	4.89 (0.35)	4.92 (0.43)	4.91 (0.36)	4.67 (0.68)	4.80 (0.42)	4.87 (0.42)
IGDT	4.80 (0.49)	4.83 (0.54)	4.83 (0.39)	4.85 (0.41)	5.00 (0.43)	4.95 (0.43)	4.89 (0.42)	4.75 (0.40)	4.78 (0.28)	4.65 (0.31)	4.71 (0.28)
ctHB											
HVTF	5.77 (0.09)	5.65 (0.29)	6.04 (1.26)	6.00 (0.71)	5.98 (0.63)	5.60 (0.00)	5.80 (0.43)	5.66 (0.25)	5.80 (0.16)	5.66 (0.32)	5.62 (0.58)
IGDT	6.20 (0.40)	6.16 (0.59)	6.23 (0.64)	6.20 (0.53)	6.40 (0.54)	6.64 (0.66)	6.52 (0.81)	6.30 (0.75)	5.67 (0.53)	5.60 (0.61)	5.85 (0.74)
Lactate											
HVTF	1.29 (0.41)	1.68 (1.73)	1.42 (1.41)	1.18 (0.82)	1.02 (0.51)	0.94 (0.33)	0.84 (0.24)	0.81 (0.17)	0.72 (0.17)	0.69 (0.10)	0.69 (0.10)
IGDT	1.29 (0.45)	1.28 (0.52)	1.21 (0.64)	1.18 (0.63)	1.06 (0.50)	0.95 (0.31)	0.91 (0.31)	0.82 (0.18)	0.83 (0.17)	0.81 (0.15)	0.75 (0.16)
Plasma Na⁺											
HVTF	131.71 (2.68)	132.85 (2.35)	132.64 (1.84)	132.46 (1.91)	132.87 (1.71)	133.43 (1.80)	124.56 (32.99)	133.15 (1.79)	134.00 (2.86)	133.77 (1.85)	133.54 (1.91)
IGDT	131.69 (1.49)	132.62 (1.69)	132.79 (1.52)	132.62 (0.84)	132.36 (1.17)	132.93 (1.22)	133.14 (1.36)	133.43 (1.29)	132.93 (1.28)	132.92 (1.49)	133.00 (1.41)
Plasma K⁺											
HVTF	4.91 (0.66)	4.55 (0.28)	4.73 (0.26)	4.81 (0.23)	4.94 (0.31)	5.01 (0.37)	4.99 (0.38)	4.99 (0.39)	4.78 (0.76)	4.85 (0.38)	4.81 (0.32)
IGDT	4.95 (0.72)	4.52 (0.33)	4.75 (0.49)	5.09 (0.68)	5.32 (0.88)	5.44 (1.05)	5.40 (1.00)	5.36 (0.97)	5.21 (0.89)	5.19 (0.74)	5.12 (0.57)

Values of pH, pO₂, pCO₂, ctHB, Lactate, Plasma Na⁺ and Plasma K⁺ arranged by treatment groups, SD in parenthesis.