OPERATIVE DETAILS — Section 1

Donor Hospital
Name
DoB
NHS or CHI No
ODT Donor No
Blood Group
Height (cm) / Weight (kg) / Girth (cm)
Donor allergies
SNOD
SNOD contact no
NRP team

By signing here, the surgeon is prescribing all drugs, fluids, and blood products as initialled on chart

NRP Centre Contact Number
Cardiothoracic Retrieval (circle) NO / LUNG / HEART / TA NRP
Cardiothoracic Team(s)
CT Lead Surgeon (PRINT)
CT Organ Preservation
Stapler technique (lungs) YES / NO
Reservoir supplementary set used YES / NO
Circuit checked (initials) Surgeon Perfusion
NRP Perfusion Specialist
AB Organ Preservation
NRP Surgeon (PRINT)
NRP Surgeon contact no
NRP Surgeon signature

FLUIDS/EQUIPMENT — Section 2

PRIME

	Amount/Vol	Expiry	Batch/Ref (DIN)	Rx	Checked	Given
Perfusion circuit						
Reservoir supplementary set						
Hartmann's Solution (ml)						
Hartmann's Solution (ml)						
Sodium Bicarbonate 8.4% (1ml/kg)						
Heparin	50,000 units					
Fluconazole 2mg/mL	400mg					
Teicoplanin	200mg					
Gentamicin	120mg					
Metronidazole	500mg					
Methylprednisolone	1g					
Phentolamine	5mg					

ADDITIONAL FLUIDS

Blood						
Blood						
Blood						
Blood						

CANNULATION AND CIRCULATION — Section 3

Arterial cannulation site (circle)	Femoral / EIA / CIA / Aorta	Arterial cannula size	
Venous cannulation site (circle)	Femoral / EIV / CIV / IVC	Venous cannula size	
Ascending aortic vent cannula	**Mandatory prior to NRP start**	Vent cannula size	
Descending thoracic aortic occlusion method (circle)	External CLAMP	IVC clamp on (circle)	YES / NO
	Balloon occlusion confirmed in correct position	SVC clamp on (circle)	YES / NO
Head down during abdominal cannulation (circle)	YES / NO / NA	Arch drainage (circle)	YES / NO

PUMP PARAMETERS — Section 4

Clock Time / NRP Duration	Blood Flow	FiO_2	Gas flow (l/min)	SvO_2 %	Hb g/l	HCT %	Reservoir Volume	Temp °C	Notes
0									
10									
20									
30									
40									
50									
60									
70									
80									
90									
100									
110									
120									

GASES — Section 5

Clock time								
NRP duration	0		30		60	90	120	
Sample type (A/V)								
pH								
pCO_2								
pO_2								
HCO_3								
BE								
Sats								
Lact								
Na^+								
K^+								
Gluc								
Ca^{2+}								
Hct								
Hb								

BIOCHEMISTRY — Section 6

Clock time								
NRP duration	0		30		60	90	120	
Gluc								
Urea								
Crea								
Uric Acid								
Ca								
ALB								
Tot Prot								
ALT								
AST								
ALP								
Bili								
GGT								
AMY								

TIMINGS — Section 7

WLST location (circle) ITU / THEATRE SUITE

WLST		Knife to skin	
Systolic BP < 50 mmHg		Aortic arch vented	
Asystole		NRP Start (Time 0)	
Verified Deceased		NRP stop time	
		In situ cold Flush	

ORGAN QUALITY ASSESSMENT — Section 8

Liver weight . kg QUOD Box No NRP Box No

Minimum dataset:
LFT/amylase is **0, 60 and 120 minutes.**
Glucose, lactate and haemoglobin data are required at **0, 30, 60, 90 and 120 minutes.**
Blood cultures may be taken at **0 and 120 minutes.** This is optional.

	0	30	60	90	120	Validating Lab	Notes
ALT (U/l)							
BILI (umol/l)							
AMYLASE (U/l)							
GLUCOSE (mmol/l)							
LACTATE (mmol/l)							
Hb (g/l)							
BLOOD CULTURES (optional)		X	X	X			

Pre-NRP

Total volume of Hartmann's in prime (ml)		Hb (g/l) in prime if units added (ABG)	
Total volume of all fluids in prime (ml) excluding blood		Reservoir volume after sash primed (ml)	
Units of blood added to prime		Reservoir volume after initial venous drainage (ml) prior to pump start	
Total blood volume (ml) added to prime			

During NRP

Units of blood added		Units of blood returned to bank	
Total blood volume (ml) added		Total volume of colloid (ml) added	
Units of blood discarded		Final reservoir volume before cold flush (ml)	

INSTRUCTIONS FOR SNODS: Upload pages 1-4 to DonorPath under the 'NRP Passport' category.

Guidance Notes for the NRP Passport and NRP Management (FRM6725)

Section 2. Fluids/Equipment

Hartmann's solution is used in the Prime. To avoid severe haemodilution, blood may be added to the prime, and/or the total prime volume may be reduced, particularly in small or paediatric donors. The minimum recommended total prime volume is 1500ml. Hartmann's contains high levels of lactate (27mM) and if added after pump start, will lead to confusion regarding lactate metabolism by the liver.

Avoid further Hartmann's solution once NRP has commenced as it contains lactate.

Section 3. Cannulation and Circulation

The donor may be placed head down during abdominal cannulation. This assists in donor blood collection prior to NRP start. Blood is drained to the reservoir by levelling the donor as soon as cannulation is secure.

Low pressure suction drainage of the arch brings arch vessel pressure to 0 mmHg, and returns blood to the reservoir.

Section 4. Pump Parameters

The donor may be raised or lowered to improve drainage or reduce chattering respectively during NRP.

Section 5. Gases

Arterial blood gases are essential to ensure appropriate acid-base status, tissue oxygenation and CO_2 levels and best describe oxygenator function and acid base status. Repeated arterial blood gases are **strongly recommended** for safe perfusion in NRP. Please ensure that gas samples are capped immediately to prevent loss of CO_2.

pH and Bicarbonate. pH<7 or H+>100nmol/l at time 0 can lead to mitochondrial dysfunction. Therefore add 25ml (or 50ml) 8.4% $NaHCO_3$ once, as early as possible in this situation. The resolution of acidosis during NRP is an index of organ quality so adding more bicarbonate later will be confusing.

Avoid further Bicarbonate administration once NRP is in progress.

$PaCO_2$. Optimise arterial CO_2 by adjusting gas flow rate. If $PaCO_2$ is <4.5kPa, decrease gas flow rate; if $paCO_2$>6.0 kPa, increase gas flow rate.

Optimise **PaO_2** by changing FiO_2 alone.

Venous blood gases give an accurate measurement of SvO_2. Mixed venous oxygen saturation (SvO_2) is an essential measure of tissue oxygen uptake, and hence adequacy of oxygen delivery to tissues. However, other analytes in venous gases (pH, pCO_2, etc) cannot be used to gauge acid-base status or gas exchange accurately, as normal venous ranges are not defined. This is why arterial blood gases are recommended for safe perfusion.

SvO_2 between 60% and 80% indicates satisfactory oxygen delivery (good flow, good arterial O_2, adequate Hb) to tissues.

Optimise SvO_2 by adjusting pump flow rate. If SvO_2 <60%, increase pump flow; if SvO_2 >80% decrease pump flow (NB; Hb needs to be >60g/l for SvO_2 to be reliable). Management of pump flow and Hb are required to optimise SvO_2.

When interpreting arterial gases, at least one set of venous gases should be performed (at 30 minutes) to confirm the SvO_2 monitor on the perfusion device is reading correctly. They tend not to read well if Hb is low, which may trigger transfusion to promote adequate oxygen delivery.

Section 8. Organ Quality Assessment Bloods

The 'Validating Lab' is the NHS Laboratory which quality assures the point-of-care-testing ('POCT') device which is used in the donor theatre for rapid blood results. This will either be the donor hospital lab, for bloods tested with donor hospital equipment, or the NORS base hospital lab which has provided quality assurance for the POCT devices used by the NORS team, or both.

LFTs and gases are processed with POCT devices ('Piccolo', 'i-Stat') or via the Donor Hospital Lab. Haemoglobin and lactate are measured on the gas sample. Whichever device/laboratory is used, please ensure that the same device/laboratory/sample type is used on each occasion.

Red cells in a gas sample may settle to the bottom of a sample tube, and cause inaccurate Hb readings. Please ensure gas samples are well mixed prior to analysis.