

CATHETERISATION FOR THE RECIPIENT

The recipient of a kidney transplant is catheterised in the moments before surgery. It is extremely important to take note that instead of a urometer catheter bag, we place a saline infusion. 500ml of saline is administered to the bladder via a giving set and adaptor prior to anastomosing the transplanted ureter onto the bladder. By doing this it enables the surgeon to better identify the bladder. Once catheterised, the infusion will be closed to the patient until the time that it is needed.



DONOR INSTRUMENTS

When surgery goes to plan, the reality is that we don't need many surgical instruments. A lot of the dissection is done with the Ligasure and retraction/counter-traction with the surgeons hand. The risks associated with converting from laparoscopic surgery to open in emergencies means we need to be fully prepared. Ideally prepare your instruments over two trolleys and a mayo table.



MAJOR TRAY (MODIFIED)

- | | |
|---------------------------------|----------------------------------|
| 1x BP Handle No4 | 2x Spencer Wells Art Frcp |
| 1x BP Handle No3 | 10x Towel clips |
| 1x BP Handle no3L | 2x Babcocks Frcp |
| 2x Ramsey Heavy thd Diss Frcp | 2x Allis Frcp |
| 2x Gillies Toothed Diss Frcp | 2x Duval Frcp |
| 2x Debakey Frcp 15cm | 2x Littlewood Frcp |
| 2x Debakey Frcp 20cm | 2x Lahey Frcp |
| 3x Sponge Holding Frcp | 6x Dunhill Art Frcp Crvd 18cm |
| 1x Nelson Scissors Crvd 23cm | 10x Dunhill Art Frcp Crvd 12.5cm |
| 1x McIndoe Scissors Crvd | 5x Mosquito Frcp Crvd 12.5cm |
| 1x Mayo Scissors 17cm | 2x Czerny Retractor |
| 1x Dressing Scissors Blunt 15cm | 2x Langenbeck Retractor |
| 1x Dressing Scissors Sharp 15cm | 1x Morris Retractor Large |
| 2x Mayo N/H 23cm | 1x Morris Retractor Medium |
| 2x Mayo N/H 19cm | 1x Morris Retractor Small |
| 2x Mayo N/H 16.5cm | 1x Diathermy Finger Switch |

30 DEGREE ENDOEYE

(Alternatively a 30 Degree Laparoscope and Light Lead)

INSTRUMENTS ON THE SIDE

- 2x Peripheral Debakey
- 1x Statinski
- 1x Paediatric Reynolds
- *All clamps found on the Transplant Extras Tray
- 1x Laparoscopic suction * Optional

DONOR CONSUMABLES

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- 2x Gallipots
- 1x Lotion Bowl
- 2x Receivers
- 10x Medium Raytec Swabs
- 1x Size 10 Blade
- 1x Scratch Pad
- 1x Discarder Pad
- 1x Gas Tubing
- 2x 12x 10mm Laparoscopic Ports
- 1x 2-0 Vicryl/Polysorb Suture
- 1x 1 J-Shaped PDS Suture
- 2x 1-0 PDS Looped Suture
- 1x 3-0 Biosyn/Monocryl Suture
- 1x Tube or multiple sachets of sterile lubricant
- 1x Multi-Fire Linear Vascular Stapler
- 2x Vascular Stapler Reloads
- 1x Laparoscopic Quiver *if available
- 1x Scope Warming Device *bowl of hot water for substitute
- 2x Sterile Light Handles
- 1x Camera Cover *if required
- 2x 20ml Syringes (for Local Anaesthetic) *if required
- 1x Hypo (for Local Anaesthetic) *if required
- Surgical Dressings



CONSUMABLES ON THE SIDE

- 2x Endo-Peanut/Pledgets
- 1x Laparoscopic Scissors
- 1x Laparoscopic Surgical Clipper
- 1x Multi-Fire Linear Vascular Stapler *in case of malfunction
- 1x Box of Linear Vascular Staple Reloads
- 1x Suction Tubing
- 1x Yankauer Sucker
- 2x 3-0 Prolene Round-bodied Suture
- 2x 4-0 Prolene Round-bodied Suture
- 2x 5-0 Prolene Round-bodied Suture
- 1x 0- Vicryl/Polysorb Ties
- 10x Medium Swabs
- Hand Port

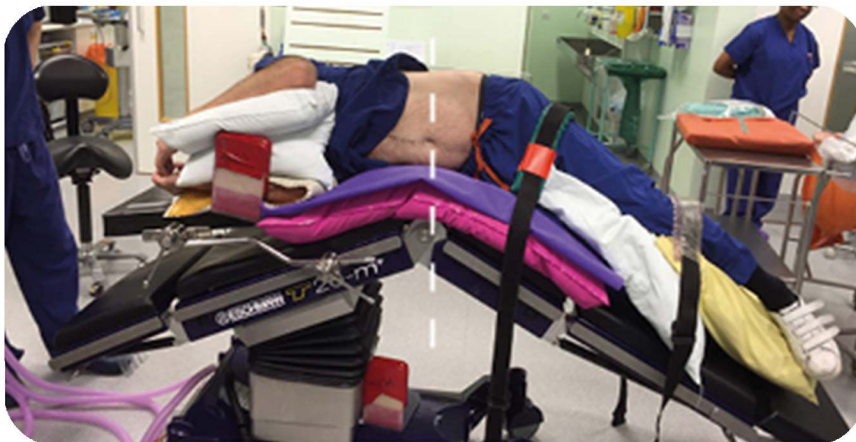


DONOR POSITIONING

Patient is positioned laterally with kidney break.



The idea of placing the patient on the break of the table is to improve surgical access. It achieves this by increasing the space between the ribs and pelvis. The operating table will need to be adjustable and able to perform manoeuvres such as: height, lateral tilt, head down (Trendelenburg), head up (reverse-Trendelenburg) and kidney break. The goals of good patient positioning apply as always. Anaesthetic access is slightly compromised to achieve good surgical access. Therefore extra attention is needed to keep the airway clear from complications such as occlusions and disconnections. Other important considerations are: Patients stability and security, maintenance of normal physiology and protection of important structures.



The umbilicus is a useful landmark to line up with the break in the table. Patient stability can be assured by using a suction bean bag underneath the patient. Gel straps and tape can also be used for added security around the hips and knees.

Maintenance of normal physiology is important, the upper arm tends to provide better flow rates for I.V fluids and more accurate NIBP readings. Good positioning of the lower arm avoids poor perfusion.

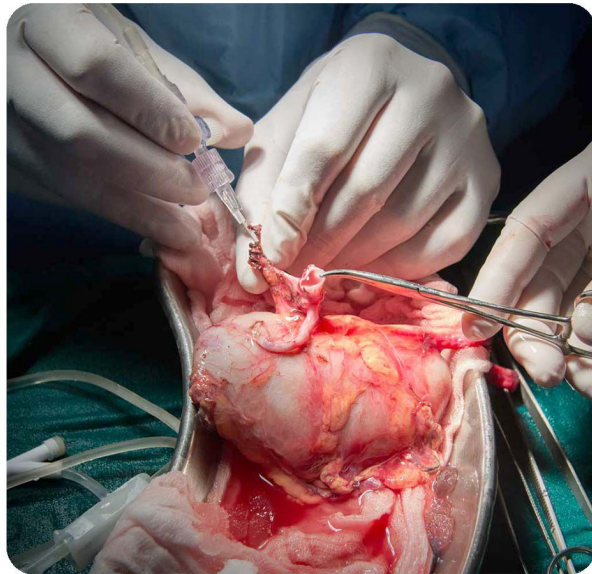
Protection of important structures: the head needs support to remain in a neutral spine angle. A number of pillows or seat can be used. The arms can be positioned in a number of ways but excessive extension and abduction should be avoided. Pillows should also be positioned between the legs to avoid pressure damage and gel pads under the feet. Care with urinary catheters and diathermy should also be taken to avoid pressure injuries.

KIDNEY PRESERVATION

COLD PERFUSION

Related living donors: approximately 800-1000ml of Soltran solution is delivered to the isolated, ice packed kidney via the renal artery at a pressure of 120cms of water. The kidney is perfused until the solution coming from the renal vein is clear of blood.

*Occasionally we will need more than 1000ml therefore there should always be 2L chilled Soltran available.



COLD STATIC STORAGE

By cooling and flushing blood components out of the kidney we can help preserve the organ prior to transplantation. Preparing a receiver with a mixture of frozen and chilled Ringer's solution we can achieve a storage temperature of between 0 and 4°C. The kidney, once perfused and picked, will be wrapped in a swab and stored in a sterile bowl full on chilled/frozen Ringer's. This bowl will rest on another bowl of non sterile ice to further help maintain temperature.



WHAT FLUIDS DO WE NEED

Prepare the following the day before surgery:

2 litres of Soltran!!

We will need 1L of cold, refrigerated Soltran solution to cold perfuse the donated kidney. We also need 1L in the refrigerator in case of re-perfusion.

6 litres of Ringer's:

2 litres of frozen Ringer's

2 litres of cold refrigerated Ringer's

2 litres of slushy Ringer's

*If slushy Ringer's isn't available prepare 1L Frozen and 1L Cold instead



PICKING TABLE CONSUMABLES



PICKING CONSUMABLES

Medium Swabs x5
I.V Giving Set+Extension+3-Way Tap
20ML Syringe
Pink/20G Venflon
3-0 Vicryl/Polysorb Ties
No22 Blade
Discarder Pad
Suction Tubing
Large Receiver Dish
*It is important to have an extension on the giving set in order to have enough length to control the flow when cold perfusing.

ITEMS AVAILABLE ON THE SIDE

1L Pressure bag for Cold Perfusion (Soltran)
5-0 Round Bodied Prolene Suture
6-0 Round Bodied Prolene Suture

PICKING TABLE INSTRUMENTS



PICKING INSTRUMENT TRAY

BP Handle No4
Mcindoe's Forcep
Debakey Forcep
Mcindoe Scissors
Potts Scissors
Mosquito Artery Forceps x10
Watson Cheyne Probe
Mayo Needle Holder x2
Tibbs Cannulae
Toffee Mallet

MICRO INSTRUMENT TRAY

Bulldog Clamps *not necessary
Micro Needle Holder
Micro Potts Scissors



*"Have Micro
Instruments available!"*

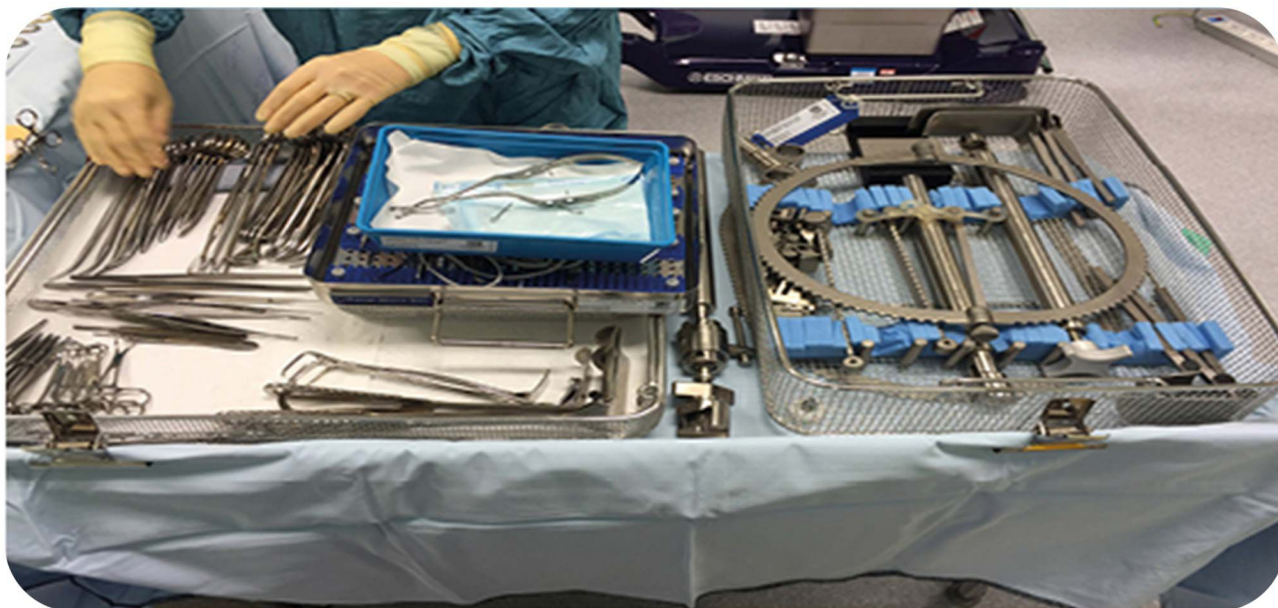
RECIPIENT INSTRUMENTS



MAJOR TRAY (MODIFIED)

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| 2c Mayo N/H 16.5cm | 1x Diathermy Finger Switch |

RECIPIENT INSTRUMENTS CONTINUED



Bookwalter Retractor

Micro Instruments Tray

*Long micro needleholder/forcep if available

Yasagils Clip Applicator

*Yasagils can be substituted for spring bulldogs

TRANSPLANT EXTRAS TRAY

BP Handle no7

Statinski Vascular Clamp

2x Peripheral DeBakey Vascular Clamp

Paediatric Reynolds Vascular Clamp

2x DeBakey Dissecting Forcep

McIndoe Dissecting Forcep

Chitwood Forcep

2x Spring Bulldogs

Watson Cheyne

Nerve Hook

McIndoe Scissor

Potts Scissors

4x Tenko Needle Holders *23cm fine tipped
needle holder

5x Halstead straight ART Forcep

1x Lahey Forcep



RECIPIENT CONSUMABLES



RECIPIENT CONSUMABLES

2x Gallipots
2x Lotion Bowl
2x Receivers
10x Small Raytec Swabs
15x Medium Raytec Swabs (5x fluffy swabs)
1x Size 10 Blade
1x Size 11 Blade
1x Scratch Pad
1x Discarder Pad
1x Angled Cannula
20x ml Syringe (for Hep Saline)
5,000 I.U of Heparin
500ml Saline for injection
1x 2-0 Vicryl/Polysorb Suture
6x 5-0 Prolene Suture
1x 4-0 PDS Suture
2x 1-0 PDS Looped Suture
1x 3-0 Biosyn/Monocryl Suture
3-0 Vicryl/Polysorb Ties
0 Vicryl/Polysorb Ties
1x Suction Tubing
1x Yankeaur Sucker
Bulb Syringe (for kidney preservation)
10x Shods/Vascular Boots
5x Sloops
2x Sterile Light handles

CONSUMABLES ON THE SIDE

1x Box 5-0 Prolene (round bodied suture)
1x Box 6-0 Prolene (round bodied suture)
Aortic punches ranging in sizes from 4-6
1 Vacuum drain (redivac)
2-0 Silk Suture *for drain
1x M11 SurgiClips
Ureteric Guidewire *if available
Ureteric stent 4.8x14cm *if available

PREPARING FOR STATIC STORAGE

1 A minimum of 2L frozen Ringer's is used to help maintain the temperature of the solution between 0-4°C. Take care to remove the outer packaging before breaking the frozen solution. This will avoid small fragments of plastic being transferred to the patient.



2 Wrap some linen around the Ringers. This prevents small fragments breaking off and causing injuries. A minimum of 2L refrigerated Ringer's solution is added to the bowl in order to bathe the kidney. Ideally, 2L of slushy Ringer's would also be added, this can be substituted with an additional litre of both frozen and refrigerated Ringer's.



3 A sterile barrier is created between the stainless steel bowl full of non sterile ice and the sterile bowl that will contain the kidney. The non sterile ice has the important role of helping to keep the sterile bowl cold.



4 The cold perfused and picked kidney gets wrapped in a medium swab and is bathed in the cold storage solution. The bowl is placed on top of the sterile linen covered ice bowl.



PREPARING FOR STATIC STORAGE CONTINUED

5 Rather than leaving four medium swabs on the picking trolley, it is advisable to place all five swabs together in the bowl. This will help the scrub practitioner scrubbing for the Recipient to maintain a more accurate and manageable swab count.

6 All accountable items used at the picking area must be recorded and checked. It is advisable to keep hold of any swab ties in order to correctly transfer/count out the swabs that will be transferred to the recipients swab count.



7 All fluids that have been used for the cold perfusion and static storage need to be recorded for traceability. The patients name, hospital number, product type, batch number and expiry date are some of the key pieces of data that need to be recorded.

DATE AND TIME	LOT NUMBER REGISTRATION NUMBER	LR	Donor Name RECIPIENT'S NAME	Hospital/Donor Unit PT'S AGE	Consultant Surgeon CONSULTANT SURGEON	Blue tag TYPING	OPERATING SURGEON	ANESTHETIC / LOCAL	Recept / Solution Lot no / Expiry date / Quantity	OPERATION PERFORMED	Kidney tag SOLB NURSE	Picking tag or CHECK NURSE	Expiry date REMARKS

SURGICAL TIMINGS

The recording of key moments during live Kidney Donor Transplantation is important. Documenting the time of: clamps on, cold perfusion, out of ice and clamps off allow us to analyse the efficiency of our work that ultimately lead to better outcomes and graft function. Prolonged warm and cold schema times are to be avoided as they can lead to delayed graft function, primary non function and graft loss.



- ✓ Clamps on: Once the artery is clamped
- ✓ Cold perfusion: Once cold perfusion has commenced
- ✓ Out of ice: Once the kidney is out of ice for transplantation
- ✓ Clamps Off: Once clamps are off and kidney is perfused