Guideline for the Evaluation of Living Kidney Donors in NZ

The purpose of this guideline is to define the appropriate information and/or investigations that should be completed for evaluation of living kidney donors. It is not prescriptive about results that may or may not rule an individual out as a donor.

Live donors commence assessments in their local Renal Medicine/Nephrology department. Potential donors under assessment are referred directly to the centre at which donation would occur.

Each transplant centre is responsible for decision making about individual donors who are to donate at their centre. Involvement of another transplant centre is not required irrespective of where the donor normally resides and should generally be avoided to reduce the possibility of communication errors and/or unhelpful variations in clinical opinions.
Where the centre is not the regional transplant centre that the potential donor's local renal unit refers to most often, an early discussion between coordinators to clarify any unfamiliar processes is recommended.
Directed donors who are ABO incompatible should be considered for kidney exchange or ABO incompatible kidney transplantation.

Non directed donors should be routinely offered entry into the NZ Kidney Exchange to facilitate chain transplants, unless this will unduly delay their donation.

There are two broad goals of evaluation of living donors:

1) To ensure donors are assessed as suitable for donation from the point of view of the donor, in terms of current health, future risks to kidney health, operative risks, and informed consent. The unit that undertakes the testing and assessment of the donor will do so in accordance with this guideline.

2) To ensure that the potential donor will provide an acceptable kidney for the recipient. Potential donors must have normal kidney function and structure and not present arisk to the recipient with respect to transmission of disease including viral or other infections and transmissible malignancies.

The order in which tests are to be performed should be determined by clinical circumstance.

A. Medical history and physical examination including:

- Age
- Gender
- Height, weight (BMI)
- Relationship to the potential recipient
- History of hypertension: (no/yes), medication use (no/yes);if yes, number of drugs
- Glycaemic status: abnormal HbA1C (no/yes)
- History of malignancy: (no/yes), if yes give details
- History of renal stone disease: (no/yes), if yes, recurrent? (no/yes), give details

- History of recurrent urinary tract infections
- History (personal or family) of bleeding or clotting disorders: (no/yes), give details
- Completion of a health / risk assessment questionnaire

B. Blood tests:

- ABO blood group, U and Es, LFT, HbA1c, FBC with differential, coagulation profile

C. Urine tests:

- Urinalysis and culture
- Urine protein: creatinine ratio (spot urine)

D. Infectious transmission risk:

- CMV, EBV, HIV, HBV (including Hep B core antibody) & HCV, syphilis
- Any additional tests raised by risk questionnaire
- Note – the final viral detection tests are to be performed by NAT testing at NZBS

E. Other tests:

- CXR
- ECG
- 24 hour BP recording or equivalent

F. Tissue typing:

- HLA typing

G. Renal function and anatomy:

- CT angiogram – refer below
- Estimate of kidney function by one of:
    - Radioisotope GFR as measured by appropriate technique
    - 24 hour urine collection CrCl=100ml/min

- Renal scintigram technique to assess split renal function if radioisotope GFR < 100 ml/min uncorrected or if size variance of > 10% on CT angiogram
    - Split function range should be 45 - 55%

H. Cancer screening:

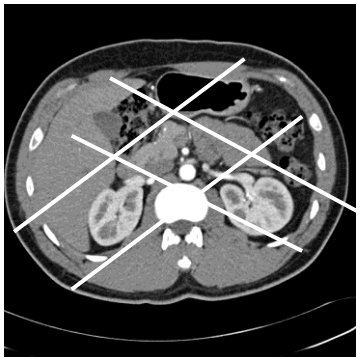
- Cancer screening as per national guidelines for the general population, with the following exceptions:
    - No maximum age for breast cancer screening in female donors

Mandatory specialist consults:

- Surgical evaluation
- Renal physician evaluation
- Psychosocial evaluation

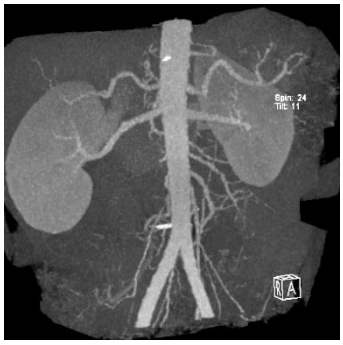
Protocol	Renal Dual Phase		
Indication	Potential live renal donor		
Patient position	Feet first supine		
Scan area	Kidneys for non contrast Kidneys to common iliacs for Art and PV phases		
Care kV/ Qual ref mAs/ Rotation time	On	C-: 80 mAs Art:200 mAs PV :200 mAs	0.5 secs
Detector collimation	0.6mm		
Slice thickness	3mm	**Safire**	2
Oral contrast	NO		
IV contrast	120ml Omnipaque 350		
Care bolus	ROI on aorta at level of renal arteries Threshold 120HU Monitoring delay 10sec		
Scan delay	Non contrast kidneys Care bolus arterial 60 second portal venous 5 minute Topogram to demonstrate entire ureter - if no contrast repeat prone(Window and Save)		
Reconstructions	3mm x 2mm I40f CT Angio window 0.75mm x 0.7mm I40f CT angio window for MPR		
Post processing	Thin MIPS as below INSPACE BONE REMOVAL VRT		

POST PROCESSING



Thin MIPS

10mm x 2mm range oblique along line of renal arteries and renal veins.



3D MIP Arterial Phase

- Load 1mm group into INSPACE
- Include kidneys to aortic bifurcation
- Perform bone removal
- Perform radial range R-L rotation in MIP and surface shaded renals
- Put on High Res before sending

5minute delayed topogram to show length of ureters or else try prone.

Version History

Update number	Reason for Update	Date
1	Assessment for other centres Non directed donors and kidney exchange Incompatible donors and kidney exchange and/or ABOi	February 2019
2	Amend cancer screening to include no maximum age for breast cancer screening in women	October 2020