

Australian
PAIRED KIDNEY
EXCHANGE PROGRAMME AKX

Clinical aspects of the AKX program

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Clinical aspects of the AKX program

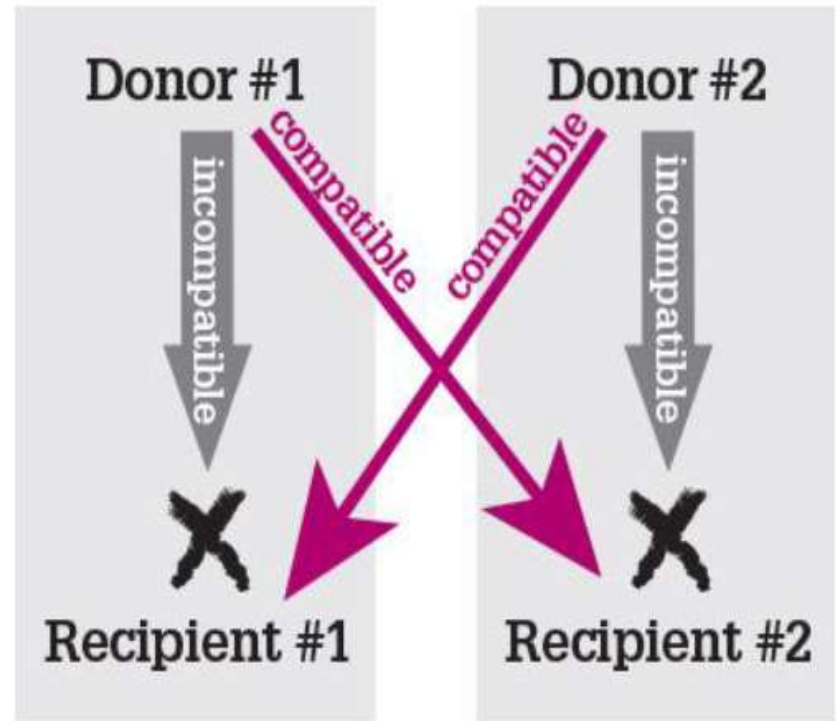
- What is involved in enrolling a donor
 - Paper work, consent
- Education of the patients
- Extra clinical assessments and investigations
 - Unsuitable donors

<https://donatelife.gov.au/sites/default/files/AKX%20User%20Manual%20-%20August%202015.pdf>



What is different about AKX

- Designed to ensure equity between donors in the program
- ‘Quality’ kidneys only
- Improved access to transplantation for those with incompatible donors



Donor evaluation

- The AKX does not evaluate the donors themselves, so relies on information given to them to ensure the donors are of equal (or superior) quality to those donors usually used at their centre
- Clinical information is shared and discussed with the potential recipients and may affect their decision to proceed
- Certain donor parameters entered into the on-line system may mean that the donor is considered unsuitable for AKX

AKX in the clinic

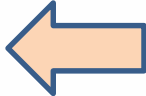
- Requires time to explain the program to the patient
 - How it works
 - What is different ?
 - What if something goes wrong ?
- Specific consent forms and approval from Government
- Extra tests
- Overseen by AKX nurse – also requires input of clinical data into national on-line system
- Centralised national co-ordinating centre (Melbourne)

Steps in enrolling a donor in AKX

1. Initial information and discussion (local renal unit)
2. Provide detailed information about AKX and other options for incompatible Tx; ABOi, desensitisation (local transplant unit)
 - Information booklet
3. Agreement to participate and ministerial approval
4. Medical evaluation
5. Enrol in program (on-line)
 - CT angiogram sent to national co-ordinating centre

Information required at first visit to transplant unit

Medical history and physical examination including:

- Age
- Gender
- Height, weight (BMI), blood pressure and heart rate
- Relationship to the potential recipient
- Reason for incompatibility (ABO or positive crossmatch)
- History of hypertension (no/yes), on current medication (no/yes) 
If yes, number of drugs (1, 2, ≥3)
- Glycaemic status: impaired fasting glucose (no/yes), impaired glucose tolerance (no/yes)
- History of malignant cancer (no/yes)
- History of renal stone disease (no/yes), if yes, recurrent (no/yes), if yes, when last?

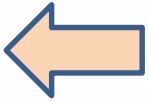
Blood tests:

- Blood group (Group A donors are required to be subtyped), UEC, LFT, BSL, FBP with differential, coagulation profile

First visit – investigations

Urine tests:

- Urinalysis and culture, urine protein/creatinine ratio or 24hr urine protein excretion. MMEEx has scope to accept only urine PCR (<30 mg/μmol) or 24hr protein (<300mg/24h) values



Virology:

- CMV, EBV, HIV, HBV (including Hep B core antibody) & HCV, Syphilis

Other tests:

- Renal Ultrasound, CXR
- ECG

- Special consent for HBcAB+ donors
- Not all recipients will accept HBcAB+
- Syphilis not routine outside PKX

- Repeat NAT testing performed before transplantation

Additional tests, if suitable

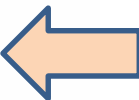
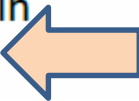
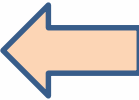
Tissue typing:

- HLA typing as per agreed criteria – refer AKX Tissue Typing Guidelines

Renal function and anatomy:

- CT Angiogram – refer to Attachment 4a for recommended guidelines
- Radioisotope GFR as measured by appropriate technique must be ≥ 80 ml/min
 - Method must be $^{51}\text{Cr-EDTA}$ or $^{99}\text{Tc-DTPA}$ by slope-intercept technique

- Renal scintigram technique to assess split renal function
 - Split function range should be 45% - 55%, if $\text{nGFR} < 100$



Mandatory specialists consults:

- Surgical evaluation
- Psychosocial evaluation according to normal unit practice

Optional investigations / consults:

- Cardiology consult as indicated
- Pulmonary function tests if donor has significant smoking history/COPD

All of the above assessments must be completed prior to activation on the AKX Programme.

From: <https://donatelife.gov.au/sites/default/files/AKX%20User%20Manual%20-%20August%202015.pdf>

Donors considered unsuitable for AKX

Medical history and physical examination including:

Age - *The system will not accept a donor older than 70 years of age*

History of hypertension - *The system will not accept a registration for any donor with treated hypertension on ≥ 3 drugs*

Glycaemic status - *The system will not accept a registration for any donor with diabetes*

History of malignant cancer¹ - *The system will not accept a registration for any donor who had a previous history of cancer other than: Colon cancer Dukes A >5 yr ago, Non-melanoma skin cancer, Carcinoma in situ of the cervix*

History of renal stone disease² - *The system will not accept a registration for any donor who had a previous history of recurrent renal stone disease*

Donors unsuitable for AKX

Laboratory testing:

Proteinuria - The system will not accept a registration for any donor who has urine protein/creatinine ratio >30 mg/mmol or 24hr protein >300 mg/24h

Virology³ - The system will not accept a registration for any donor who tests positive for HIV, Hepatitis B surface antigen, isolated Hepatitis B core antibody, or Hepatitis C antibody

Renal function and anatomy:

CT angiogram - The system will not accept a registration for any donor with 3 renal arteries or 2 renal artery one of which has early branching <15 mm from the aorta on both sides

Radioisotope GFR - The system will not accept a registration for any donor with nGFR <80 ml/min not corrected for BSA

Unsuitable donors - AKX

- Donors with any values outside those required ***cannot*** be entered onto the AKX on-line system
- Investigations must be updated annually for donors who are suitable

Annual review

Confirmation of compliance with these tests and reviews at each 12-month anniversary of entry into AKX must be provided to the Program Coordinator by the local transplant unit.

This is done by updating the following as applicable on the donor MMEx registry:

- Creatinine level
- HIV, HBV, HB core antibody, HCV and CMV/EBV
- 24hr urinary protein OR protein-creatinine ratio
- Cancer screening
- Annual review date

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Summary – clinical aspects AKX

- AKX tries to ensure a uniformly good quality of kidney donors within the program
- Some donors who may be otherwise considered outside the AKX are excluded from entering the program
- Significant amount of extra work. Time with patient, government approval required.