Changes to Australian Deceased Donor Kidney Allocation

Kidney Allocation in Australia

The current deceased donor kidney allocation algorithm is a tiered national and state points-based system that has been in place since 1992. It is primarily based on immunological matching, sensitisation*, duration of dialysis, paediatric status and state balances. Eligible transplant candidates are listed on the national waitlist and matching system OrganMatch and are allocated donated kidneys using the algorithm.

At the national level, priority is given to patients with an excellent immunologic match, and those who are highly sensitised. If there is no national-level match, the process moves to a state-based allocation, according to immunological match and time on dialysis.

Review of Kidney Allocation

The TSANZ Renal Transplant Advisory Committee (RTAC) and the OrganMatch Renal Allocation Working Group (RAWG), in consultation with key clinical and community stakeholders, undertook a review of the algorithm. The focus areas to improve patient outcomes and deliver a more equitable system were:

i **Improve access to transplant for highly sensitised patients**, who are otherwise very hard to match

ii **Utility of deceased donor kidneys**, through survival-matching^ of the recipient and donor kidney

iii **Improve immunological matches for younger patients** to reduce sensitisation, as this group is more likely to need a second or subsequent transplant because in many cases they outlive their original transplant.

Kidney Algorithm version 2: Modelling and Implementation

The Kidney Algorithm v2 (KAv2) was developed through an iterative process of consultation, modelling studies and simulation testing in OrganMatch. The revised algorithm results in improvements in each of the three focus areas.

i The highly sensitised and very highly sensitised patients have increased access to an immunologically matched kidney if it becomes available.

ii Introduction of the concept of survival-matching to improve utility of donated kidneys for maximum benefit.

iii Younger patients are preferentially offered better immunologically matched kidneys to improve outcomes and decrease the risk of sensitisation, and therefore improve the chances of successful re-transplant if required.

The simulation outcomes and algorithm changes were endorsed by the OrganMatch Strategic Governance Committee. KAv2 will be implemented in OrganMatch on 4 May 2021.

Next steps

The KAv2 outcomes will be closely monitored and evaluated to ensure optimal results for our patients. Further enhancements are planned to continue to improve the deceased donor kidney allocation process.

For more detailed clinical information please refer to the TSANZ clinical guidelines link here, which will be updated from the commencement of KAv2.

*Sensitised patients: have high levels of antibodies, often because their immune systems have been previously exposed to foreign cells or tissues through, blood transfusion, foetus/ pregnancy or previous transplants. They are more likely to react against further exposure to foreign tissue (such as a donated kidney). It is therefore harder and often takes a lot longer to find a compatible deceased donor match.

^Survival-matching: involves allocating deceased donor kidneys based on an assessment of how long a particular donated kidney is likely to last and matching that information with waitlisted candidates with similar estimated post-transplant survival.

TSANZ
The Transplantation Society of Australia and New Zealand

OrganMatch