



TSANZ

The Transplantation Society of Australia and New Zealand

TSANZ Australian Deceased Donor Kidney Only Allocation Algorithm (KOALA)

Key points

- **Kidney Only Allocation Algorithm (KOALA)** was approved by TSANZ in **August 2025**
- The new system uses a **continuous points-based allocation model**
- **Implementation is planned for January 2027**
- **14 April 2026**, a new “**KOALA Recipient Parameters**” tab will appear in OrganMatch
- **No action is required from OrganMatch users at this stage**

Background: The Australian **Deceased Donor Kidney Only Allocation Algorithm (KOALA)** was developed by the **RTAC Allocation Working Group** with significant stakeholder input and has been presented and discussed at multiple national forums. It is a **continuous points model** that simultaneously considers multiple factors when ranking potential recipients for kidney allocation, including, but not limited to HLA matching, sensitisation and prognosis matching. (See TSANZ website link: [Proposal for a Revised Australian Deceased Donor Kidney Allocation Algorithm - 2025](#))

Expected impact: Modelling predicts the revised algorithm will:

- Improve **donor–recipient prognosis matching**
- Improve **HLA matching**, particularly for HLA-DR and HLA-DQ
- Reduce differences in **waiting times between ethnic groups**
- Slightly reduce waiting times for **highly sensitised patients**
- Priority to paediatric patients in proportion to the quality of the HLA match
- Shorten waiting times for **patients aged <34 years**, with slightly longer waiting times for patients aged 50–64 years
- Improve **system efficiency**, as better-matched kidneys are more likely to be accepted
- Maintain a **similar proportion of interstate kidney allocation**

Some issues remain under review, including **multi-organ allocation processes**.

Implementation timeline

- **14 April 2026:** new non-functional recipient parameters to be visible in OrganMatch
- **Throughout 2026:** Implementation and simulation updates, and provision of educational resources and communications to assist clinicians and consumers in understanding the new algorithm
- **January 2027:** Planned implementation of the KOALA allocation algorithm.
- Following implementation, allocation outcomes will be closely monitored, analysed and communicated to ensure the system performs as expected.

What will I see in OrganMatch?

On 14 April 2026, a new tab titled “**KOALA Recipient Parameters**” will appear in the Medical Information as we begin the implementation process (Fig 1). This tab will display calculated *patient-specific parameters that will not be used until KOALA is implemented in 2027. Visibility of these parameters **will not affect the current allocation process**.

What do I need to do? Nothing. No action is required from OrganMatch users at this stage.



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*Patient-specific parameters: waiting time, age, age-dependent scaling factor, reference HLA mismatch score, reference HLA mismatch standard deviation, PRA bonus, EPTS percentile, previous living donor status, kidney after previous organ transplant, national urgent status, and state urgent status.

Fig 1. Example of OrganMatch Medical Information with “KOALA Recipient Parameters” tab

Medical information		
General Information	KOALA Recipient Parameters	
Waiting Time & Age		
Waiting Time	Age	Age Dependent Scaling Factor
7.41 years	54.22 years	1.3865
HLA Match Reference Export		
Reference HLA Mismatch Score	Reference HLA Mismatch Standard Deviation	
3.3239	0.5554	
Sensitisation		
PRA Bonus	mPRA	
13.95	96.4%	
Prognosis Matching		
EPTS Percentile		
87		

Table 1. Name of new fields and description/formulae of proposed KOALA Recipient Parameters

New Field	Description
Waiting Time	Number of days waiting (Current date - Dialysis start date)/365.25 $\frac{\text{days since dialysis start}}{365.25}$
Age	Current date as at midnight AEST - Date of birth, divided by 365.25 (2 decimal places)
Age Dependent Scaling Factor	HLA matching quality adjustment age dependent scaling factor for each recipient $4 \times \exp\left(-\left(\frac{\text{age}}{45}\right)^{2.2}\right) + 0.5$
Reference HLA Mismatch Score	For each patient on kidney TWL, calculate the mean of the square root of their ABDRDQ mismatch score vs reference 1000 donors. A higher mean indicates the patient is more difficult to match. HLA Mismatch Weighted Mean will be displayed in future development
Reference HLA Mismatch standard deviation	Standard deviation of the of their ABDRDQ mismatch score vs reference 1000 donors
PRA bonus	The following formula is used to calculate the PRA bonus: $1 \times \left(\frac{\text{mPRA}}{100}\right) + 29 \times 0.8^{(100-\text{mPRA})}$
mPRA	Panel Reactive Antibody an indication of a patient’s sensitisation
EPTS percentile	Estimated Post Transplant Survival percentile
Previous Live Donor	A flag to indicate that the patient has previously donated a kidney
Kidney After Previous other organ Transplant	A flag to indicate the patient had previously received a (non-kidney) organ transplant
National Urgent	Flag to display, the patient is listed as National Urgent
State Urgent	Flag to display, the patient is listed as State Urgent