

1. PRINCIPLES OF KIDNEY/PANCREAS AND PANCREAS TWL MATCHING IN ORGANMATCH

1.1 IN ORGANMATCH, RECIPIENTS LISTED ON THE KIDNEY PANCREAS TRANSPLANT WAITING LIST (TWL) AND PANCREAS TWL WITH DECEASED ORGAN DONORS USING MULTI-TIERED MATCHING ALGORITHM.

There are two parent algorithms:

- Kidney/Pancreas KPA v1
- Pancreas PA v1

Matching using the above parent algorithms triggers a series of functions and child algorithms.

The first version of the Kidney-Pancreas Matching Algorithm (KPAv1) and Pancreas Matching Algorithm (PA v1) is effective from September 19th, 2022.

1.2 HIGH-LEVEL COMPATIBILITY CHECK

The first step in matching is the high-level compatibility check, which determines if recipients will progress to being matched in the next stage of the algorithm.

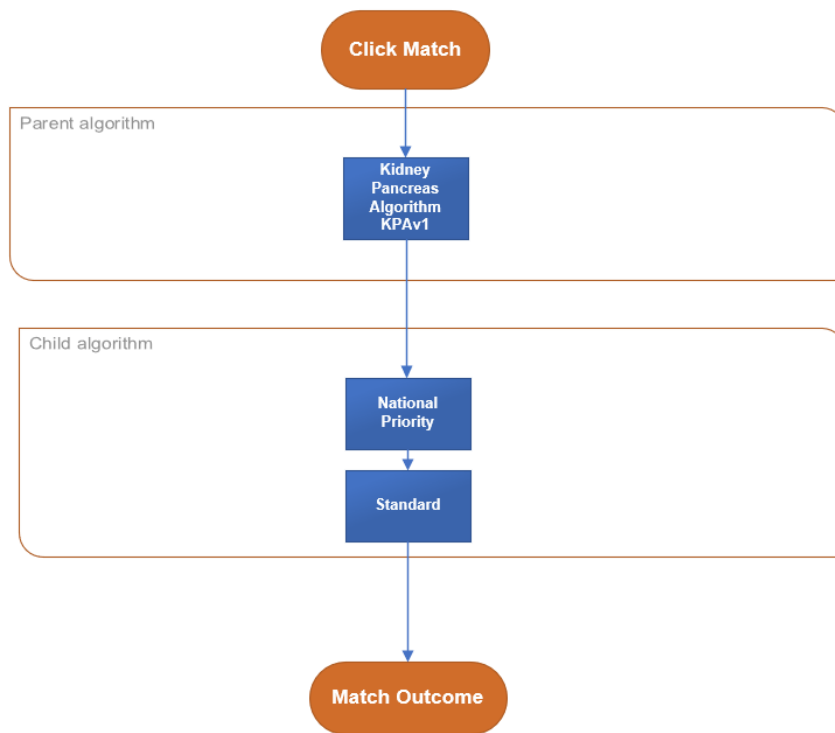
This is the same for both Kidney/Pancreas KPA v1 and Pancreas PAV1.

Check	Process	!	✘	✓
No Unacceptable Antigens (UA) identified	Compares donor HLA with recipient UA. Includes all HLA loci.	Potential UA for the donor are listed Will proceed to matching	UA and donor HLA match. Does not proceed to matching.	Recipient and donor compatible. Proceeds to matching.
Valid ABO for program	Checks ABO compatibility.	N/A	Does not proceed to matching.	Recipient and donor compatible. Proceeds to matching.

If a recipient passes the high level compatibility check, they progress to matching, depending on which parent algorithm is selected.

2. KIDNEY/PANCREAS ALGORITHM (KPAV1)

The kidney- pancreas algorithm consists of two child algorithms. The child algorithms are executed in a set order.



2.1 NATIONAL PRIORITY

The National Priority flag will be auto generated in OrganMatch for recipients enrolled on Kidney /Pancreas if the following criteria are met:

- Patient has an authorised mPRA > 75%
- Patient is on dialysis

The National Priority child algorithm will check the following:

Algorithm Name	Check	Process	!	*	✓
Kidney Pancreas National Priority	Valid National Flag	Check	N/A	Does not proceed to matching.	Recipient and donor compatible. Proceeds to matching.

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Kidney Pancreas National Priority	Valid ABO for National Priority (See Section 4)	Checks ABO compatibility.	N/A	Does not proceed to matching.	Recipient and donor compatible. Proceeds to matching.
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2.1.1 NATIONAL PRIORITY SCORE

The base score is calculated for each matched recipient.

Level	Description	Score
National Priority Listing	Base Score	80 000 000
National Priority	National Priority Flag	Add 10 000
	Waiting time	+ Number of months x 1

2.2 STANDARD ALGORITHM

A recipient will be included if:

- Not matched in the National Priority Listing
- Their ABO type is compatible with donor as determined by the ABO Type Selection Rules (Section 4)

The donor OM lab will determine the group of recipients which be included as the home state match.

Algorithm	Donor OM Lab State*	Recipient Transplant Unit
Standard	WA NSW (includes ACT) QLD	Westmead – Renal unit
	VIC (includes TAS)	Monash MC adult – Renal Unit
	SA (includes NT)	Royal Adelaide – Renal Unit

*OrganMatch Lab refers to the Tissue Typing lab that performs the donor testing

All patients will be included in the match, and the score will determine the sort order.

The Kidney/Pancreas Standard child algorithm will check the following:

Algorithm Name	Check	Process	!	*	✓
Kidney Pancreas Standard	Valid ABO for Kidney/Pancreas (See Section 4)	Checks ABO compatibility.	N/A	Does not proceed to matching.	Recipient and donor compatible. Proceeds to matching.

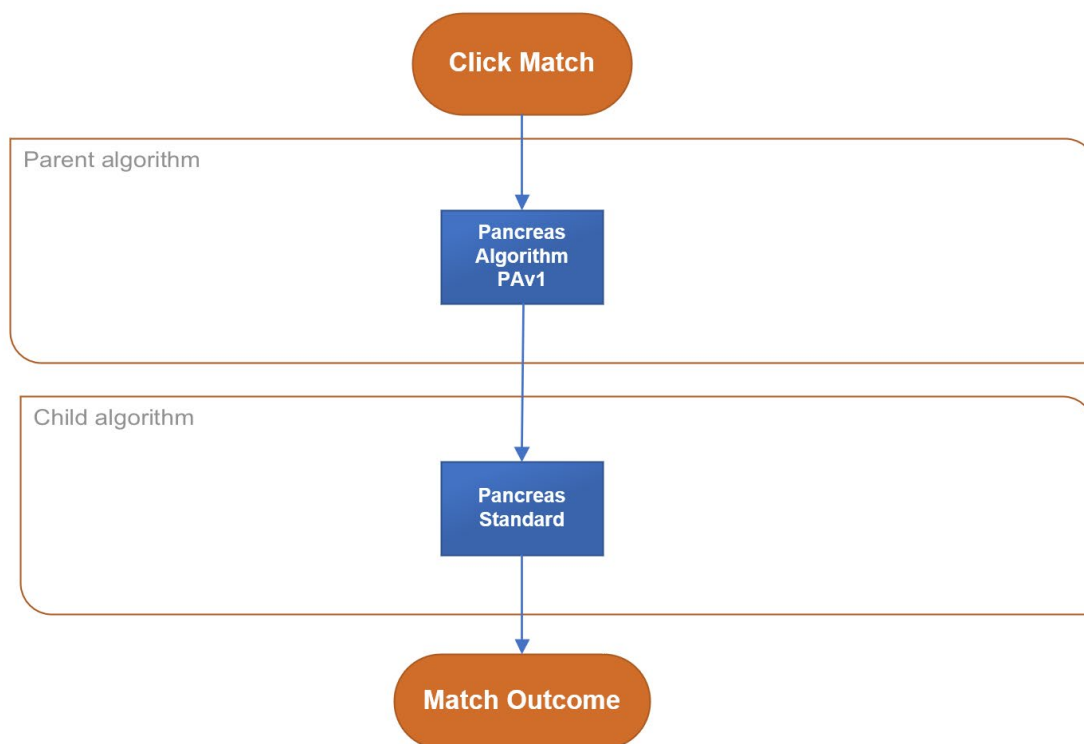
2.1.1 KIDNEY/PANCREAS STANDARD ALGORITHM SCORE

The base score is calculated for each recipient that proceeds to matching.

Level	Description	Score
	All patients	80 000 000
1	Home state allocation Pancreas TWL only	+ 7000
2	Home state allocation Kidney/Pancreas TWL Patients in the transplant unit of the Donor state	+ 5000
3	Non home state Kidney/pancreas recipients	0
	Waiting time	+ Number of months x 1

3. PANCREAS ALGORITHM (PAV1)

The pancreas algorithm consists of one child algorithm. The child algorithm is executed in a set order.



3.1 PANCREAS STANDARD ALGORITHM

A recipient will be included if their ABO type is compatible with donor as determined by the ABO Type Selection Rules (Section 4)

The donor OM lab will determine the group of recipients which be included in the home state match.

Algorithm	Donor OM Lab State*	Recipient Transplant Unit
Standard	WA	Westmead – Renal unit
	NSW (includes ACT)	
	QLD	
	VIC (includes TAS)	Monash MC adult – Renal Unit
	SA (includes NT)	Royal Adelaide – Renal Unit

*OrganMatch Lab refers to the Tissue Typing lab that performs the donor testing.

All patients will be included in the match, and the score will determine the sort order.

The Pancreas Standard child algorithm will check the following:

Algorithm Name	Check	Process	!	*	✓
Pancreas Standard	Valid ABO for Pancreas (See Section 4)	Checks ABO compatibility.	N/A	Does not proceed to matching.	Recipient and donor compatible. Proceeds to matching.

3.1.1 PANCREAS STANDARD ALGORITHM SCORE

The base score is calculated for each recipient that proceeds to matching.

Level	Description	Score
	All patients	80 000 000
1	Home state allocation Pancreas TWL only	+ 7000
	Waiting time	+ Number of months x 1

4. ABO COMPATIBILITY RULES

Algorithm	Donor ABO Type	Patient ABO Type
Kidney Pancreas National Priority	A	A
	A	AB
	B	B
	B	AB
	AB	AB
	O	O
	O	A
	O	B
	O	AB

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Kidney Pancreas Standard	A	A
	B	B
Pancreas standard	B	AB
	AB	AB
	O	O

5. ORGAN OFFER LIST ORDER

The list will be sorted in score order.

6. RECIPIENT READINESS CRITERIA TO BE MATCHED

The readiness criteria must be met to be matched in the algorithm. Refer to *OM-070 Readiness Criteria in OrganMatch – Laboratory Portal* for further information.

The current readiness criteria for patients listed for Kidney/Pancreas TWL is as follows:

Criteria	Recipient Requirements
HLA typing	Authorised for: HLA-A – 1 field HLA-B – 1 field HLA-C – 1 field HLA-DRB1 – 1 field HLA-DQB1 – 1 field HLA-DQA1 – 1 field HLA-DPB1 – 1 field HLA-DPA1 – 1 field
Location	OM Laboratory Entered Transplant Hospital entered
Luminex	Luminex Antibody screen (SAG1) Tested within 120 days Luminex Antibody screen (SAG2) Tested within 120 days
Unacceptable antigen	Authorised

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Samples	Final ABO Blood Group Confirmed
Enrolment Criteria	Waiting Time

The current readiness criteria for patients listed for Pancreas TWL is as follows:

Criteria	Recipient Requirements
HLA typing	Authorised for: HLA-A – 1 field HLA-B – 1 field HLA-C – 1 field HLA-DRB1 – 1 field HLA-DQB1 – 1 field HLA-DQA1 – 1 field HLA-DPB1 – 1 field HLA-DPA1 – 1 field
Location	OM Laboratory Entered Transplant Hospital entered
Luminex	Luminex Antibody screen (SAG1) Tested within 120 days Luminex Antibody screen (SAG2) Tested within 120 days
Unacceptable antigen	Authorised
Samples	Final ABO Blood Group Confirmed

7. WAITING TIME CALCULATION

Waiting time starts at

- i. the date the referral is received (if eGFR <15 already)
- ii. the date eGFR became <15 (if referral occurred at eGFR ≥15)

DEFINITIONS

Term/abbreviation	Definition
eGFR	Estimated Glomerular Filtration Rate. A key indicator of kidney function.
KPAv1	Kidney Pancreas Matching Algorithms version 1
OM	OrganMatch
PAv1	Pancreas Matching Algorithms version 1
TWL	Transplant Waiting List

REFERENCED INTERNAL DOCUMENTS

Document number	Source
OM-070	Readiness Criteria in OrganMatch – Laboratory Portal

CHANGE HISTORY

Version number	Effective date	Summary of change
1	1/08/2022	First Version
2	Refer to Footer	<ul style="list-style-type: none"> Update to new template. Section 6 updated to Kidney/Pancreas readiness of 120 days for SAG. Addition of readiness criteria for Pancreas.

ELECTRONIC SIGNATURE

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