CONTENTS

PURPOSE

This document describes the process used by Tissue Typing laboratories for organ donor test results and matching processes in OrganMatch.

The deceased organ donor record is created in OrganMatch through a transfer of data from the Electronic Donor Record (EDR).

For further information, refer to Deceased Donor Enrolments - Laboratory Portal, OM-042.

1. TEST RESULTS

A deceased organ donor requires HLA typing and ABO results to be authorised prior to matching. Refer to Appendix 1 for readiness criteria.

The test results are added to the person record via the **Samples & test results** section.

The HLA typing results should be entered as 1 field unless they are the exception where the HLA antigen group is the same but there are serological differences. For example, B62 is authorised as B*15:01 and B75 is authorised as B*15:02. Table 1 below lists the HLA antigen exceptions in OrganMatch.

For further information on result entry, refer to Result Entry and Authorisation- Laboratory Portal, OM-055.

A laboratory report can be generated withholding the donors name if deidentified results require reporting (for example results to be reported for a New Zealand recipient).

For further information refer to Report Generation- Laboratory Portal, OM-007.

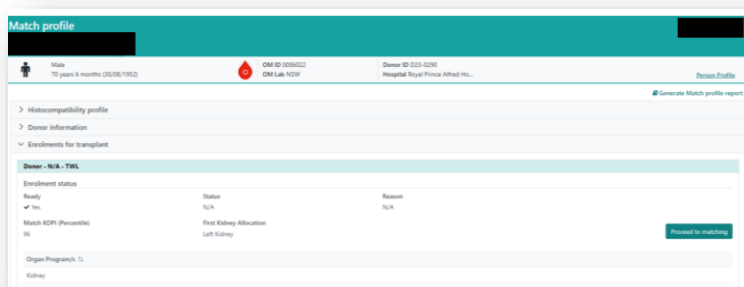## Table 1: HLA antigen groups managed as exceptions in OrganMatch

	HLA Antigen Group	HLA used for Matching
HLA-A	A3	A*03:01, A*32:04
HLA - B	B14 (B64, B65)	B*14:01, B*14:02
HLA - B	B15 (B62, B75, B72, B76, B77, B63, B71)	B*15:01, B*15:02, B*15:03, B*15:12, B*15:13, B*15:16, B*15:18
HLA - B	B40 (B60, B61)	B*40:01, B*40:02
HLA - C	Cw3 (Cw9, Cw10)	C*03:03, C*03:04
HLA - DRB1	DR1 and DR103	DRB1*01, DRB1*01:03
HLA - DRB1	DR3 (DR17, DR18)	DRB1*03:01, DRB1*03:02
HLA - DQB1	DQ3 (DQ7, DQ8, DQ9)	DQB1*03:01, DQB1*03:02, DQB1*03:03

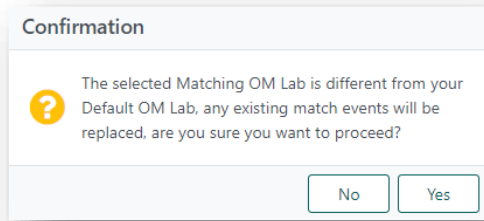## 2. MATCHING DONORS WITH RECIPIENTS ON THE TRANSPLANT WAITING LIST (TWL) PATHWAY

When a recipient is Active and Ready they can be matched against a donor immediately. A kidney recipient is no longer required to have a current serum on a crossmatch tray to be matched in the algorithm.

2.1 MATCHING A DONOR

1. From a donor's **Match profile** expand the **Enrolments for transplant** section

2. Check the donor is ready for matching. If there is a cross (x) under **Ready**, return to the **Person Profile** and click on the cross on the enrolment to view the reasons.

3. Click **Proceed to matching.**

4. The Matching OM Lab default to the users lab but can be changed from the dropdown selection, if required to do so.

    Note: Users should only match as a different OM Lab in exceptional circumstances when samples are to be tested from an interstate donor. The Interstate Utilisation algorithm should be run in cases where the organ needs to be allocated interstate.

    See **2.2 Matching Kidney Interstate Utilisation or ABOi Algorithms** for further details**.**

When changing the **Matching OM Lab**, the below conformation box will popup.

5. From the **Organ Program** list, select the program to match. This list is based on the organs available in the donor enrolment.
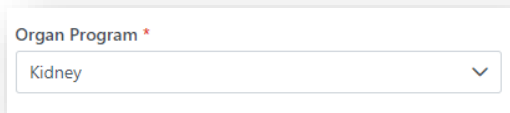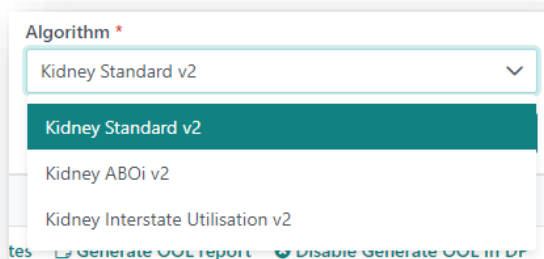

6. The **Type of Matching** list defaults to Algorithm matching but Match profile comparison is also available from the dropdown.
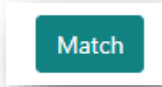
See **3. Matching Donors with Recipients via Match Profile** Comparison.
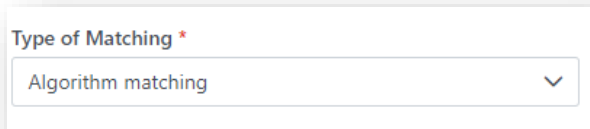
7. From the **Algorithm** list, select the algorithm to be run. Repeat this process to run each algorithm.

8. Click **Match.**

> **Note:** Once the user has clicked on the Match button in the TWL matching screen, it will be disabled while the match is in progress.
>
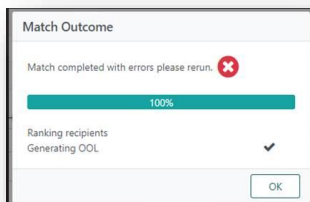> The button will be enabled once the match is complete.

9. The matching progress is displayed.
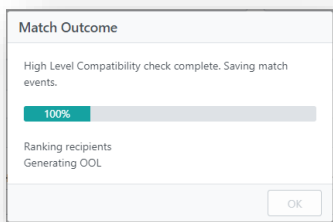
10. Click **OK** when matching is complete.
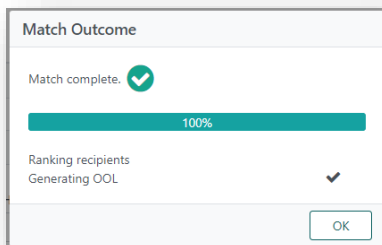
If the following error occurs, rerun the match.

11. Proceed to **Section 6. Transplant Waiting List Matching Screen**.
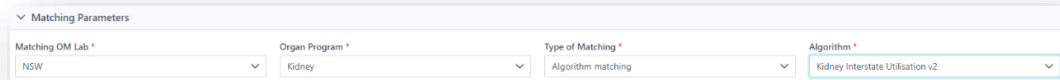
2.2 MATCHING KIDNEY INTERSTATE UTILISATION OR ABOi ALGORITHMS

The interstate utilisation or ABOi algorithms may need to be matched when there are too few recipients on the standard algorithm or a kidney needs to be allocated interstate. If there are match event assessments completed on the standard algorithm, the data will be carried over when rematching the two other algorithms, meaning these match event assessments will not need to be completed again.

1. From a donor's **Person details,** click **View TWL Match.**

2. Select Kidney from the **Organ Program** dropdown and Kidney Interstate Utilisation v2 or Kidney ABOi v2 from the **Algorithm** dropdown.
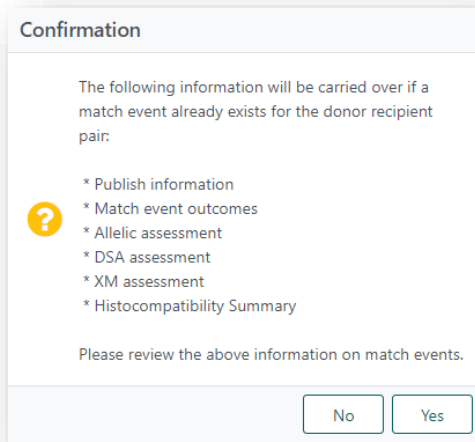

3. Click **Match**.

4. A confirmation box will pop up listing the information that will be carried over in the match event. Click **Yes.**
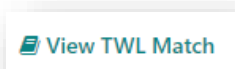

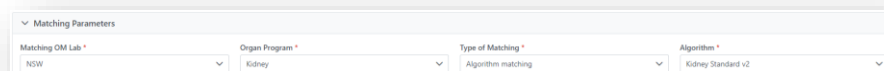5. Proceed to **Section 6. Transplant Waiting List Matching Screen**.

2.3 REMATCHING A DONOR

There are instances where a donor needs to be rematched if the HLA typing or the KDPI has been updated. If rematching occurs all previous results will be replaced, and the match event assessments will need to be completed again.
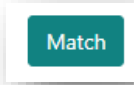
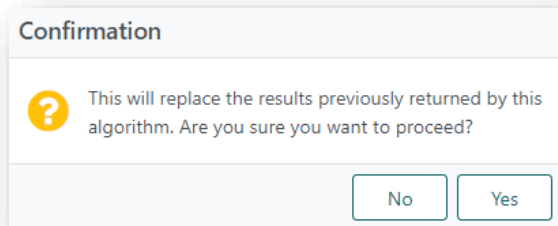1. From a donor's **Person details,** click **View TWL Match.**

2. Select the **Matching Parameters** for the organ to be rematched.
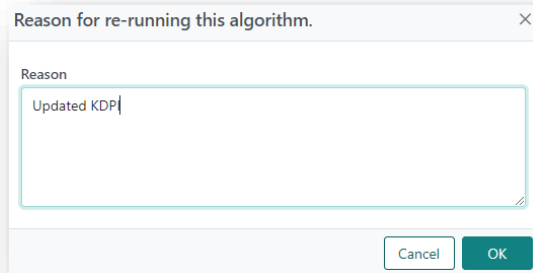
3.   Click **Match**.

4.   A confirmation box will pop up to warn the user that results will be replaced. Click **Yes.**

5.   Add the **Reason** for rerunning the match and click **OK**.

6.   Proceed to **Section 6. Transplant Waiting List Matching Screen**.

3. MATCHING DONORS WITH RECIPIENTS VIA MATCH PROFILE COMPARISON

The match profile comparison function enables recipients to be selected for a comparison between donor and recipient match profiles.

For Match Profile Comparisons to be run:

- The donor needs to be enrolled in an organ program and ready.
- The donor and recipient need to be enrolled on the TWL pathway.
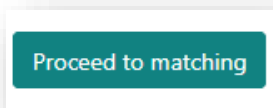- The recipient does not need to be ready and can be on hold.

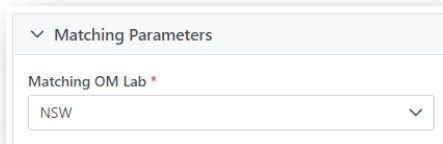1. From a donor's Match profile expand the Enrolments for transplant section
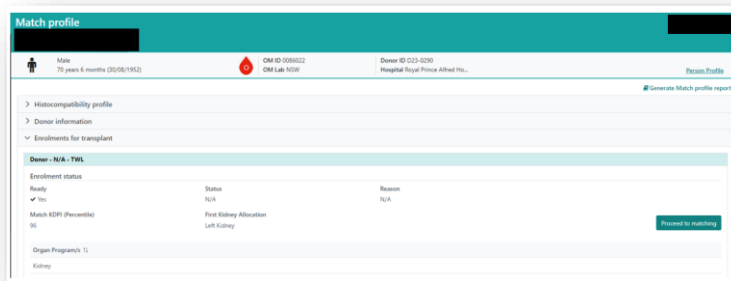
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2. Check the donor is ready for matching. If there is a cross (x) under **Ready**, return to the **Person Profile** and click on the cross on the enrolment to view the reasons.
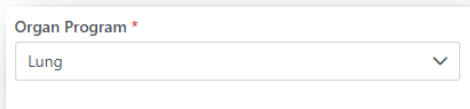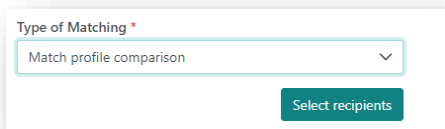

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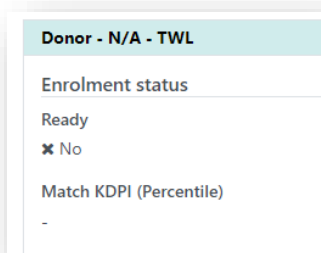
3. Click Proceed to matching.

4. The **Matching OM Lab** default to the users lab but can be changed from the dropdown selection

5. From the **Organ Program** list, select the program to match. This list is based on the organs available in the donor enrolment.

6. From the Type of Matching list, select **Match profile comparison** and click **Select recipients**.

7. All recipients enrolled in the organ program selected will be displayed in the **Recipient List**. The list of recipients can be filtered using the below criteria.

8. Select the recipients you wish to include in the **Match profile comparison**.

9. Click **Save**.

10. Click **Match**.

Note: Once the user has clicked on the Match button in the TWL matching screen, it will be disabled while the match is in progress.

The button will be enabled once the match is complete.

11. The **Match event** row is added above the rows created via algorithm matching.

Organ Program	Algorithm	Rank	Score	Last Name	First Name	OM Lab	DoB	Age(Years)	Compatibility Status	Transplant Hospital	Published Status
Lung	Match Profile Comparison	-	-					66	For assessment by Transplant Unit	Alfred Hospital - Lung Unit	Published
Lung	Match Profile Comparison	-	-					57	For assessment by Transplant Unit	Alfred Hospital - Lung Unit	Published
Lung	Match Profile Comparison	-	-					41	For assessment by Transplant Unit	Alfred Hospital - Lung Unit	Published
Lung	Match Profile Comparison	-	-					69	For assessment by Transplant Unit	Alfred Hospital - Lung Unit	Published
Lung	Match Profile Comparison	-	-					58	For assessment by Transplant Unit	Alfred Hospital - Lung Unit	Published
Lung	Lung Standard v1	-	6.114.800					36	For assessment by Transplant Unit	Alfred Hospital - Lung Unit	Published
Lung	Lung Standard v1	-	6.114.500					69	For assessment by Transplant Unit	Alfred Hospital - Lung Unit	Published

12. Proceed to **Section 6. Transplant Waiting List Matching Screen**.

4. MATCHING INCREASED VIRAL RISK DONORS

Deceased donors can be designated Increased Viral Risk when certain risk behaviours exist in their history. These donors are allocated only to recipients who have specifically consented to these transplants.

**Note**: There are jurisdiction variations in process for using this functionality in OrganMatch.

When allocating an IVR donor, it is necessary to run the allocation without the IVR setting first to see if there are any recipients allocated under the National algorithm (as described in Principles of Kidney Matching Algorithms, OM-012). If there are, these National patients must have a DSA assessment completed and included on the list. The remaining recipients must then be assessed for consent to the IVR register. Any recipients that have not consented are excluded from the list with the selection of IVRD- Recipient not Consented from the **Not Compatible Reason** dropdown.

4.1 MATCHING INCLUDES NATIONAL RECIPIENT

1. Complete the Histocompatibility assessment for all recipients matching via the National Algorithm. For further information, refer to OM-008 Match Event Assessments- Laboratory Portal.

> Histocompatibility assessment

2. For all state matched recipients review the Extended Accepted criteria in Match Parameters.
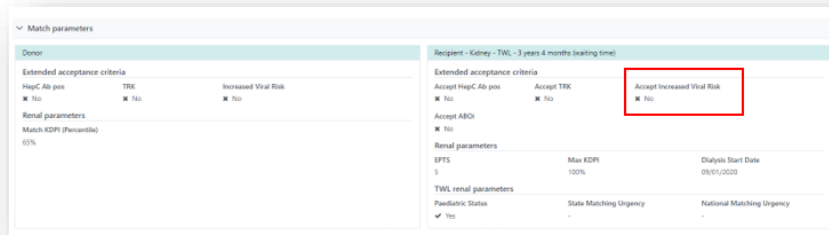
3. If the **Accept Increased Viral Risk** is **Yes**, continue with the Histocompatibility assessment as per step 1.

    If the **Accept Increased Viral Risk** is **No**, select the **Compatibility Status** as Not Offered- Not Compatible and select IVRD- Recipient not Consented from the **Not Compatible Reason** dropdown. Refer to Appendix 2 for not compatible reasons.
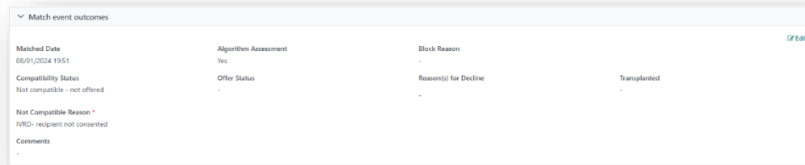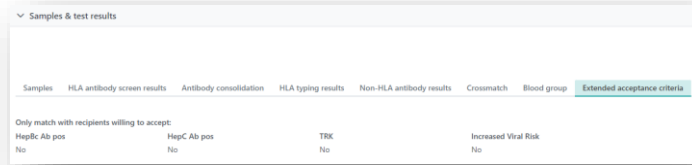

4.2 NO NATIONAL RECIPIENTS MATCHED

If there are no national recipient matches the donor is rematched against recipients willing to accept a donor with increased viral risk.
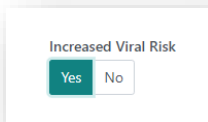
1. Go to the **Person details** and click **Samples & test results**.
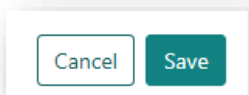
2. Click the **Extended acceptance criteria** tab.

3. Click **Edit** and select **Yes** for **Increased Viral Risk.**
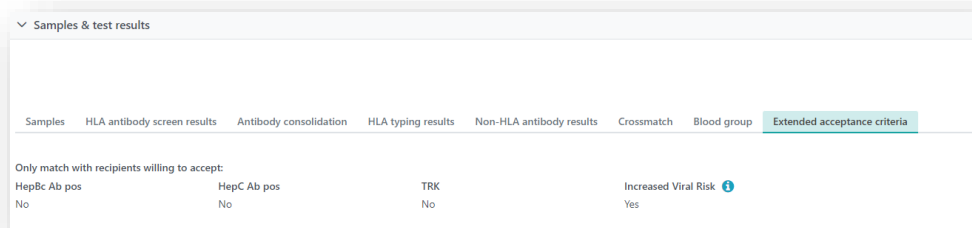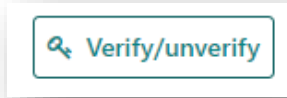

4. Click **Save**.

5. A notification is generated to the Laboratory Portal to Verify Increased Viral Risk.

6. A second user is required to verify **Increased Viral Risk**. Click on Samples & test results and click the **Extended acceptance criteria** tab**.**

7. Click **Edit** and click **Verify/unverify**.

8. In the **Verify/unverify Extended Acceptance Criteria** pop up, tick the **Verified** check box and click **Submit**.
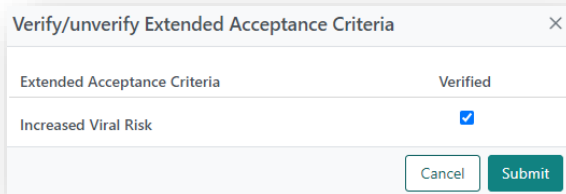
9. The donor is ready to be rematched against recipients willing to accept an increased viral risk donor.
10. Refer to
11.

   2. Matching Donors with Recipients on the Transplant Waiting List (TWL) Pathway to proceed to matching.

5. MATCHING A DOMINO DONOR

A domino donor occurs when a recipient requiring a lung transplant (Recipient 1) receives a heart and lung from a deceased organ donor. Recipient 1 then donates their heart to Recipient 2 who requires a heart transplant. A new enrolment is added for Recipient 1 and Recipient 2.

1. Go to the **Person details** for Recipient 1 and click on **Program enrolments.**
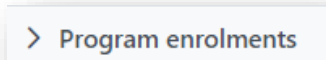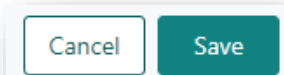
2. Click **Add Enrolment**.
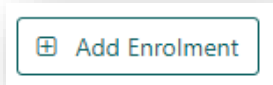
3. Select **Donor** for **Transplant Role**, **Living Directed** as **Donor Type**, **Heart** as **Organ Program** and **LDD** as **Pathway.**
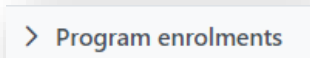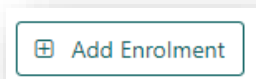
4. Click **Save**.

5. Go to the **Person details** for Recipient 2 and click on **Program enrolments.**

6. Click **Add Enrolment**.

7. Select **Recipient** for **Transplant Role**, **Heart** as **Organ Program** and **LDD** as **Pathway.**

8. Click **Save**.

9. Click **Personal links** and click **Add Personal Link**.

10. Search for Recipient 1 in **Name of Person** and select them from the dropdown.

11. Select the **Relationship Type** as **Other (Unrelated).**

12. Click **Save**.

13. Click on the Heart LDD enrolment, click **Edit** and click **Add Recipient- Donor Link**.

14. Select Recipient 1 from the drop down.

15. Click **Add**.

16. Click **Save**.

17. Click **Match Profile**.

18. Click **Enrolments for transplant**.
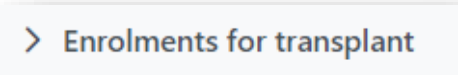
19. Under the Heart LDD enrolment, click **Proceed to matching**.
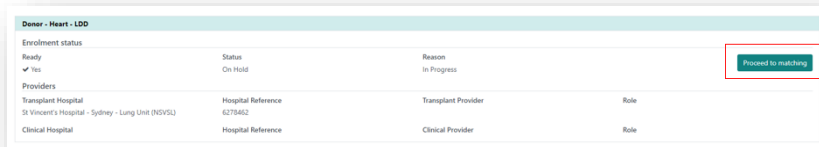
20. Tick the **Select for Matching** check box for Recipient 1.
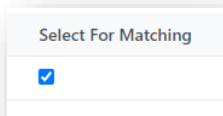
21. Click **Match**.
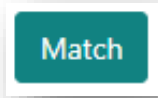
22. Once the match is complete click **View Match Event**.
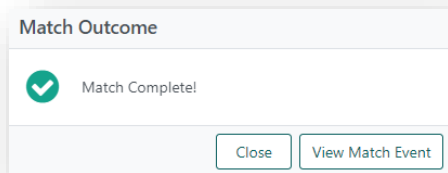
23. Complete the Histocompatibility assessment.

For further information see Match Event Assessments- Laboratory Portal, OM-009.

6. TRANSPLANT WAITING LIST MATCHING SCREEN

The **Transplant waiting list matching** screen is displayed after the **Proceed to matching** button is clicked and after TWL matching has occurred.

By default, OrganMatch displays all matches that generated using the Kidney National algorithm and the top 30 recipient matches for the other Kidney Algorithms. The number to display can be expanded to any number between 30 and 400, by clicking on **Number of Matches to Display**.

The **Match Run Log** displays information about when the matching algorithm was run and the user who matched. When the **Match Run Log** is clicked, a pop-up table displays the information relating to the matching for the donor.

There are two tabs displayed in the screen, **Matching recipients** and **XM results**.

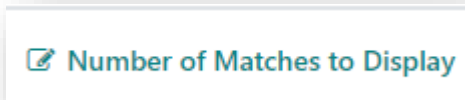The **Matching recipients** tab has a list of ranked recipients created as a result of matching. The filters can be used to define a set of criteria for the recipients to be displayed.

The filter for age restriction does not apply to recipients that are matched on the Kidney National Algorithm, so all national matches that are compatible are included regardless of age criteria. For examples if the user adds 1 in the **Age (Years) From** field and 45 in the **Age (Years) To** field, the rank 1 recipient will still display.
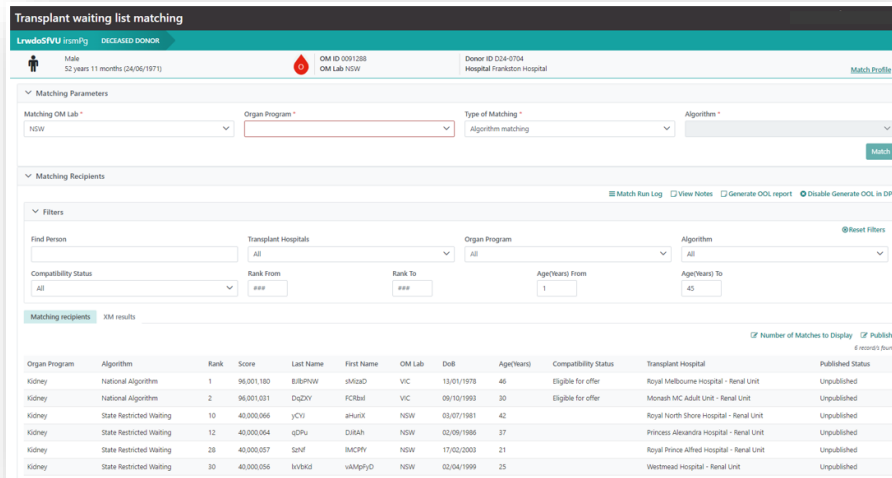
The age filters should be cleared prior to generating an Organ Offer List (OOL) report.

Clicking on a row will navigate to the match event for the donor and recipient.

For further information see Match Event Assessments- Laboratory Portal, OM-009.

6.1 ADDING RESULTS IN XM RESULTS TAB

Flow crossmatch results performed prospectively can be added to the donor record via the **XM results** tab. Refer to Flow Crossmatch Clinical Guidance document for more information on when Flow crossmatching may be required.

1. From the **Transplant waiting list matching** screen, click the **XM results** tab.
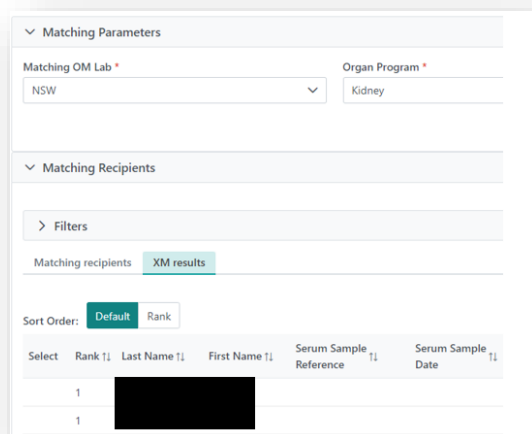
2.   Click **Edit** to add crossmatch results.

3.   The XM results tab will auto populate with 1 row for FXM-T-IgG and 1 row for FXM-B-IgG and the following fields are set with default values:

-   Rank from the OOL section of the TWL matching screen for that recipient.
-   Last Name from the OOL section of the TWL matching screen for that recipient.
-   First Name from the OOL section of the TWL matching screen for that recipient.
-   Cell Sample Reference - Most recent Cell sample reference for the donor.
-   Cell Sample Date.
-   Cell Treatment - default to "Pronase".
-   Crossmatch Type – FXM-T-IgG/FXM-B-IgG.
-   Additive - default to "Neat".
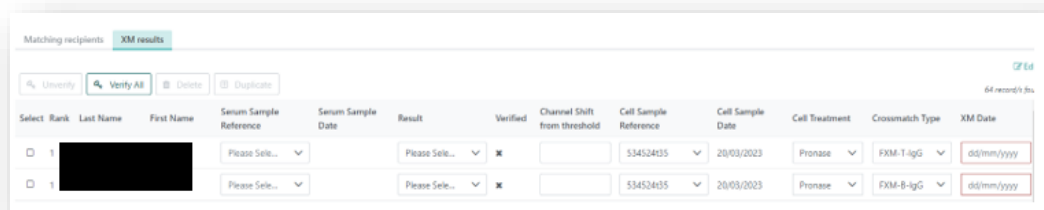
4.   Add the crossmatch results by populating the below fields as required:

-   Serum Sample Reference
-   Result
-   Channel Shift from Threshold
-   XM Date
-   Result Score
-   Additive
-   Test Reference

Note: XM Date is a mandatory field and needs to be populated for any results appearing in the table before saving. To enter results for a specific recipient, filter the results by searching for the recipient in the **Find Person** filter.

5. Select the test result row and click **Duplicate** to make a duplicate of the row. The duplicate is shaded green.

6. The duplicate row created can also be deleted by selecting the row and clicked **Delete**.

7. Click the **Verify All** button to verify all the crossmatch results entered on the screen. Results need to be verified to appear in the match event assessment.

    For further information see Match Event Assessments- Laboratory Portal, OM-009.

8. Click **Yes**.
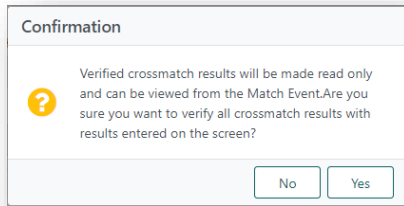
9. If the results need to be modified, click **Edit** and select crossmatch results to updated and click **Unverify**.

10. Click **Yes** to confirm the unverification.
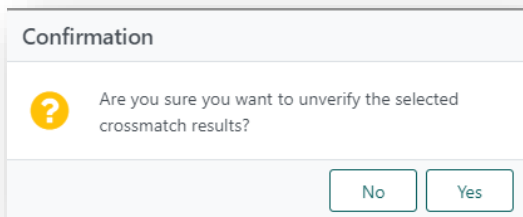
Once crossmatch results have been entered and match event assessments have been completed, the Organ Offer List (OOL) can be generated by clicking **Generate OOL report**.

For further details on the OOL see Report Generation- Laboratory Portal, OM-007.

APPENDIX 1: READINESS CRITERIA FOR DECEASED DONORS

Criteria	Donor Requirements
HLA typing	Authorised for: • HLA-A – 1 field • HLA-B – 1 field • HLA-DRB1 – 1 field
Location	OM Lab entered
Samples	• ABO final and ABO confirmed • Extended Acceptance Criteria Verified (if applicable)
Height & Weight	• Height (cm) • Weight (kg)

APPENDIX 2: NOT COMPATIBLE REASONS

Not Compatible Reason	Scenario
Eplet Match	Select when a recipient is excluded from the list as the transplant unit is wanting a better match for the recipient.
HLA Mismatches	Select when a recipient is excluded from the list as the transplant unit has specified the number of mismatches they will accept. For example, the transplant unit has specified they want the recipient and donor to be matched at DRB1.
Unacceptable Antigen	Select when a recipient is excluded from the list due to an unacceptable antigen against the donor. This is used in the case where there may be recipient acceptable antigens listed, and a scientist decision for compatibility is required.
Logistics	Select where a recipient is excluded from the list due to logistics with a donor. For example, if a donor organ cannot be offered interstate due to prolonged cold ischaemic time.
Recipient criteria Donor Age acceptance	Select where a recipient is excluded from the list due a donor age restriction as specified by the transplant unit. For example, a young recipient may require a donor not over a certain age which the unit will specify.
Donor Age Restriction for allocation	Select where a recipient is excluded from the list due an age restriction on the donor. For example, Donate Life have directed the lab to only match against recipients over 65 years of age.
Donor Issues	Select where a recipient is excluded from the list due to a medical issue relating to the donor.
Pre-emptive listing	Select where a recipient is excluded from the list as they are not on dialysis.
Other	Select where a recipient is excluded from the list for any other reason not specified in the dropdown selections.
IVRD -Recipient not consented	Select when recipient has not been consented to accept IVRD and donor has been flagged as IVRD
On Advice of Transplant Unit	Select when the transplant unit has advised they won't accept any offers from the donor. Specific reason to be added to the comments.

Donor Recipient Size Mismatch	Select when the recipient is excluded due to the size or weight of a donor. For example, a young recipient may require a small donor not above a certain weight threshold.

DEFINITIONS

Term/abbreviation	Definition
FXM	Flow cytometry crossmatch
OM	OrganMatch
OOL	Organ Offer List
TWL	Transplant Waiting List

REFERENCED EXTERNAL DOCUMENTS

Document Title	Source
Flow Crossmatching Clinical Guidance document	Flow Crossmatch Clinical Guidance

REFERENCED INTERNAL DOCUMENTS

Document number	Source
OM-007	Report Generation- Laboratory Portal
OM-009	Match Event Assessments- Laboratory Portal
OM-012	Principles of Kidney Matching Algorithms
OM-042	Deceased Donor Enrolments- Laboratory Portal
OM-055	Result Entry and Authorisation- Laboratory Portal

CHANGE HISTORY

Version number	Effective date	Summary of change
-	-	For previous change histories contact the National OrganMatch Office.
6	23/07/2024	Sprint 53 updates: • Section 6 updated to include new functionality for age filters in TWL matching screen.

		Other:
		• Update to title of referenced document OM-042. • Addition of HLA exceptions table to Section 1.
7	17/09/2024	Sprint 54 updates: • Section 2.1 step 4 updated with new confirmation pop up for matching OM lab. • Section 2.2 updated with new process for matching Kidney Interstate Utilisation and ABOi algorithms. • Section 2.3 updated to remove reference to Kidney Interstate Utilisation and ABOi algorithms.
8	Refer to footer	Sprint 55 updates: • Section 1 updated to include reference to new function of withholding name on lab report. • Section 6 updated to reflect new upper limit of 400 to number of matches to display. Other: • New format for table of contents. • Corrected an error in Section 4 for Not Compatible Reason selection with IVRD.

ELECTRONIC SIGNATURE

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