

## INTRODUCTION OF MACHINE PERFUSION DATA COLLECTION

### Executive Summary

**New data collection for use of machine perfusion has been introduced within the ANZDATA Registry.**

The ANZDATA Transplant Working Group and Advisory Committee have agreed to the collection of machine perfusion information for kidney transplants. This information will be recorded through the ANZDATA Online Electronic Data Collection System and the Surgical Details Form (SU).

This data collection element will be implemented from **10 June 2026**.

As transplant surgery information is collected as an event-based, real-time dataset, machine perfusion details should be recorded at the time transplant surgical information is entered into ANZDATA. Retrospective collection of machine perfusion data is not required. Only transplants reported from 10 June 2026 onwards should include this information.

### Background

Machine perfusion technology is increasingly being used to preserve donor kidneys prior to transplantation. Unlike traditional static cold storage (SCS), machine perfusion involves the circulation of a preservation solution through the kidney to support organ preservation during transport and storage.

The benefits of machine perfusion within the Australia and New Zealand setting have not yet been fully established. By collecting information on the use of machine perfusion and the duration of perfusion, registry data will help evaluate the impact of these technologies on transplant outcomes, including delayed graft function, graft survival, and patient outcomes.

### Data Element

New data collection, Machine Perfusion, has been added to the Surgical Data section within the ANZDATA module. This information will form part of the routine surgical data collection and should be completed for all kidney transplants at the time transplant surgery details are reported to the registry.

### Collection of Data Element

Machine perfusion type refers to the method of machine perfusion used to preserve the donor kidney prior to transplantation. Available options included with this data collection are;

**Normothermic oxygenated** – continuous circulation of perfusion solution through the kidney at normal body temperature, with supplemental oxygen.

**Hypothermic oxygenated perfusion** – continuous circulation of a cold preservation solution through the kidney with supplemental oxygen.

**Hypothermic non-oxygenated perfusion** – continuous circulation of a cold preservation solution through the kidney without supplemental oxygen.

**Machine perfusion duration** – the total length of time the donor kidney was connected to machine perfusion prior to transplantation, recorded in hours and minutes.

# What's New in ANZDATA Data Collection

**FIGURE 1: Machine Perfusion Screen View**

Current Graft

Surgical Data

Transplant Therapies

Tx Follow-Up

Rejection Episodes

Graft Number1

Donor Source100

Date of this Transplant22/08/2022

Cause of Graft Failure

Referring FacilityAUST

Graft Failure Date

Transplant FacilityAUST

No. of Rejection Episodes0

Surgical Data

| Anastomosis Site | Arterial                    | Venous                    | Cava Extension | Aortic Patch | Anastomosis Time (min) |                      |
|------------------|-----------------------------|---------------------------|----------------|--------------|------------------------|----------------------|
| Right            | External Iliac Artery (EIA) | External Iliac Vein (EIV) | No             | Yes          | 33                     | <a href="#">View</a> |

Add Surgical Data

Anastomosis Site \*

Arterial

Venous

Cava Extension

Aortic Patch

Anastomosis Time

mins

Machine Perfusion

Machine Perfusion

Duration

Hrs

Mins

Comments

**FIGURE 2 –Machine Perfusion Surgical Data (SU) Form View**

Machine Perfusion

Machine Perfusion Type

☐ Other (specify)

Duration

Hours

Minutes

Machine Perfusion Codes

1=No

2=Normothermic oxygenated

3=Hypothermic oxygenated

4=Hypothermic non-oxygenated

5=Other (Specify)