

OPTN Machine Perfusion Data Collection Workgroup

Meeting Summary

February 19, 2025

Conference Call

PJ Geraghty, MBA, CPTC, Chair

Introduction

The OPTN Machine Perfusion Data Collection Workgroup (the Workgroup) met via WebEx teleconference on 02/19/2025 to discuss the following agenda items:

1. Finalize Review of Normothermic Regional Perfusion (NRP) Data Elements
2. Begin Machine Perfusion Data Discussion

The following is a summary of the Workgroup's discussions.

1. Finalize Review of NRP Data Elements

Presentation Summary

Lactate Levels Data Element

This data element does not have a current definition. A proposed definition is "to help detect hypoxia and other diseases that cause excess production or reduced removal of lactate from the blood."

Questions for the workgroup to consider regarding this data element include:

- Is this drawn from the donor or the NRP circuit?
- Is this drawn multiple times and if so at what intervals?
- Is this assuming serum lactate?
- What is the range of millimoles?

NRP Circuit Flow Data Element

Questions for the workgroup to consider regarding this data element include:

- Purpose of collecting this data?
- L/min?
- Flow recorded at various times or is it a single reading?

Summary of Discussion:

Decision #1: Lactate levels should be a reoccurring field capturing the date, time, and value for each lactate level, recording the value out to two decimal places.

Lactate Levels

The Workgroup discussed how to collect lactate levels. They looked at a case where lactate levels were collected six times in fifteen-minute increments. The Workgroup felt they should not limit the number of lactate draws that could be entered into the system so that no data would be missed. They also felt that they should not dictate in policy how often lactate levels needed to be drawn because the facilities

doing the draws need to have the flexibility to follow their own requirements. They decided this data element should be a reoccurring field capturing the date, time, and value for each lactate level, recording the value out to two decimal places.

NRP Circuit Flow

The Workgroup felt they lacked the expertise to make decisions on this data element. They decided to seek outside expertise regarding this data element.

Next Steps:

- Seek expertise on NRP Circuit Flow Data Element

2. Begin Machine Perfusion Data Discussion

Presentation Summary

Machine Perfusion Data Collection

Potential Data Elements for machine perfusion data collection include:

- Normothermic vs hypothermic
- Machine Type
- Machine serial number
- On Machine, date/time
- Off Machine, date/time
- Partial pressure of oxygen (PO₂)
- Partial pressure of carbon dioxide (PCO₂)
- pH
- Temperature
- Bile
- Arterial Flow
- Portal Flow
- Inferior Vena Cava (IVC) Flow
- Arterial Pressure
- IVC Pressure

Questions for the workgroup to consider:

- Different data/parameters based on organ type and type of perfusion machine?
- Clinically, what is important to capture?
- Input from organizations and vendors?

Summary of Discussion:

Decision #1: Drop machine serial number from consideration for potential data elements to collect during machine perfusion.

The Workgroup felt the potential data elements were likely good ones except for machine serial number. They noted this is likely important to collect to ensure that perfusion machines are working correctly, however it is not something that the OPTN needs to track. Therefore, they decided to drop this potential data element. The Workgroup also debated collecting additional elements such as who requested the use of machine preservation, who performed the machine preservation, lactate levels, and glucose clearance.

The Workgroup discussed how data collection would be handled for machine perfusion data elements. They noted that three different groups could be responsible for collecting the data depending on which was performing the machine perfusion, the Organ Procurement Organizations (OPOs), the vendors, or the transplant centers. If the transplant center or vendor needs to collect the data, they would need a way to report these data points.

The Workgroup discussed the difference between perfusion machines and how that would affect data collection. They noted that different machine brands measure things differently such as flow and pressure so it will be important to collect not just the data element but the unit of measurement for each brand of machine. The Workgroup observed that they might also need to collect what each machine used for perfusion, blood or other perfusion solutions.

The Workgroup felt that it would be best for the collection of machine brands to be done using discrete data entry fields rather than free text fields which could lead to multiple names being used for the same brand of machine thereby complicating data analysis. They noted that some machine perfusion brands are currently under clinical trials and that in the future there will likely be more brands which will require a certain amount of upkeep to the system. The Chair suggested solving this issue by having discrete fields for current brands and a free text option for newer brands that had yet to be added to the system. The Workgroup determined that for each brand of device they would need to set the appropriate data elements as not all data elements would be relevant to brands and organs.

Next Steps:

- Get in touch with contacts who use various machine perfusion brands to learn more about each brand of device.

Upcoming Meeting

- March 19, 2025

Attendance

- **Workgroup Members**
 - PJ Geraghty
 - Theresa Daly
 - Anja DiCesaro
 - Joel Newman
 - Aaron Ahearn
 - Stephen Gray
 - Anne Krueger
 - Diane Brockmeier
 - Cassie Hertert
 - Micah Davis

- **SRTR Staff**
 - Bryn Thompson
 - Jon Miller

- **UNOS Staff**
 - Matt Cafarella
 - Susan Tlusty
 - Kevin Daub
 - Ross Walton
 - Houlder Hudgins
 - Alina Martinez