

**OPTN Histocompatibility Committee  
Meeting Summary  
April 12, 2024  
Webex Meeting**

**John Lunz, MD, Chair  
Gerald Morris, MD, Vice Chair**

## **Introduction**

The Histocompatibility Committee (“Committee”) met via WebEx teleconference on 4/12/2024 to discuss the following agenda items:

1. Update to WHO Nomenclature
2. Public Comment: Update Donor and Recipient Histocompatibility Forms
3. Revise Policies, Bylaws, and Guidance

The following is a summary of the Subcommittee’s discussions.

### **1. Update to WHO Nomenclature**

No decisions were made.

#### Presentation Summary:

A Presenter discussed a proposed update of the HLA serological nomenclature, as the last update was done in 1996. This new update aims to improve clinical antibody assessment. The presenter showed categorizations of residues for serotypes, which would allow for identifications of hybrids, as current HLA alleles do not all fit into current WHO accepted antigens. This would raise the number of validated antigens. All DQA1 alleles were assigned to one of six DQA. All DPA1 alleles were assigned to one of the two antigens with DPA, and all DPB1 alleles were assigned to one of the fourteen antigens with DP, all of the former followed by two digits. The new system can help capture specificities and help limit avoids. With CWD2.0 and CIWD3.0 catalogue alleles, all common alleles are assigned to one of the serotypes. A new computer program has been developed – HLA Allele to Serotype – which is now available.

For discrepant HLA alleles, prototypes can be used as surrogate, while for incomplete antigens, a prototype can be used, and an epitope analysis must be used to assign DSA. The Presenter covered serotype premises. In Phase 2 validation, a generated heatmap was created to assess cross-reactivity, which showed proposed serotype examples where HLA alleles with same reactivity are groups together.

When discussing HLA-B validation, the Presenter discussed that substitutions can be used where it does not change the epitope. They also presented a low correlation regression analysis which was stated to confirm the need for calling new serotypes and confirm residues that determine epitopes.

#### Summary of discussion:

A Member asked what is the gap is donor typing that will allow for this serotype system? The Presenter answered that commission vendors could be used. The Member responded that even though SSOs are not used as much anymore, this new model would allow for anyone to cover key types even without moving to an NGS model.

The Chair mentioned that given legal implications, it would be important to create clear regulations around this new system as to not have hybrid serotyping occurring.

Next steps:

The Committee will discuss further at a future meeting.

**2. Public Comment: Update Donor and Recipient Histocompatibility Forms**

The Committee voted in favor of removing positive/negative crossmatching data as well as concordance of virtual/physical crossmatch. The Committee will take a final vote on all proposed data collection changes via email.

Presentation Summary:

The Chair reviewed public comment data on the project of Updating Donor and Recipient Histocompatibility Forms. Public comment was found to be largely supportive.

Summary of discussion:

OPTN Staff covered feedback received, including commenters who stated that virtual crossmatching data could become a data mining platform, as well as another commenter who expressed that disagreement between virtual and physical crossmatching will occur given that they are not both tests measuring the same analytes. The Chair replied that they did not think this was an issue.

Some feedback included a request for definition of virtual crossmatching, where some said that positive virtual crossmatching should be left to lab discretion. Another feedback commenter asked for additional data around retrospective virtual crossmatching on high resolution typing. Committee members discussed cross match positive and negative results, including the importance of contextualizing this information. The Committee discussed if collecting this information is necessary pre-transplantation. The Chair considered if record of this information is necessary or made lead to misuse. A Member asked if positive data will be skewed. OPTN Staff mentioned that virtual and physical cross matches would both be visible if virtual was conducted after physical.

For specific data elements, commenters suggested removal of cytotoxicity for antibody detection, as well as removing cytotoxicity AHG and no AHG as separate responses and maintaining cytotoxicity crossmatch as an option for physical crossmatching. The Chair cited this as a potential burden to labs. A commenter recommended adding a field for threshold of an antibody when determining avoidance for CPRA, to which Member said this doesn't fit within scope for some patients. The Committee discussed adding dates for antibody tests, and the Chair clarified that this would be record of the current serotype used.

The Committee discussed omitting a question on virtual concordance with physical crossmatch, which Members were split on support. Members discussed possible ambiguity of data comparisons in reference to adding donor transfusion history and number of products received. The Committee ultimately decided to omit virtual crossmatch concordance with physical crossmatch, as the two immunologic assessments are not completely interchangeable.

Next Steps:

Staff will send out revised data collection language for an email vote to send to the Board in June.

### **3. Revise Policies, Bylaws, and Guidance**

No decisions were made.

#### Presentation Summary:

Chair discussed background on previous policy guidance update to align with CLIA regulations. Policy guidance updates and MPSC bylaw updates were put on hold at the time, but new CLIA regulations have since been implemented. The Chair specifically reviewed Appendix C to fix issues with histocompatibility laboratory membership requirements and eliminate inconsistencies to reduce burden on applicants.

#### Next Steps:

The Committee will continue work on this topic.

#### **Upcoming Meeting(s)**

- May 14, 2024

## Attendance

- **Committee Members**
  - John Lunz
  - Crystal Usenko
  - Qingyong Xu
  - Omar Moussa
  - Helene McMurray
  - Laurine Bow
  - Hemant Parekh
  - Andres Jaramillo
  - Julie Houp
  - Jerome Saltarrelli
  - Caroline Alquist
  - Gerald Morris
  - Hua Zhu
- **HRSA Representatives**
  - Jim Bowman
  - Marilyn Levi
- **SRTR Staff**
  - Katie Audette
- **UNOS Staff**
  - Courtney Jett
  - Thomas Dolan
  - Susan Tlusty
  - Betsy Gans
  - Laura Schmitt
  - Sharon Shepherd
  - Rachel Thibault
- **Other Attendees**
  - Marcelo Fernandez-Vina
  - Tiffany Bratton
  - Michael Gautreaux