

# 15th Annual Canadian Blood Services International Symposium

Red Blood Cells: Still Vital After All These Years?

**Saturday September 9<sup>th</sup>, 2017**

Chestnut Conference Centre, University of Toronto  
Colony Ballroom • 89 Chestnut Street • Toronto, Ontario

## Program Goals

- ✓ Enhance knowledge of blood group systems
- ✓ Enhance understanding of serological and molecular testing methodologies
- ✓ Understand red blood cell transfusion practices and the mitigation of side effects

7:45 – 8:30 *Light Continental Breakfast & Registration*

## Welcome

8:30 – 8:40 Introduction and Welcome

## Session 1: Past, Present, and Future of Red Blood Cells

**Chair: Dr. William Sheffield, Canadian Blood Services and McMaster University, Hamilton**

8:40 – 9:30 **The British Invasion of North American Blood Banking**

*Dr. Marion Reid, formerly New York Blood Center*

*Including 10 min Q&A*

9:30 – 9:55 **The Monocyte Monolayer Assay: Past, Present and Future**

*Dr. Donald Branch, Canadian Blood Services and University of Toronto*

*Including 6 min Q&A*

9:55 – 10:25 **Hemoglobin-based oxygen carriers that avoid NO scavenging**

*Dr. Ronald Kluger, University of Toronto, Toronto*

*Including 6 min Q&A*

10:25 – 10:45 *Coffee Break*

An event organized and sponsored by Canadian Blood Services Medical Services & Innovation

## Session 2: Clinical Red Blood Cell Issues

**Chair:** Dr. Kathryn Webert, Canadian Blood Services and McMaster University, Hamilton

10:45 – 11:15 **The knowns and unknowns of red cell alloimmunization**

*Dr. Ziad Solh, McMaster University, Hamilton*

*Including 6 min Q&A*

11:15 – 11:45 **Case studies: serological approaches to solving complex antibody problems**

*Janice Hawes, University Health Network, Toronto*

*Interactive*

11:45 – 12:15 **Do transfused red cells work? What the TOTAL RCT tells us**

*Dr. Christine Cserti-Gazdewich, University Health Network and University of Toronto, Toronto*

*Including 6 min Q&A*

12:15 – 13:15 *Networking Lunch (Catered lunch with opportunity to ask questions to speakers)*

## Session 3: Immunoematology Laboratory Medicine

**Chair:** Dr. Robert Skeate, Canadian Blood Services and University of Toronto

13:15 – 14:00 **Red cell genotyping in the immunoematology lab**

*Dr. Greg Denomme, Versiti/BloodCenter of Wisconsin, Milwaukee USA*

*Including 10 min Q&A*

14:00 – 14:20 *Coffee Break*

14:20 – 14:50 **TBC: Hemolytic disease of the fetus and newborn: pathophysiology, prevention and treatment**

*Dr. Nadine Shehata, Canadian Blood Services, Mount Sinai Hospital, and University of Toronto, Toronto*

*Including 6 min Q&A*

14:50 – 15:20 **Hemolytic disease of the fetus and newborn and the transfusion medicine lab**

*Dr. Gwen Clarke, Canadian Blood Services and University of Alberta, Edmonton*

*Including 6 min Q&A*

## Meeting Wrap-up

15:20 – 15:30 *Dr. Robert Skeate, Canadian Blood Services and University of Toronto, Toronto*

Upon completion of this program participants will be able to:

- ✓ Describe the role of British blood bank technologists in the identification of the blood group systems
- ✓ Describe the early influence of British technologists in blood banking in North American blood banks
- ✓ Describe the mechanism of red blood cell destruction by alloantibodies
- ✓ Describe the history of the monocyte monolayer assay and situations where the monocyte monolayer assay could be used for clinical applications
- ✓ Describe the need for a safe and effective universal alternative to red blood cells
- ✓ Describe how to convert hemoglobin from expired red blood cells to a useful product
- ✓ Describe the design and applications of hemoglobin based oxygen carriers and the importance of diabetic mice in the evaluation of the safety of these products
- ✓ Describe alloimmunization in different patient populations
- ✓ Discuss strategies to prevent alloimmunization and provide safe transfusion therapy in the setting of alloimmunization
- ✓ Describe unanswered questions that may aid in unraveling the concept of alloimmunization
- ✓ Discuss resolution of a warm autoantibody
- ✓ Describe method-dependent antibodies and how to recognize them
- ✓ Discuss resolution of anti-CD38 panagglutination
- ✓ Describe the material concerns with stored red cells in regards to the loss of intended function or the gain of unintended harms
- ✓ Describe the scope and physiology of profound anemia, particularly when left untransfused
- ✓ Describe the trial evidence for transfused red cells achieving tissue oxygen delivery
- ✓ Describe the uses of genotyping in transfusion medicine
- ✓ Discuss the advantages and disadvantages of genotyping in transfusion medicine
- ✓ Describe the potential of deep sequencing genotyping in precision transfusion medicine
- ✓ Describe the mechanisms, manifestation, and treatment of hemolytic disease of the fetus and newborn
- ✓ Describe transfusion management of patients with hemolytic disease of the fetus and newborn
- ✓ Describe blood product selection and modification for intrauterine and postnatal exchange transfusion
- ✓ Describe the laboratory tests, timing and reporting of results used in the diagnosis and monitoring of hemolytic disease of the fetus and newborn
- ✓ Describe noninvasive fetal genotyping and its potential role in the targeted prevention and monitoring of hemolytic disease of the fetus and newborn



The mission of Canadian Blood Services is to operate Canada's blood supply in a manner that gains the trust, commitment and confidence of all Canadians by providing a safe, secure, cost-effective, affordable and accessible supply of quality blood, blood products and their alternatives.

Through its Centre for Innovation, Canadian Blood Services facilitates the creation, translation and application of new knowledge to support a safe, effective and responsive system of blood and related biologics for Canada.