

# How to Meet the Educational Needs of Immunohematology Laboratories in a Diverse and Shifting Environment

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## Introduction

Transfusion medicine laboratories resolve immunohematology cases and guide physicians to ensure the safest transfusion for their patients. This requires a specific understanding of testing methods currently in use and a good knowledge of antigen and antibody characteristics. A patient's medical history and clinical condition also often contribute to the case resolution. However, transfusion medicine laboratories face mounting challenges such as staff shortages and increasing workloads combined with ever stricter financial constraints. In this evolving environment, easily accessible educational materials on the latest advances in immunohematology are essential for laboratories to meet these challenges and help physicians provide the best patient care.

## Methods

A new online educational resource, the Transfusion Science Webinar program, was launched in 2020 during the COVID-19 pandemic. It was quickly found that the webinars met educational needs that were not fulfilled by traditional in-person courses. These webinars offer educational content to a wide audience available anywhere and at any time at no cost. The goals of the webinar series are to:

- Provide high-quality educational materials on advanced immunohematology topics
- Run surveys ensuring the selected topics are relevant to participants
- Gather suggestions for new topics
- Make webinars easily and universally accessible in all time zones free of charge and provide past webinars on demand
- Encourage interactions between attendees and the speaker via a live Q&A session
- Award continuing education credits

**Table 1.** Transfusion Science Webinar topics, speakers, and results

Webinar Title	Hemolytic Anemia and Why Patient History Matters	Resolution of Complex Immunohematology Problems	Automated Anti-D Quantification in Immunization and Prophylaxis Contexts	Issues in ABO Antibody Titration	Five Years with Anti-CD38 – Experience from a Reference Laboratory	New Blood Groups and Antigens Recognized by the ISBT from 2019 to 2021	Complex Antibody Identification	Why in D World Are There “D”screpancies in RhD Typing?	Laboratory IT and Service Consolidation: Shared Resources, Better Care
Speaker (Country)	Carla Dinardo (BR)	Sandra J. Nance (US)	Cécile Toly-Ndour (FR)	Meenu Bajpai (IN)	Sofia Lejon Crottet (CH)	Christoph Gassner (LI)	Shane Grimsley (UK)	Susan T. Johnson (US)	Benjamin Holmes (UK)
Date	Oct-20	Feb-21	Apr-21	Apr-21	Jun-21	Aug-21	Oct-21	Dec-21	Feb-22
Number of Views	1,535	2,282	1,074	819	1,000	1,163	1,897	1,013	820
Answered Questions	87	89	36	39	48	20	51	42	24
Rating Excellent (%)	N/A*	N/A*	62	55	68	75	82	77	61
Rating Good (%)	N/A*	N/A*	37	41	32	75	18	20	39

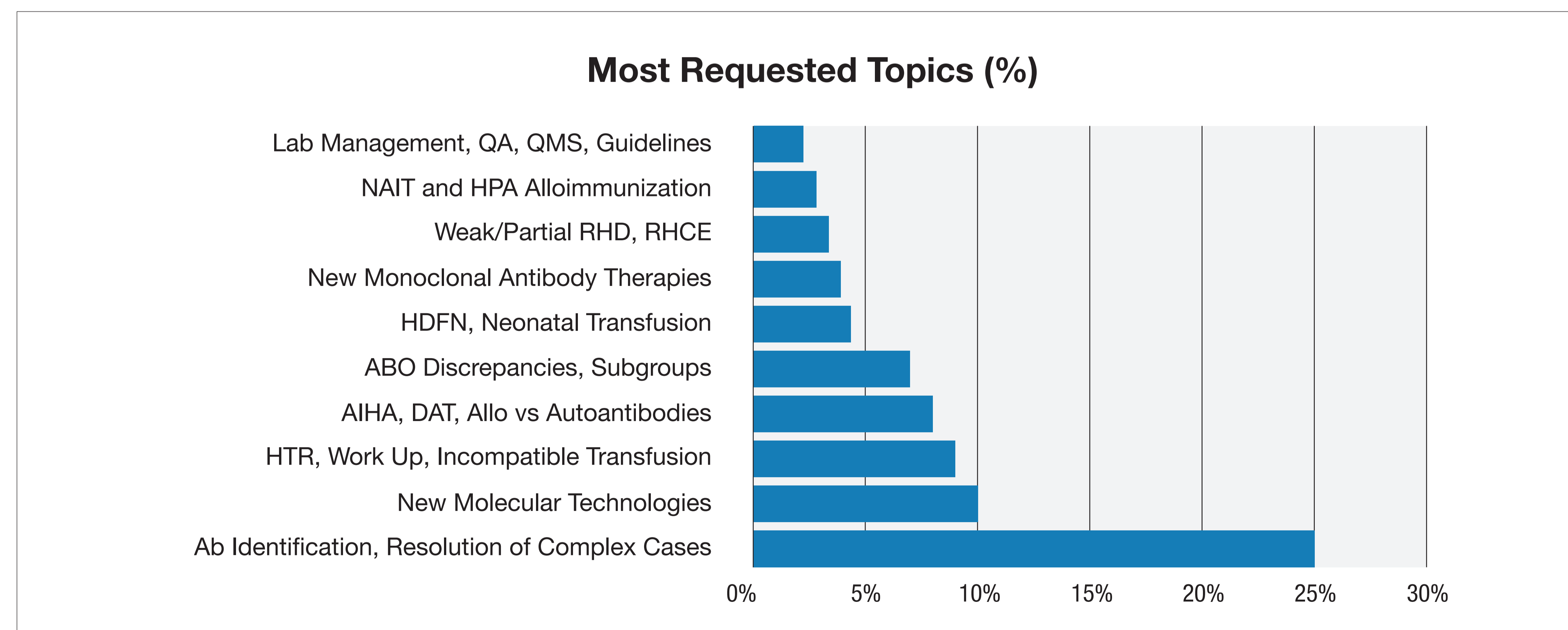
  

Webinar Title	“D” Solution: When Serology Meets Genotyping	Hemolytic Disease of the Fetus and Newborn (HDFN)	Sickle Cell Disease and Hemolytic Transfusion Reactions (HTR)	Providing Rare Red Cells: An Overview of the Canadian Blood Services' Rare Blood Program	Phenotype/Genotype Discrepancies, Their Cause, Importance, and Safe Resolution	The Path to Resolution: A Stepwise Approach to Pan-Reactive Samples	Antibodies of Undetermined Specificity: A Matter of Concern?	Clinical, Serological, and Molecular Aspects of CD36 – Our Newest Blood Group System
Speaker (Country)	Sofia Lejon Crottet (CH)	Carla Dinardo (BR)	Karina Yazdanbakhsh (US)	Matthew Yan (CA)	Shane Grimsley (UK)	Jill R. Storry (SE)	Sandra J. Nance (US)	Martin L. Olsson (SE)
Date	Jun-22	Aug-22	Oct-22	Apr-23	Jun-23	Oct-23	Dec-23	Mar-24
Number of Views	725	1,721	891	932	1,051	868	1,489	885
Answered Questions	29	91	44	39	38	32	64	50
Rating Excellent (%)	59	75	80	75	84	80	75	69
Rating Good (%)	39	25	19	25	16	20	23	28

\* N/A: No survey available at the time.

## Results

As of May 2024, 17 webinars have been produced, and all are available on demand. A wide range of immunohematology topics have been addressed: case studies of immune hemolytic anemia where patient history is inconsistent with test results, examples from national reference laboratories on how complex antibody cases are resolved, challenges in typing for RhD and strategies to detect D variants, and much more (Table 1). In total, the 17 webinars have been viewed by 20,165 participants (including live and on-demand views), representing an average of 1,186 views per webinar and a conversion rate of 52% (attended vs registered). On average, 56 questions were answered per webinar. The sessions were well received: 72% rated them excellent, 27% rated them good, and 1% rated them fair (Table 1). On a list of 41 requested topics, “Ab Identification, Resolution of Complex Cases” is currently the most requested, followed by “New Molecular Technologies” (Figure 1). The program has been recognized as educational in several countries where continuing education credits are awarded.



**Figure 1.** Most requested educational topics (top 10 of 41 topics shown)

Abbreviations: Ab: Antibody; HTR: Hemolytic Transfusion Reaction; AIHA: Auto Immune Hemolytic Anemia; DAT: Direct Antiglobulin Test; HDFN: Hemolytic Disease of the Fetus and Newborn; NAIT: Neonatal Alloimmune Thrombocytopenia; HPA: Human Platelet Antigen; QA: Quality Assurance; QMS: Quality Management System

## Conclusion

Accessible and affordable educational materials can provide great value to immunohematology laboratories facing staff shortages, financial constraints, and other challenges. The Transfusion Science Webinar program has demonstrated this value with over 20,000 participants as of May 2024, high rates of conversion, excellent participant reviews, and a steady stream of topic requests. The program is here to stay, with new topics coming in 2024 and beyond.

Stay tuned for our latest webinar and register to participate. Watch previous webinars on demand anytime.

See our full series of webinars.

