

# Transfusion Camp Annual Report

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2020-2021



2021-10-12

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## Executive Summary

Transfusion Camp is an education program that aims to increase transfusion knowledge and best practice by providing high-quality and relevant transfusion medicine (TM) training to Canadian postgraduate medical residents and their faculty members in various specialties related to transfusion. It has been recognized as a novel and scalable approach to delivering effective TM education.

Since 2016-2017, Transfusion Camp has trained >1,400 trainees. In 2019, our study demonstrated that Transfusion Camp increased knowledge, fostered positive attitude towards TM and enabled a self-reported positive impact on transfusion practice in postgraduate trainees.<sup>1</sup>

First established in 2012 as a TM education program for postgraduate trainees at the University of Toronto, Transfusion Camp is now a national program led by faculty at the University of Toronto QUEST Program. It is managed centrally by Canadian Blood Services and delivered nationally through the collaboration of transfusion experts, residency training program administrators and regional partner organizations. Transfusion Camp is also supporting TM education internationally through key partnerships.

### Curriculum key updates

- 15 hours of didactic lectures delivered by 17 faculties and supplemented by 13 hours of team-based learning seminars delivered by 35 faculty members.
- A lecture entitled “New Updates in Transfusion” was added to Day 5 to discuss updates in transfusion practice that had occurred over the course of the year.
- A new Q&A session entitled “Ask the Experts” was added to provide trainees an opportunity to clarify and deepen their knowledge.
- The knowledge assessment test was revised to be more specific to Transfusion Camp.

### Program participation and impact highlights

- 421 trainees, representing 13 medical specialties from 14 Canadian universities participated in Transfusion Camp, including for the first time Université de Montréal.
- Curriculum entirely delivered virtually to accommodate social distancing measures necessitated by the ongoing COVID-19 pandemic
- Continued positive impact of Transfusion Camp on trainees’ TM knowledge assessed via a validated test (Pre-Camp mean score 57% vs. Post-Camp mean score 76%).
- Continued positive impact of Transfusion Camp on trainees’ practice with the majority reporting applying their Transfusion Camp learning to their clinical practice (from 49% after Day 2 increasing to 86% after Day 5).

### International partnerships

- Continued partnership with the UK (University of Oxford) and Australia (Australian Red Cross) to leverage Transfusion Camp content for educating physicians in these countries. Discussions initiated to expand the UK partnership to two new sites in London for the 2021-2022 academic year.

# Program Overview

## Program objective

Blood transfusion is the most common procedure administered in hospitalized patients and is prescribed by physicians of almost every specialty.<sup>2,3</sup> Despite advances in recent decades, transfusion remains an intervention associated with risk. Expert panels have recommended strategies to reduce mortality and morbidity related to transfusion, including adherence to evidence-based transfusion guidelines and increased transfusion medicine (TM) education.<sup>4</sup> One of the challenges in delivering TM education is determining the optimal time in training to deliver such content. Recent reviews advocate for TM education at the beginning of clinical training, either in medical school or early in the postgraduate training period, so as to tailor to the specialty.<sup>5-7</sup> However, several studies have shown that TM knowledge at this level is deficient.<sup>8-13</sup> Additional challenges include reaching trainees in multiple specialties, and limited faculty to deliver TM education.

In response to these needs and challenges, **Transfusion Camp was developed with the vision that medical residents across Canada have access to up-to-date transfusion knowledge and effective educational methodologies.** Established at the University of Toronto in 2012, Transfusion Camp is now national and includes international partners.

## Program content and delivery

The Transfusion Camp Planning Committee is responsible for determining the program learning objectives and developing the program curriculum to meet these objectives. The Committee meets after each session to review participant feedback, changes in transfusion practice, and to modify the program accordingly.

The main learning objectives for 2020-21 were: **Indications for blood products, Blood bank testing, Risks of transfusion, Indications for manufactured blood products, Special transfusion situations, and Blood conservation.** Participants were provided with 33 pre-reading materials, received a total of 15 hours of didactic lectures and actively participated in 13 hours of team-based learning seminars. The lectures and seminars were delivered “live” on July 24, August 28, January 22, March 26, and May 28. See Appendix I for full details on the program, faculties, planning committee members, partners, and collaborators.

Lectures were prepared and delivered by 17 faculties. All lectures were updated. This year a lecture entitled “**New Updates in Transfusion**” was added on Day 5 to provide a high-level summary of recent publications and guidelines in the field of TM that may not have been captured during the year. Dr. **Aditi Khandelwal** of Canadian Blood Services joined the Transfusion Camp faculty to deliver this lecture. Dr. **Justyna Bartoszko** of the University of Toronto joined the Transfusion Camp faculty to deliver the Day 5 Albumin lecture, replacing Stewart McClusky. Dr. **Michelle Zeller** of Canadian Blood Services and McMaster University joined the Transfusion Camp faculty, to deliver Day 2 “Virtual Canadian Blood Services Tour”

and “Delayed Non-infectious Reactions” lectures, replacing Robert Skeate, and further expanding the lecture faculty beyond Toronto. A new Q&A session entitled “**Ask the Experts**” was added on Day 5 to provide trainees an opportunity to deepen their knowledge. Dr. Yulia Lin moderated this session with the participation of panelists from the Transfusion Camp faculty. The “Transfusion Authority Gradient” and the “Year in Review” lectures were removed from the curriculum.

Team-based learning seminars, developed by faculty in Toronto, consisting of relevant case studies were led by 35 local TM experts with supporting materials provided by the program. The seminar questions were translated into French by Héma-Québec to make the content more accessible to French-speaking trainees.

In response to the continuing COVID-19 pandemic, Transfusion Camp continued in an entirely virtual format. Lectures were delivered live remotely by faculty via webinar. Trainees joined the webinar individually to view the lectures and followed with group webinars led with local faculties.

Video recordings of the lectures were made available to all participants, including sites which access materials post “live” (i.e. University of Alberta and University of British Columbia). At these sites, trainees viewed the recorded lectures as either a group or individually, followed by seminars led by local TM experts.

To facilitate the virtual seminars, a “Guide for Delivering Seminars” was developed to assist faculty in moderating a seminar. A second guide was developed for the trainees to participate in the seminars more effectively.

## Program evaluation

Trainees completed a TM knowledge assessment at the start of Day 1 and at the end of Day 5. This year, the knowledge assessment test was revised to be more specific to Transfusion Camp and was administered electronically via SurveyMonkey. This allows for all registered trainees to complete the tests, irrespective of whether or not they attend the day on which the surveys are distributed.

A link to an anonymous post-event online SurveyMonkey survey was sent to all trainees registered in the program after each of the completed Transfusion Camp Days.

## Program support

A coordinating office located within Canadian Blood Services provides support for delivering the program on a national and international scale. These tasks include managing Camp registration and attendance; collecting and analyzing trainee feedback; and recruitment and onboarding of prospective participating universities. The technology resources required to deliver the Camp include a **collaborative online sharing platform** (Microsoft SharePoint) where all program related materials for faculties and local program administrators are housed and can be accessed throughout the year; **webinar technology** (GoToWebinar) to broadcast and record

the lectures; **video editing capabilities** (Adobe Premiere Pro); a **password protected web portal** to facilitate access of Transfusion Camp resources to all registered trainees (ProfessionalEducation.blood.ca); and **survey capabilities** to facilitate trainee registration, obtain participants feedback, and collect pre- and post-test results (SurveyMonkey).

Faculty members and administrative leads from participating universities and hospitals provide support for delivering the program to their trainees. These tasks include identifying trainees to participate in the program, organizing virtual seminars with appropriate technology, coordinating catering and/or catering gift cards as needed, organizing and leading team-based learning seminars, facilitating completion of TM knowledge assessments and registration/attendance records.

Analysis of the TM knowledge assessment completed by the trainees is performed by the University of Toronto.

## Registration and Attendance

In 2020-2021, 421 trainees from 14 Canadian universities, including 13 different specialties, registered for Transfusion Camp and attended a minimum of one Day.

Registration: 421 trainees from 13 different specialties and 14 Canadian universities registered for Transfusion Camp (Table 1). Trainees who initially registered for Transfusion Camp but did not attend a single Day were not included in the final registration count.

**Table 1:** 2020-2021 Transfusion Camp registration.

Academic Institution	Medical Programs	Trainees Registered	Mode of Participation
Dalhousie University	Hematopathology, Hematology, Pediatric Hematology/Oncology	11	Lectures: Live webinar Seminars: Virtual
McGill University	Hematology, Pediatric Hematology/Oncology	4	Lectures: Live webinar Seminars: Virtual
McMaster University	Anesthesia, Critical Care Medicine, Emergency Medicine, Internal Medicine, Pathology, Pediatric Hematology/Oncology, Surgery, Transfusion Medicine	42	Lectures: Live webinar Seminars: Virtual
Northern Ontario School of Medicine	Anesthesia	6	Lectures: Live webinar (group and individual) Seminars: Virtual
Queen's University	Anesthesia, Critical Care Medicine, Hematology, Emergency Medicine	13	Lectures: Live webinar Seminars: Virtual
Université de Montréal	Anesthesia, Critical Care Medicine, Hematology, Internal Medicine, Pediatric Hematology/Oncology	61	Lectures: Live webinar Seminars: Virtual

Université de Sherbrooke	Anesthesia, Hematology, Internal Medicine, Medical Oncology	27	Lectures: Live webinar Seminars: Virtual
Université Laval	Hematology, Internal Medicine, Medical Oncology, Obstetrics	45	Lectures: Live webinar Seminars: Virtual
University of Alberta	Anesthesia, Critical Care Medicine, Hematology	28	Lectures: Recorded videos individual viewing Seminars: Virtual
University of British Columbia	Anesthesia, Hematology, Hematopathology, Internal Medicine, Transfusion Medicine	52	Lectures: Recorded videos group viewing Seminars: Virtual
University of Ottawa	Hematology	3	Lectures: Live webinar Seminars: Virtual
University of Saskatchewan	Anesthesia, Emergency Medicine, Internal Medicine, Hematopathology, Pathology	22	Lectures: Live webinar Seminars: Virtual
University of Toronto	Anesthesia, Critical Care Medicine, Hematology, Internal Medicine, Medical Oncology, Obstetrics, Pediatric Hematology/Oncology, Transfusion Medicine	81	Lectures: Live webinar Seminars: Virtual
Western University	Anesthesia, Hematology, Pediatrics	26	Lectures: Live webinar Seminars: Virtual

Modes of participation: All trainees viewed the lectures individually either during the live event (via GoToWebinar) or by watching the recorded lectures provided on ProfessionalEducation.blood.ca. All trainees attended virtual seminars consisting of groups of 6-20 participants.

Attendance: Overall, maximum attendance was recorded on Day 1 (78%) and minimum attendance was recorded on Day 5 (57%). An average of 74% of registered trainees attended each Day (Table 2).

**Table 2:** Transfusion Camp attendance.

Attendance by Day, n (%)	
Day 1	330 (78)
Day 2	318 (76)
Day 3	281 (67)
Day 4	274 (65)
Day 5	240 (57)

Attendance percentages based on 421 registered trainees from Canadian sites.

## Knowledge Gain Assessment

In 2020-2021, an increase in trainees' TM knowledge was observed. The attendees' mean knowledge assessment scores increased from 57% to

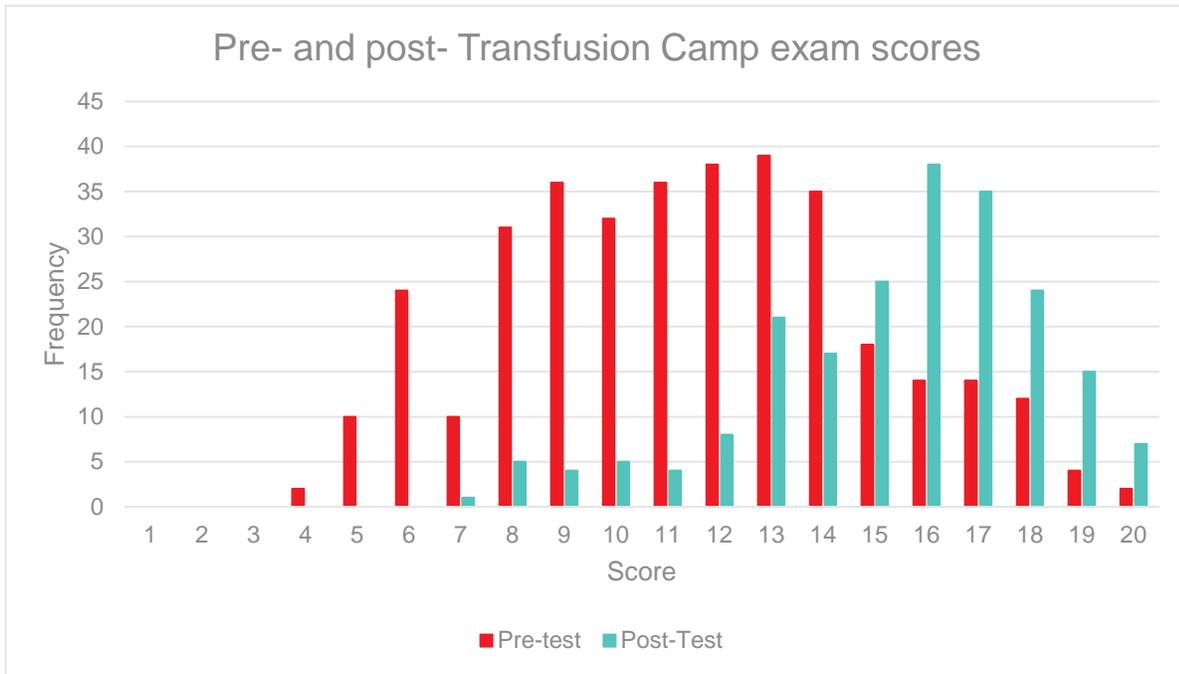
76% while the attendees self-rating of TM knowledge increased from mostly beginner/intermediate to intermediate/advanced. By the end of the course, the majority of trainees (86%) responding to a survey also indicated having applied the knowledge gained through Transfusion Camp in their clinical practice.

A knowledge assessment including 20 questions was distributed to all 421 registered trainees before Day 1 and after Day 5 via SurveyMonkey. The knowledge assessment test was revised this year to be more specific to Transfusion Camp. 357 and 209 trainees completed the test pre-Day 1 and after Day 5, respectively. An overall increase in scores was observed following Transfusion Camp (57% vs 76% for pre- and post-test, respectively) (Figure 1). Attendees were also asked to self-rate their knowledge of TM before and after attending Transfusion Camp. Overall, attendees increased their self-rating from Beginner (61%)/Intermediate (35%) to Intermediate (63%)/Advanced (26%) (Figure 2).

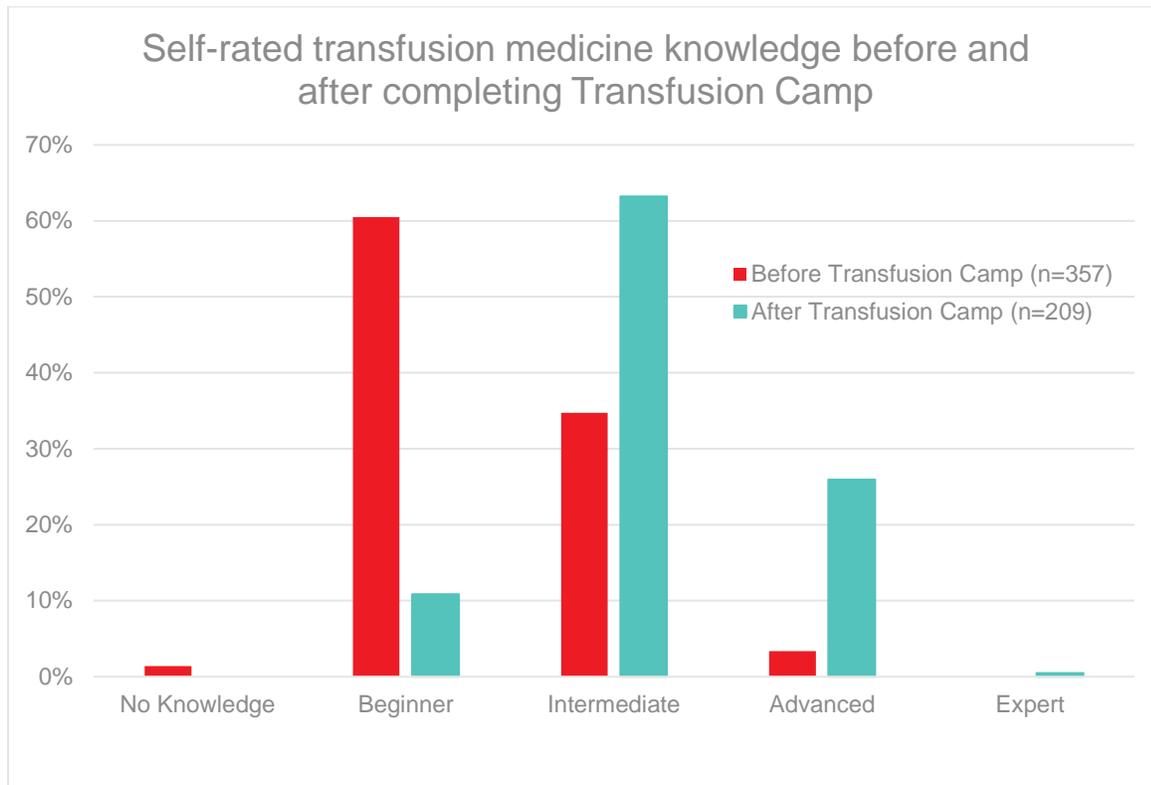
In addition to the pre-and post-tests, registered trainees were emailed a link to an electronic survey following each of the five Days. Beginning on Day 2, and after each subsequent day, trainees were asked “Since starting Transfusion Camp, have you applied any of your learning from Transfusion Camp into your clinical practice?”. From Day 3 onwards, the majority of trainees responding to the surveys reported applying their learning from Transfusion Camp into their clinical practice (Figure 3).

**Figure 1:** Pre-Test Scores vs. Post-Test Scores.

<b>Pre-Test Scores</b>					
Total Possible Points	20	Median Score	11	Minimum Score	4
Total respondents	357	Mean Score (%)	11.4 (57)	Maximum Score	20
<b>Post-Test Scores</b>					
Total Possible Points	20	Median Score	16	Minimum Score	7
Total respondents	209	Mean Score (%)	15.2 (76)	Maximum Score	20



**Figure 2:** Self-rated knowledge of transfusion medicine by trainees.



**Table 3:** Application of knowledge imparted by Transfusion Camp in clinical practice.

Day (# of survey responses)	Day 2 (n = 104)	Day 3 (n = 91)	Day 4 (n = 77)	Day 5 (n = 77)
Trainees responding “Yes” to the survey question “Since starting Transfusion Camp, have you applied any of your learning from Transfusion Camp into your clinical practice?”	49.0% (n = 51)	70.3% (n = 64)	77.9% (n = 60)	85.7% (n = 66)

Responses provided by trainees who participated in the post-event survey after attending the Day.

## Program Curriculum Assessment

In 2020-21, Transfusion Camp lectures and team-based learning seminars were scored very highly by trainees.

Following each of the five days, registered trainees an electronic survey to assess the program delivery model and curriculum.

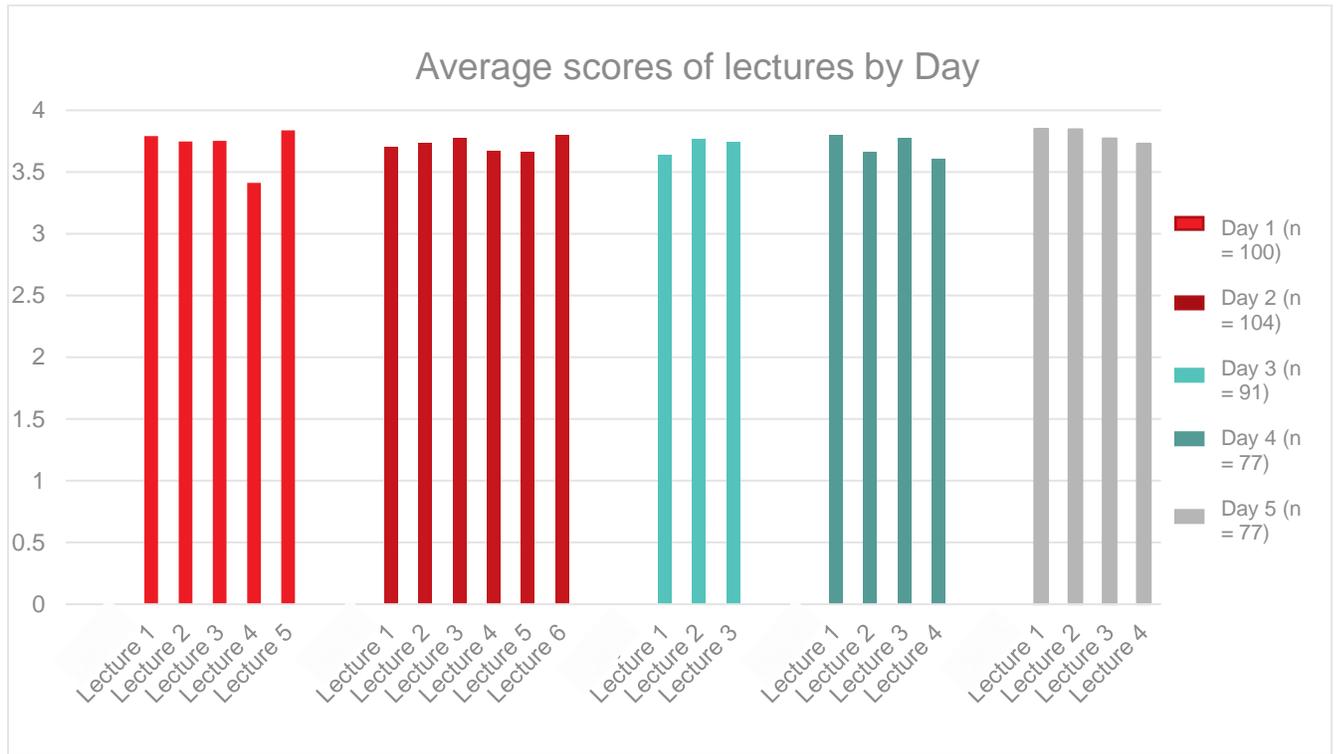
Trainees were asked to score (Poor = 1, Fair = 2, Good = 3, Excellent = 4) lectures on the following criteria: Objectives of presentation defined and met; Practical value; Knowledge of topic; Presentation skills; and Balanced and unbiased. Average scores of each lecture were tallied to calculate the average lecture score. **All Transfusion Camp lectures were scored at 3.6/4 or higher** (Figure 3).

**The new Day 5 Q&A Panel received an average rating of 3.6/4 for each objective respectively.**

Trainees were asked to indicate their level of agreement (Strongly Disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, Strongly Agree = 5) with several aspects of each seminar including: Content was relevant and organized; Content had practical value; Interaction with others was beneficial; and This seminar should be kept every year. Average scores of each seminar were tallied to calculate the average seminar score for each day. **All Transfusion Camp seminars were scored at 3.9/5 or higher** (Figure 4).

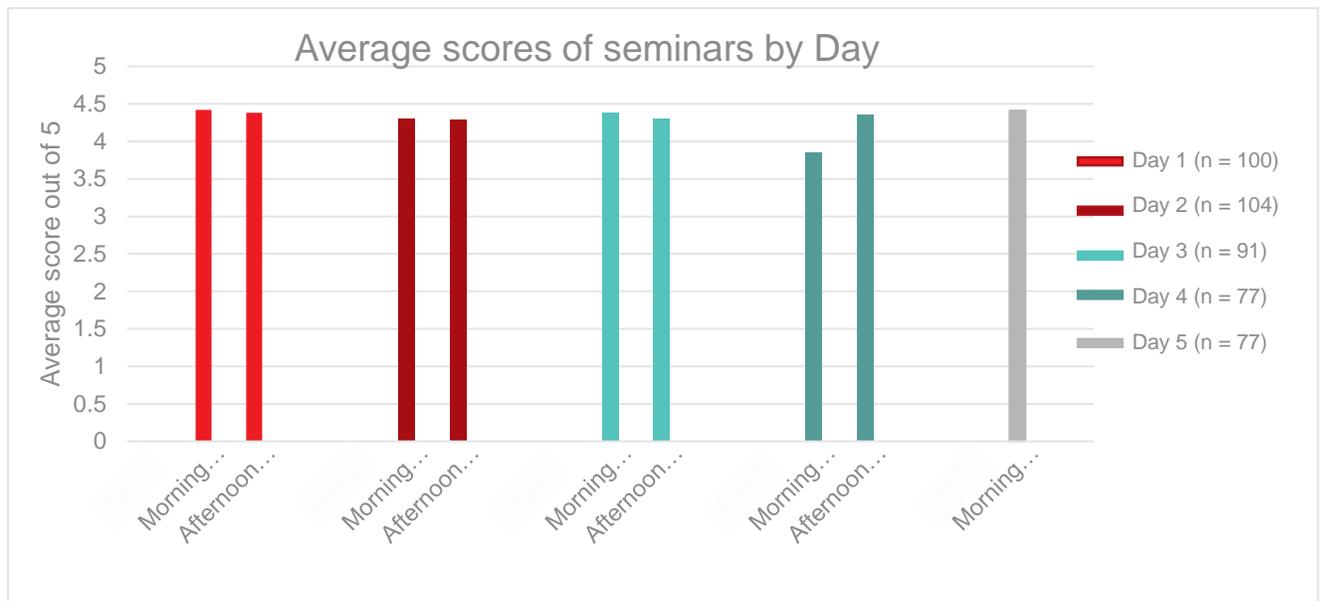
Lectures and seminars scores and comments were provided to the Planning Committee members and faculty to update the curriculum for the following next year.

**Figure 3.** Assessment of Transfusion Camp lectures by trainees.



Average scores calculated with assessments provided by trainees who participated in the post-event survey after attending the Day. Excludes the Day 5 “Q&A” session.

**Figure 4.** Assessment of Transfusion Camp seminars by trainees



Average scores calculated with assessments provided by trainees who participated in the post-event survey after attending the Day.

# International Partnerships

## UNITED KINGDOM

Since 2019-2020, the University of Oxford (U.K.) has participated in Transfusion Camp. Trainees watch the pre-recorded lectures during their off time in the week leading up to their seminars. The morning and afternoon seminars are held with local TM experts on separate dates to facilitate trainee attendance.

### Registration and Attendance

In 2020-2021, 20 trainees registered for Transfusion Camp with the University of Oxford, representing Anesthesia and Hematology programs. Attendance for the year was 100% across all Days, except for Day 4 during which 19 trainees attended (95%).

### Knowledge Gain Assessment

The TM knowledge gain assessment methodology used for Canadian sites was applied to U.K. trainees. This included the pre- and post-tests. The results are shown in the table below and are not very different from the data obtained from the Canadian cohort. However, U.K. trainees are not asked to complete the feedback survey after each Day. As Transfusion Camp expands to additional sites in the U.K., the Planning Committee will determine the need to provide the feedback survey to international sites.

<b>Pre-Test Scores</b>					
Total Possible Points	20	Median Score	12.9	Minimum Score	8
Total respondents	17	Mean Score (%)	13 (65)	Maximum Score	18
<b>Post-Test Scores</b>					
Total Possible Points	20	Median Score	16.4	Minimum Score	12
Total respondents	15	Mean Score (%)	17 (85)	Maximum Score	19

### Expanding further in the U.K.

During the year, collaborations were initiated to expand Transfusion Camp to two additional sites, the University Hospitals Birmingham Trust and Guy's & St. Thomas's Hospitals. 2021-2022 will be the first year the new sites will participate in Transfusion Camp.

## AUSTRALIA

In 2019-2020, Transfusion Camp established a collaboration with faculties at the Australian Red Cross Lifeblood (ARCL). This collaboration provides access to Transfusion Camp lectures and other resources for adaptation and delivery within the Australian transfusion medicine training environment. During 2020-2021, ARCL ran its second adapted Transfusion Camp. Trainees were able to watch individual lectures without registering for the entire Transfusion Camp program. However, due to challenges around scheduling and administering seminars during lockdowns instituted to curb COVID-19 transmission, seminars were not held.

The partners with ARCL created two lectures unique to the Australian context: Viscoelastic Haemostatic Assays and Preoperative Patient Blood Management.

## Reporting & Dissemination

- The Transfusion Camp Annual Report is distributed to all Program Directors participating in Transfusion Camp and to partners. It is also posted to the Transfusion Camp Course Portal on ProfessionalEducation.blood.ca.
- “Transfusion Camp carries on: educating physicians about using blood wisely” blog post authored by Dr. Yulia Lin (University of Toronto) and Casey Kapitany (Canadian Blood Services) published on the Canadian Blood Services [Research.Education.Discovery blog](#).
- A qualitative research project was led by Dr. Valérie Arsenault to evaluate the impact and implementation of Transfusion Camp. Semi-structured interviews were conducted with 11 trainees and 8 faculty. Findings showed that Transfusion Camp was a positive experience including inter-specialty, distributed learning and education community building. Improvements include enhancing repetition over time, combining common and targeted small group seminars and increasing opportunities for faculty interaction. The findings were presented at AABB annual meeting in 2020 and a manuscript is in preparation.
- Transfusion Camp was also presented in a Transfusion Education session at the 2021 CSTM annual meeting. I
- In 2019-2020, Transfusion Camp established a collaboration with a group in British Columbia. This collaboration provides access to Transfusion Camp lectures and other resources for adaptation and delivery to nurse practitioners in British Columbia. 2020-2021 saw the second and third iterations of this targeted Camp.

## Contributing Partners

We remain deeply grateful for the ongoing support from our funders, partners and colleagues across the transfusion medicine community in Canada and abroad. We thank the trainees and faculty members who participated in Transfusion Camp and the following local Transfusion Camp site administrative leads and collaborators: Dr. Yulia Lin, Paula Nixon, Sue Balaga, (University of Toronto); Dr. Alan Timmouth, Tyra Young (University of Ottawa); Dr. Dev Jayaraman, Dr. Patricia Pelletier, Sandy Fostaty, Teresa Lavecchia (McGill University); Dr. Michelle Zeller, Elena Bidochka, Gina Furlong, Erin Volk (McMaster University); Sara Cover (Northern Ontario School of Medicine); Dr. Janet Lui, Belinda Stinson (Queen’s University); Dr. Mahboubeh Rahmani, Heidi Devlin (Dalhousie University); Dr. Sheila Harding, Dr. Oksana Prokopchuk-Gauk, Dr. Tamalina Banerjee, Debbie Quirion, Megan Murk, Georgie Blackwell (University of Saskatchewan); Dr. Ziad Solh, Dr. Cyrus Hsia (Western University); Dr. Patrice Beauregard, Dr. Catherine Latour, Dr. Susan Fox, Dr. Pierre-Aurèle Morin, Valérie Bédard, Marie-Josée Bernier (Université de Sherbrooke); Dr. Marianne Lavoie (Université Laval); Dr. Melanie Bodnar, Dr. Lauren Bolster, Loretta Carroll (University of Alberta); Dr. Jacqueline

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We acknowledge the following planning committee members for their contributions to the program including curriculum development and delivery, logistics, and administration. Dr. Waseem Anani, Sue Balaga, Dr. Jeannie Callum, Dr. Sophie Chargé, Dr. Christine Cserti-Gazdewich, Casey Kapitany, Dr. Aditi Khandelwal, Dr. Wendy Lau, Dr. Christie Lee, Dr. Lani Lieberman, Dr. Yulia Lin, Paula Nixon, Wendy Owens, Dr. Katerina Pavenski, Dr. Jacob Pendergrast, Dr. Pablo Perez D'Empaire, Dr. Nadine Shehata, and Dr. Michael Scott. .

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# Appendix I: 2020-2021 Transfusion Camp program and schedule



## University of Toronto Transfusion Camp 2020-2021

### Participating universities

Alberta: University of Alberta

British Columbia: University of British Columbia

Nova Scotia: Dalhousie University

Ontario: University of Toronto, University of Ottawa, McMaster University, Queen's University, Northern Ontario School of Medicine, Western University

Québec: McGill University, Université Laval, Université de Montréal, Université de Sherbrooke

Saskatchewan: University of Saskatchewan

International: University of Oxford



## UNIVERSITY OF TORONTO TRANSFUSION CAMP 2020-2021 CURRICULUM

Upon completion of this course, the attendees will be able to:

### **INDICATIONS FOR BLOOD PRODUCTS**

1. Appropriately prescribe components (RBC, plasma, platelets, and cryoprecipitate)
2. Perform a preoperative bleeding history
3. Interpret coagulation testing results
4. Have a reasonable approach to the correction of coagulation prior to procedures

### **BLOOD BANK TESTING**

5. Summarize basics about blood bank tests and pre-transfusion compatibility testing
6. Explain the implications of a positive antibody screen
7. Know when to screen patients for platelet alloimmunization

### **RISKS OF TRANSFUSION**

8. Obtain informed consent for transfusion
9. Prevent, diagnose, manage and report acute and delayed transfusion reactions
10. State the current risks of transfusion-transmitted infections
11. Describe challenges to transfusion safety (getting the right blood to the right patient)

### **INDICATIONS FOR MANUFACTURED BLOOD PRODUCTS**

12. Appropriately prescribe fractionated blood products (albumin, coagulation factor concentrates)
13. State when and how Rh immunoglobulin is administered in pregnancy

### **SPECIAL TRANSFUSION SITUATIONS**

14. Know when to order irradiated blood products
15. Develop an approach to patients with congenital or acquired bleeding disorders (including reversal of common anticoagulants)
16. Safely transfuse a patient with sickle cell disease
17. Manage a massively hemorrhaging patient, including surgical, trauma and obstetric patients, with discussion of hemostatic medications (antifibrinolytics)

### **BLOOD CONSERVATION**

18. Have a standard approach to the management of pre-operative anemia
19. Apply patient blood management strategies, including for patients who refuse blood on religious grounds



## TARGET AUDIENCE

Trainees from participating universities and registered in non-hematology specialty adult or pediatric programs including pediatric or adult programs in Anesthesia, Critical Care Medicine, Oncology, Obstetrics, Pathology, Clinical Pathology, General Internal Medicine, General Surgery, Trauma, and Emergency Medicine. Hematology and Hematopathology residents are also welcome to attend.

Depending on location, there may be a maximum number of local attendees allowed.

## ATTENDEE EXPECTATIONS

### PARTICIPATION

1. Attend all sessions
2. Actively participate during lectures
3. Actively participate in team-based learning seminars
4. Refrain from excessive use of interruption devices (mobile phones)
5. Arrange not to be on call the night before
6. Complete evaluations

### COST

Free for Canadian University trainees at the PGY1 level or greater

### REGISTRATION

1. Register by contacting your program director.
2. Trainees must have their program director's approval to participate.
3. In addition to access to the course and course portal, registration also provides appropriate refreshments at breaks, depending on location.



## COURSE INFORMATION

### FORMAT

- Content is delivered over 5 days (see schedule below) from July to June
- Each day includes lectures and team-based learning seminars.
- Trainees attend lectures in groups either “live” (in Toronto) or “live” remotely (via webcast) or “post-live” (recorded lectures). During the COVID-19 pandemic, adjustments will be made to deliver sessions virtually.
- Trainees attend team-based learning seminars in groups at their local sites. During COVID-19 pandemic, adjustments will be made to deliver seminars virtually.

### LOCATIONS

- The course lectures are presented, webcast and recorded.
- Locations for trainees to attend the course vary depending on university program, please enquire with your program administrator.

### MATERIAL & CERTIFICATION

Attendees will be provided with:

1. Access to a common course portal for reading materials, PDFs and recorded presentations, case studies and a discussion board
2. Exam review session
3. Depending on the university program, a Certificate of Completion of Transfusion Medicine Camp with attendance, and pre-test and post-test scores. To obtain a certificate, trainees must attend 3 of 5 days and complete the post-test exam.



## COURSE SCHEDULE FOR SITES ATTENDING “LIVE” 2020-2021 CURRICULUM

COURSE SCHEDULE

### DAY 1> BLOOD COMPONENT INDICATIONS & ADMINISTRATION – July 24, 2020

#### Start time

8:30	Dr. Yulia Lin	Pre-Course Exam (30 minutes)
9:00	Dr. Jeannie Callum	Red Cell Transfusion (45 minutes)
9:45	Dr. Katerina Pavenski	Platelet Transfusion (45 minutes)
10:30	<b>Break</b> (15 minutes)	
10:45	Dr. Yulia Lin	Basic Blood Bank Testing (30 minutes)
11:15	Dr. Katerina Pavenski	Seminar 1A: RBC & Platelet Transfusion Cases (75 minutes)
12:30	<b>Lunch</b> (45 minutes)	
13:15	Dr. Wendy Lau	Neonatal & Pediatric Transfusion (30 minutes)
13:45	Dr. Jeannie Callum	Plasma, PCC & Fibrinogen replacement (60 minutes)
14:45	<b>Break</b> (15 minutes)	
15:00	Dr. Jeannie Callum	Seminar 1B: Plasma, PCC & Fibrinogen Cases (75 minutes)

### DAY 2> COMPLICATIONS: COMPATIBILITY, ACUTE & LONG TERM TRANSFUSION RISKS & ERRORS – August 28, 2020

#### Start time

9:00	Dr. Katerina Pavenski	Informed Consent (30 minutes)
9:30	Dr. Steven Drews	Acute & Delayed Transfusion Transmitted Infections (30 minutes)
10:00	<b>Break</b> (15 minutes)	
10:15	Dr. Cserti-Gazdewich	Acute Non-Infectious Reactions (45 minutes)
11:00	Dr. Cserti-Gazdewich	Seminar 2A: Labile Component Reactions (90 minutes)
12:30*	<b>Lunch (non-Québec sites)</b> (60 minutes)	
	Dr. Nancy Robitaille	Virtual Héma-Québec tour ( <b>Québec sites</b> ) (30 minutes)
13:00*	<b>Lunch (Québec sites)</b> (60 minutes)	
13:30*	Dr. Michelle Zeller	Virtual Canadian Blood Services Tour ( <b>non-Québec sites</b> ) (30 min)
14:00	Dr. Michelle Zeller	Delayed Non-Infectious Reactions (30 minutes)
14:30	<b>Break</b> (15 minutes)	
14:45	Dr. Jacob Pendergrast	Seminar 2B: “Delayed or Derivative” Transfusion Reactions (90 minutes)

\*Non-Québec sites: 12:30-13:30 Lunch and 13:30-14:00 Virtual Canadian Blood Services Tour

\*Québec sites: 12:30-13:00 Virtual Héma-Québec tour and 13:00-14:00 Lunch

All lectures are recorded and shared on the portal.



COURSE SCHEDULE...

**DAY 3> SPECIAL TRANSFUSION SITUATIONS – MATERNAL, PERIOPERATIVE BLEEDING ASSESSMENT, SICKLE CELL DISEASE – January 22, 2021**

**Start time**

9:00	Dr. Nadine Shehata	Alloimmunization & Anemia in Pregnancy (30 minutes)
9:30	Dr. Zachary Liederman	Bleeding Assessment & Approach to INR/PTT (45 minutes)
10:15		<b>Break</b> (15 minutes)
10:30	Dr. Zachary Liederman	Seminar 3A: Perioperative Bleeding Assessment (90 minutes)
12:00		<b>Lunch</b> (60 minutes)
13:00	Dr. Jacob Pendergrast	Sickle Cell Disease (60 minutes)
14:00		<b>Break</b> (15 minutes)
14:15	Dr. Jacob Pendergrast	Seminar 3B: SCD & Transfusion (105 minutes)

**DAY 4> PATIENT BLOOD MANAGEMENT, CONSERVATION AND COMPLEX HEMOSTASIS – March 26, 2021**

**Start time**

9:00	Dr. Yulia Lin	Pre-operative Patient Blood Management (45 minutes)
9:45	Dr. Keyvan Karkouti	Intra-op Patient Blood Management: Tranexamic Acid; Salvage and Triggers (45 minutes)
10:30		<b>Break</b> (15 minutes)
10:45	Dr. Yulia Lin	Seminar 4A: Patient Blood Management (90 minutes)
12:15		<b>Lunch</b> (45 minutes)
13:00	Dr. Michelle Sholzberg	Congenital Coag – VWD, Hemophilia (35 minutes)
13:35	Dr. Rita Selby	Reversal of antiplatelets & direct anticoagulants (40 minutes)
14:15		<b>Break</b> (15 minutes)
14:30	Dr. Nadine Shehata	Seminar 4B: Advanced Hemostasis Testing & Management (90 minutes)

**DAY 5> TRAUMA, MASSIVE TRANSFUSION PROTOCOLS & CONTROVERSIAL ENTITIES – May 28, 2021**

**Start time**

9:00	Dr. Jeannie Callum	Massive Hemorrhage: Pathophysiology & Evidence based management (60 minutes)
10:00	Dr. Katerina Pavenski	Massive Hemorrhage Protocols: Real World Application (45 minutes)
10:45		<b>Break</b> (15 minutes)
11:00	Dr. Jacob Pendergrast	Seminar 5A: Massive, Disaster Bleeding Cases (90 minutes)
12:30		<b>Lunch</b> (30 minutes)
13:00	Dr. Justyna Bartoszko	Albumin (45 minutes)
13:45	Dr. Aditi Khandelwal	New updates in Transfusion (35 minutes)
14:20		<b>Break</b> (10 minutes)
14:30	Dr. Yulia Lin	Ask the Experts: Q&A (45 minutes)
	Delivered electronically	Post-Course Exam (30 minutes)



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