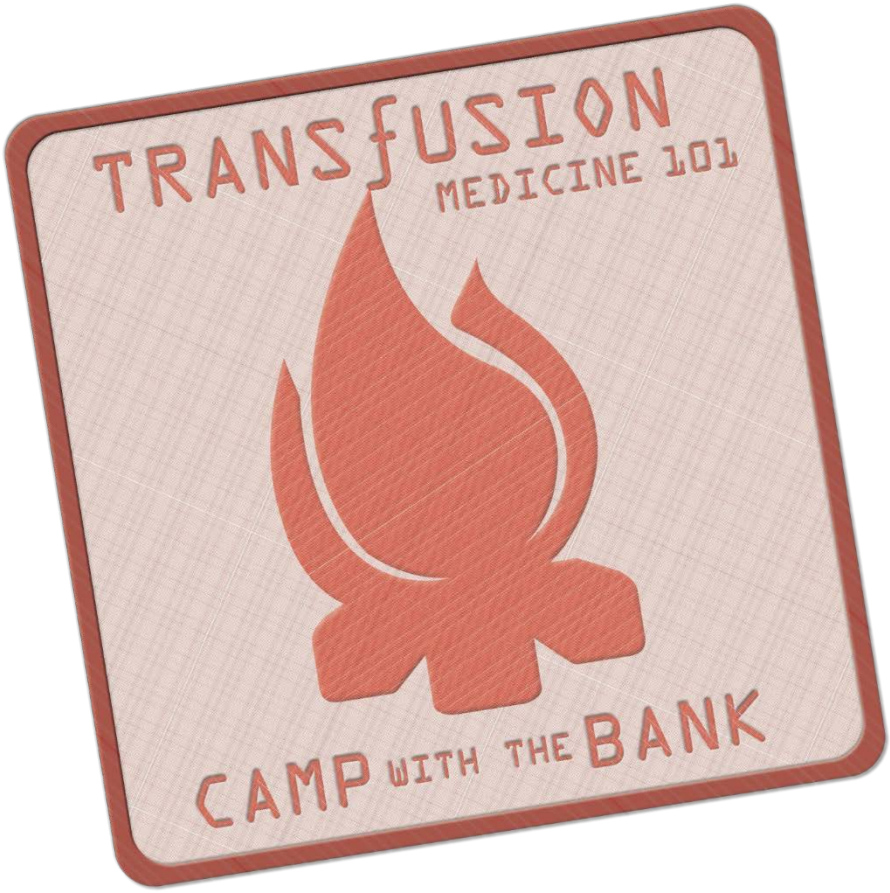


# University of Toronto Transfusion Camp

## 2021-2022

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:** Guys Hospital & St. Thomas Hospital (U.K.), University Hospitals Birmingham NHS Foundation Trust (U.K.), University of Oxford (U.K.)

# UNIVERSITY OF TORONTO TRANSFUSION CAMP 2021-2022 CURRICULUM

LEARNING OBJECTIVES

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

## INDICATIONS FOR BLOOD COMPONENTS

1. Appropriately prescribe components (RBC, plasma, platelets, and fibrinogen replacement)
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 BLOOD PRODUCTS

12. Appropriately prescribe plasma protein 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 components
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 & EXPECTATIONS

## 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 may also provide appropriate refreshments at breaks, depending on location and circumstances.

COURSE INFO

# COURSE INFORMATION

## FORMAT

- Content is delivered over 5 days (see schedule below) from September 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) depending on local preferences and circumstances.
- Trainees attend team-based learning seminars in groups in person at their local sites or virtually, depending on local preferences and circumstances.

## LOCATIONS

Locations for trainees to attend the course will depend on the format chosen by their university program. The university program administrator will communicate to their trainees the chosen format (live, live remotely or post-live) and the locations and dates for the events. The trainee Transfusion Camp Course portal (hosted at https://profedu.blood.ca) also provides the Course dates and locations for all participating university programs.

## MATERIAL & CERTIFICATION

Trainees will be provided with:

1. Access to a Course portal for resources: including course program and schedule; pre-reading publications; lectures’ slide presentations, recordings and highlights; seminars’ case studies and guide.
2. 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

# COURSE PROGRAM & SCHEDULE FOR "LIVE" ATTENDANCE 2021-2022 CURRICULUM

**DAY 1> BLOOD COMPONENTS & PRODUCTS INDICATIONS & ADMINISTRATION – September 17, 2021**

| **Start time (EST)** | | |
|---|---|---|
| | On Your Own | Pre-Course Exam provided via email and administered via online survey tool (30 minutes) |
| 9:00 | Dr. Jeannie Callum | Red Cell Transfusion (45 minutes) |
| 9:45 | Dr. Katerina Pavenski | Platelet Transfusion (45 minutes) |
| 10:30 | | **Break** (15 minutes) |
| 10:45 | Dr. Yulia Lin | Basic Blood Bank Testing (30 minutes) |
| 11:15 | Facilitated Seminar 1A | RBC & Platelet Transfusion Cases, developed by Dr. Katerina Pavenski (75 minutes) |
| 12:30 | | **Lunch** (45 minutes) |
| 13:15 | Dr. Lani Lieberman | Neonatal & Pediatric Transfusion (30 minutes) |
| 13:45 | Dr. Aditi Khandelwal | Plasma, PCC & Fibrinogen replacement (60 minutes) |
| 14:45 | | **Break** (15 minutes) |
| 15:00 | Facilitated Seminar 1B | Plasma, PCC & Fibrinogen Cases, developed by Dr. Aditi Khandelwal (75 minutes) |

**DAY 2> COMPLICATIONS: COMPATIBILITY, ACUTE & LONG TERM TRANSFUSION RISKS & ERRORS – November 19, 2021**

| **Start time (EST)** | | |
|---|---|---|
| 9:00 | Dr. Katerina Pavenski | Informed Consent (30 minutes) |
| 9:30 | Dr. Steven Drews | Acute & Delayed Transfusion Transmitted Infections (30 minutes) |
| 10:00 | | **Break** (15 minutes) |
| 10:15 | Dr. Cserti-Gazdewich | Acute Non-Infectious Reactions (45 minutes) |
| 11:00 | Facilitated Seminar 2A | Labile Component Reactions, developed by Dr. Christine Cserti-Gazdewich (90 minutes) |
| 12:30 | | **Lunch (non-Québec sites)** (60 minutes) |
| | Dr. Nancy Robitaille | Virtual Héma-Québec tour **(Québec sites)** (30 minutes) |
| 13:00 | | **Lunch (Québec sites)** (60 minutes) |
| 13:30 | Dr. Michelle Zeller | Virtual Canadian Blood Services tour **(non-Québec sites)** (30 min) |
| 14:00 | Dr. Waseem Anani | Delayed Non-Infectious Reactions (30 minutes) |
| 14:30 | | **Break** (15 minutes) |
| 14:45 | Facilitated Seminar 2B | "Delayed or Derivative" Transfusion Reactions, developed by Dr. Akash Gupta (90 minutes) |

COURSE SCHEDULE...

**DAY 3> SPECIAL TRANSFUSION SITUATIONS – MATERNAL, PERIOPERATIVE BLEEDING ASSESSMENT, SICKLE CELL DISEASE – January 21, 2022**

| Start time (EST) | | |
|---|---|---|
| 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 | | **Break** (15 minutes) |
| 10:30 | Facilitated Seminar 3A | Perioperative Bleeding Assessment, developed by Dr. Zachary Liederman (90 minutes) |
| 12:00 | | **Lunch** (60 minutes) |
| 13:00 | Dr. Jacob Pendergrast | Sickle Cell Disease (60 minutes) |
| 14:00 | | **Break** (15 minutes) |
| 14:15 | Facilitated Seminar 3B | SCD & Transfusion, developed by Dr. Jacob Pendergrast (105 minutes) |

**DAY 4> PATIENT BLOOD MANAGEMENT, CONSERVATION AND COMPLEX HEMOSTASIS – March 25, 2022**

| Start time (EST) | | |
|---|---|---|
| 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 | | **Break** (15 minutes) |
| 10:45 | Facilitated Seminar 4A | Patient Blood Management, developed by Dr. Yulia Lin (90 minutes) |
| 12:15 | | **Lunch** (45 minutes) |
| 13:00 | Dr. Natasha Rupani | Congenital Coag – VWD, Hemophilia (35 minutes) |
| 13:35 | Dr. Carolyne Elbaz | Reversal of antiplatelets & direct anticoagulants (40 minutes) |
| 14:15 | | **Break** (15 minutes) |
| 14:30 | Facilitated Seminar 4B | Advanced Hemostasis Testing & Management, developed by Dr. Eric Tseng (90 minutes) |

**DAY 5> TRAUMA, MASSIVE TRANSFUSION PROTOCOLS & CONTROVERSIAL ENTITIES – May 13, 2022**

| Start time (EST) | | |
|---|---|---|
| 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 | | **Break** (15 minutes) |
| 11:00 | Facilitated Seminar 5A | Massive, Disaster Bleeding Cases, developed by Dr. Jeannie Callum (90 minutes) |
| 12:30 | | **Lunch** (30 minutes) |
| 13:00 | Dr. Justyna Bartoszko | Albumin (45 minutes) |
| 13:45 | To be determined | New updates in Transfusion (35 minutes) |
| 14:20 | | **Break** (15 minutes) |
| 14:30 | Panel | Ask the Experts: Q&A (45 minutes) |
| | On your Own | Post-Course Exam - online (30 minutes) |

# FACULTY & PARTNERS

**Dr. Waseem Anani**
*Canadian Blood Services*

**Dr. Justyna Bartoszko**
*University Health Network*

**Dr. Jeannie Callum**
*Kingston General Hospital*

**Dr. Christine Cserti-Gazdewich**
*University Health Network*

**Dr. Steven Drews**
*Canadian Blood Services*

**Dr. Carolyne Elbaz**
*McGill University*

**Dr. Akash Gupta**
*Sunnybrook Health Sciences Centre*

**Dr. Keyvan Karkouti**
*University Health Network*

**Dr. Christie Lee**
*Sinai Health*

**Dr. Aditi Khandelwal**
*Canadian Blood Services*

**Dr. Lani Lieberman**
*University Health Network*

**Dr. Zachary Liederman**
*University Health Network*

**Dr. Yulia Lin**
*Sunnybrook Health Sciences Centre*

**Dr. Katerina Pavenski**
*Unity Health*

**Dr. Jacob Pendergrast**
*University Health Network*

**Dr. Paolo Perez-D'Empaire**
*Sunnybrook Health Sciences Centre*

**Dr. Nancy Robitaille**
*Héma-Québec*

**Dr. Natasha Rupani**
*University of Toronto*

**Dr. Michael Scott**
*Sunnybrook Health Sciences Centre*

**Dr. Nadine Shehata**
*Sinai Health*

**Dr. Eric Tseng**
*Unity Health*

**Dr. Michelle Zeller**
*Canadian Blood Services*

ST. JOSEPH'S · ST. MICHAEL'S · PROVIDENCE UNITY HEALTH TORONTO

Sunnybrook HEALTH SCIENCES CENTRE

Laboratory Medicine & Pathobiology UNIVERSITY OF TORONTO

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Canadian Blood Services BLOOD PLASMA STEM CELLS ORGANS & TISSUES

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