The American Red Cross offers regular educational opportunities as a convenient way for healthcare providers to receive relevant blood banking and transfusion medicine information. The bi-monthly sessions, presented via WebEx webinars, are recorded and posted on our SUCCESS® website. To access this content, click on the Webinar Series link on the SUCCESS home page.

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CURRENT COURSE OFFERINGS

**ADMINISTRATION OF BLOOD COMPONENTS**

**Blood Administration in the Hospital Setting: Adults** *(presented 10/18/2018)*
- Identify the constituents of blood and the indication for use, including specialized component preparations.
- Review nursing and laboratory responsibilities to provide safe administration for blood components, including equipment used, patient preparation, and proper documentation.
- Discuss signs and symptoms of a transfusion reaction and describe initial patient management procedures to follow when a reaction is suspected.

**Blood Administration in the Hospital Setting: Informed Consent** *(presented 7/19/2018)*
- Recognize the regulatory and accreditation agencies that provide oversight for informed consent.
- Identify the elements of an informed consent required by regulatory and accreditation agencies.
- Determine if it is necessary to develop audits for the informed consent process.

**Transfusion Management in Sickle Cell Patients** *(presented 4/19/2018)*
- Discuss the history, pathophysiology, and common laboratory findings in a patient with sickle cell disease.
- Identify clinical presentations of sickle cell disease.
- Review considerations for Transfusion management in sickle cell patients.

**ADVERSE REACTIONS TO TRANSFUSION**

**Adverse Reaction Case Studies: Boxed in OR Out of the Box** *(presented 5/3/2018)*
- Identify signs and symptoms associated with both common and rare adverse events that may be related to transfusion.
- Assess information presented in the case studies and choose additional processes to aid in recognition of the adverse event.
- Integrate the information received from the evaluation to recognize the type of adverse event.

**Adverse Reactions to Transfusion: Case Studies** *(presented 11/2/2017)*
- Identify signs and symptoms associated with both common and rare adverse events that may be related to transfusion.
- Assess information presented in the case studies and choose additional processes to aid in recognition of the adverse event.
- Integrate the information received from the evaluation to recognize the type of adverse event.

**Adverse Reactions to Transfusion: Descriptions and Risks** *(presented 3/15/2018)*
- List the 5 types of adverse reactions to transfusion with the highest number of reported transfusion related fatalities.
- Recognize the difference between acute and delayed adverse reactions upon onset of symptoms.
- Identify signs and symptoms associated with both common and rare adverse events that may be related to transfusion.

**Adverse Reactions to Transfusion: Laboratory Investigation Part 1** *(presented 5/4/2017)*
- Utilize the CDC biovigilance/hemovigilance module’s standard terminology and definitions to manage adverse reactions to transfusion.
- Identify ways to manage a patient suspected of having an adverse reaction to transfusion and immediate steps the laboratory should perform when an adverse reaction to transfusion is suspected.
- List reporting requirements in the event of an adverse transfusion reaction.
ADVERSE REACTIONS TO TRANSFUSION (CONT’D)

Adverse Reactions to Transfusion: Laboratory Investigation Part 2 (presented 5/18/2017)
- Utilize the CDC biovigilance/hemovigilance module’s standard terminology and definitions to manage adverse reactions to transfusion.
- Identify ways the laboratory can perform an extended investigation and the pathologist’s involvement in this investigation.
- List reporting requirements in the event of an adverse transfusion reaction.

Adverse Reactions to Transfusion: Recognition and Management (presented 10/19/2017)
- Explain steps to prevent or limit the severity of adverse reactions to transfusion.
- Recognize the importance of patient safety goals for identification of patients, patient samples and blood products.
- Identify signs and symptoms associated with common and rare adverse events and summarize steps to take in the event of a suspected adverse reaction.

Adverse Reactions to Transfusion: TACO/TRALI (presented 2/16/2017)
- Review the historical perspective and background of TRALI and TACO including definition of both.
- Identify mechanisms of action, management, outcomes and prevention of both TRALI and TACO.

TACO and TRALI Revisited (presented 11/15/2018)
- Distinguish the features of TACO and TRALI.
- Describe the recent regulatory requirements, pertaining to TRALI, surrounding the collection of blood products.

Transfusion Reactions: A Horse and Two Zebras (presented 5/17/2018)
- Identify signs and symptoms associated with an adverse transfusion event.
- Assess information presented in the case studies and choose additional processes to aid in management of the adverse event.
- Identify steps all personnel take when involved in an adverse reaction investigation (focusing on laboratory, nursing, and physician).

ALL CASE STUDIES

2017 Case Studies from the Connecticut IRL (presented 12/7/2017)
- Examine an in-depth view of patient workups performed at a Reference Laboratory.
- Discuss various techniques used for antibody identification.
- Develop enhanced knowledge of complex immunohematologic problems.

Adventures in Perinatal and Pediatric Transfusion (presented 1/5/2017)
- Identify communication challenges in your own practice; improve verbal and written communication with clinicians.
- Select RBCs for intrauterine transfusion and prioritize certain characteristics.
- Interpret elutions and effectively communicate the interpretation to clinicians and state the indications for thermal amplitude testing.

Adverse Reaction Case Studies: Boxed in OR Out of the Box (presented 5/3/2018)
- Identify signs and symptoms associated with both common and rare adverse events that may be related to transfusion.
- Assess information presented in the case studies and choose additional processes to aid in recognition of the adverse event.
- Integrate the information received from the evaluation to recognize the type of adverse event.

Adverse Reactions to Transfusion: Case Studies (presented 11/2/2017)
- Identify signs and symptoms associated with both common and rare adverse events that may be related to transfusion.
- Assess information presented in the case studies and choose additional processes to aid in recognition of the adverse event.
- Integrate the information received from the evaluation to recognize the type of adverse event.

Basic Blood Bank Serology Case Studies (presented 7/5/2018)
- Apply blood bank knowledge by utilizing case studies to illustrate problem-solving approaches.
- Apply problem-solving strategies learned during case study review.

- Give examples of different testing techniques used to resolve complex antibody identifications.
- Describe the purpose of a monocyte monolayer assay.
- Define high incidence antigen and give an example.
ALL CASE STUDIES (CONT’D)

Case Studies (presented 10/5/2017)
- Apply blood bank knowledge and utilize testing results to resolve patient work-ups.
- Recognize that hasty conclusions made during preliminary testing are not always consistent with final results.

Multiple Antibodies: A case study from the South Carolina IRL (presented 9/6/2018)
- Identify different testing techniques to resolve complex antibody identifications.
- Recognize the significance of molecular testing in resolving complex cases in the IRL.

Multiples, High Frequency, and a Cold: Oh My! (presented 3/2/2017)
- Verbalize the importance of a patient history and be able to correlate history with diagnosis.
- Differentiate the high frequency antigens in the Duffy Blood Group System.
- List three different techniques used when working with a cold reactive antibody.
- Discuss the role of molecular genotype testing in complex serological work.

What the heck is it? Case studies demonstrating passive antibodies and therapeutic agents. (presented 10/4/2018)
- Explain the common drugs used in the treatment of coagulation issues.
- Define the term ‘passive antibodies’.
- List examples of passive antibodies and describe how they can be identified.

What’s Your Type (ABO Discrepancy Case Studies) (presented 11/1/2018)
- Recognize ABO subgroups and the possible causes of an ABO discrepancy
- Understand transfusion recommendations for an ABO typing discrepancy

ANTIBODY DETECTION AND IDENTIFICATION

Warm Autoantibodies (presented 3/16/2017)
- Define warm autoantibody and the serologic characteristics observed in the presence of a warm autoantibody.
- Discuss serologic techniques used and testing performed in warm autoantibody investigation.
- Review case studies to apply techniques utilized.

BLOOD COMPONENTS AND TRANSFUSION THERAPY

Hemoglobin-Based Oxygen Carriers: An Update (presented 09/21/2017)
- Introduction to oxygen carriers (OCs):
  - History
  - Rationale for use and development
- Types, with a focus on hemoglobin-based oxygen carriers (HBOCs).
- Describe situations where HBOCs would work best.
- Unlicensed HBOCs currently available:
  - Clinical trials and cases
  - How to obtain expanded access

Review of Cold-Store Platelet Physiology (presented 9/6/2018)
- Review platelet physiology and pathophysiology.
- Review cold-stored platelet in-vitro, in-vivo, and clinical data.
- Describe cold-stored platelets in Platelet Additive Solution (PAS).

Uncommon Requests for Specialized Non-Red Cell Products (presented 09/07/2017)
- Define what levels constitute the need for specialized non-red cell products.
- Define the consequences of IgA deficiency and Fetal/Neonatal Alloimmune Thrombocytopenia.
- Understand blood products used for either condition.

BLOOD GROUPS

The Kell Blood Group System (presented 3/1/2018)
- Differentiate the genetics and biochemistry of normal Kell, K0 and the McLeod phenotype.
- Describe the immunogenicity of the Kell system antibodies and the role they play in HDFN.
- Identify other antigens/phenotype that can suppress the expression of the Kell system antigens.
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<tr>
<th><strong>BLOOD UTILIZATION OR PBM</strong></th>
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<tr>
<td><strong>A Clinical Tool for Transfusion Therapy: The American Red Cross Compendium of Transfusion Practice Guidelines, 3rd Edition</strong> <em>(presented 1/26/2017)</em></td>
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| ▪ Review contents of the 3rd edition of the ARC Compendium to develop familiarity with information relevant to transfusion practice.  
▪ Identify and discuss new educational content of the Compendium.  
▪ Discuss selected transfusion topics, based on recent publications and/or guidelines. |
| **Inventory Management** *(presented 6/15/2017)* |
| ▪ Define inventory management.  
▪ Recognize how to set and assess facility-specific inventory levels and how to calculate optimum inventory, including determination of minimum and maximum inventory levels.  
▪ Understand shift in product demand; review (or write) a blood substitution policy for use in shortages, patient blood management, and quality review of inventory. |
| **Massive Transfusion and the Role of Plasma Components: Thawed vs. Liquid Plasma** *(presented 8/16/2018)* |
| ▪ Discuss the definition and purpose of a massive transfusion protocol (MTP).  
▪ Discuss damage control resuscitation and the role of plasma components.  
▪ Describe plasma components and current evidence-based guidelines on plasma use. |
| **COAGULATION FACTORS** |
| **Coagulation Disorders** *(presented 3/2/2017)* |
| ▪ Describe the clinical presentation and laboratory findings of primary and secondary coagulation disorders.  
▪ Differentiate the pathophysiology and diagnostic approaches to coagulation disorders.  
▪ Summarize updated guidelines on HIT. |
| **Practical Coagulation for the Blood Banker** *(presented 10/4/2018)* |
| ▪ Outline the parts of general coagulation and describe a blood banker’s role as a coagulation consultant.  
▪ Summarize the common coagulation tests and explain thrombin’s role in clot formation.  
▪ Explain the common drugs used in the treatment of coagulation issues. |
| **INFECTIOUS DISEASES** |
| **Bacteria, Babesia & (Other) Bugs: Recent regulatory Changes and an update on Select Infectious Agents** *(presented 9/20/2018)* |
| ▪ Discuss the spread of certain insect-borne, transfusion-transmitted infectious agents across the USA in 2018.  
▪ Describe the regulatory guidances released in the past year for Babesia and Zika Virus, and what’s being considered to lessen the risks of transfusion-transmitted sepsis from platelets. |
| **Zika Virus** *(presented 2/16/2017)* |
| ▪ Describe the epidemiology, clinical presentations, diagnosis, and complications of Zika virus infection.  
▪ Explain the risk Zika virus poses to the blood supply and the mitigation strategies being recommended by regulatory agencies.  
▪ Discuss the result of investigational blood donor testing for Zika virus. |
| **MOLECULAR BIOLOGY** |
| **How Molecular Methods Can Resolve Typing Discrepancies** *(presented 01/03/2019)* |
| ▪ Recognize the different types of discrepancies, involving different samples, methods and reagents.  
▪ Understand how antigen typing discrepancies can be due to antigen density, antigen variants, and limitations of both serologic and molecular methods.  
▪ Understand how molecular methods can be used to resolve discrepancies. |
| **Update on the Use of RHD Genotyping in Serologic Weak D** *(presented 10/05/2017)* |
| ▪ Describe how serologic weak D reactivity can be explained by genetic variation in the RHD gene.  
▪ Recognize when RHD genotyping can be useful to resolve D typing discrepancies and to inform about risk of alloimmunization by transfusion or pregnancy.  
▪ Review the approach used by a major medical center blood bank to identify samples for RHD genotyping and the result of such testing. |
OBSTETRICS, PRENATAL, AND NEONATAL TRANSFUSION

The Blood Bank and Unexpected Obstetric Hemorrhages (presented 12/7/2017)
- Discuss the unique pathophysiology of obstetric hemorrhages via case study and literature.
- Discuss the role of fibrinogen and tranexamic acid in resuscitation.

Transfusion of Neonatal Patients (presented 2/15/2018)
- Review transfusion indications for the neonate.
- Describe appropriate product selection and modification for neonatal transfusions.
- Discuss the management of hemolytic disease of the fetus/newborn and neonatal alloimmune thrombocytopenia.

REGULATORY AND ACCREDITATION

It's an Assessment NOT an Inquisition (presented 4/5/2018)
- Recognize the significant changes to the 31st edition of the BBTS Standards.
- Understand ways to stay prepared for unannounced assessments.
- Understand common non-conformances and how they may be prevented.

Market Withdrawals and Lookback/Traceback (presented 8/17/2017)
- Review the types of blood component consignee notification letters; product under investigation, market withdrawals and recalls.
- Explain the purpose of the requests and the actions that should be taken by the consignee.
- Review the specific requirements for recipient tracing and notification for lookbacks/tracebacks.
- Discuss How to Manage Recalls, Withdrawals, and Lookbacks/Tracebacks in the Transfusion Service.

Tissues: Regulation, Management and Monitoring (presented 12/6/2018)
- Define conditions when a CA state license or an FDA registration/license is required.
- Discuss the AATB, TJC standards and how are they applied to hospital laboratory or physician office settings.
- Identify several FDA human cells, tissue, and cellular and tissue-based product (HCT/P) categories of regulated tissue.

Transfusion Medicine Checklists and Challenges (presented 4/6/2017)
- Understand the most common 2016 checklist deficiencies cited for the laboratory General, All Common, and Transfusion Medicine checklists.
- Recognize current checklist challenge and ways to meet the various existing requirements.
- Familiarize self with the new 2016 checklist updates.

THERAPEUTIC APHERESIS

Hemolytic Anemias – Understanding the pathophysiology and differential diagnosis of these complex anemias (presented 4/20/2017)
- Describe the pathophysiology of intravascular vs. extravascular hemolysis.
- Identify key difference between Compliment Mediated Hemolytic Uremic Syndrome (aHUS) and Thrombotic Thrombocytopenia Purpura (TTP).
- Recognize the updated 2016 ASFA guideline changes to the classification and recommendations for plasma exchange in thrombotic microangiopathies.

TRANSFUSION SERVICE TESTS & PROCEDURES

Basic Blood Bank Serology (presented 6/21/2018)
- Review requirements for pretransfusion testing.
- Recognize protocols used in red cell antibody identification, including reagents and testing platforms.
- Understand the basic theory of ABO, Rh, DAT, antibody screen and crossmatch testing.

HLA, Playing with Matches (presented 12/21/2017)
- Have a better understanding of less desirable matches.
- Understand when to order cross-matches platelets.
- Better understand the complexities of a highly allo-immunized patient.

- Understand what monoclonal therapies are.
- Recognize the effect of monoclonal therapy medications on serological testing.
- Utilize a case study to review serological investigation of a patient receiving monoclonal therapy medication.
Rh Immune Globulin (RhIG). One size does NOT fit all. (presented 2/1/2018)
- Review Rh prophylaxis and prevention of RhD immunization.
- Describe preparation and administration of Rh prophylaxis.
- Describe challenges of typing for RhD by serologic methods.
- Understand what is expected from each accrediting organization regarding recommendations, interpretations, and requirements.

The Sickle Cell Crisis: Motivators and Barriers of African-American Donors (presented 12/6/2018)
- Define what is Sickle Cell Disease.
- Describe why the need for African-Americans to donate blood is important for treatment of patients with Sickle Cell Disease (SCD).
- Recognize barriers and motivations for blood donations by the African-American population.

Stem Cell Therapy and the American Red Cross (presented 12/20/2018)
- Define stem cells and how stem cell transplantation supports cancer care.
- Review the different stem cell programs within the American Red Cross.

Warm Autoantibodies (presented 3/16/2017)
- Define warm autoantibody and the serologic characteristics observed in the presence of a warm autoantibody.
- Discuss serologic techniques used and testing performed in warm autoantibody investigation.
- Review case studies to apply techniques utilized.

If you have any questions or comments on these postings, please contact our hospital education coordinator via email at hospitaleducationcoordinator@redcross.org.