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 2/4/2016)*
- Recognize the importance of meeting patient safety goals in regard to identification of patients, patient samples, and blood components.
- Describe both nursing and laboratory responsibilities in the safe administration of blood components.
- Identify the appropriate equipment to use for both routine and emergent transfusion scenarios.

**Blood Administration: Informed Consent** *(presented 1/7/2016)*
- 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.

**Massive Transfusion: A Protocol for Bleeding and Non-Bleeding Patients** *(presented 5/5/2016)*
- Discuss basics of massive transfusions.
- Discuss “empiric” versus “tailored” approach to massive transfusions.
- Discuss massive transfusion protocols that cover bleeding and non-bleeding patients.

**Preoperative Anemia** *(presented 1/28/2016)*
- Describe the incidence of preoperative anemia.
- Identify populations at risk for preoperative anemia.
- Become familiar with pathophysiology of anemia of chronic disease, the evaluation of a patient for anemia preoperatively, and treatment options for preoperative anemia.

**Transfusion Management in Sickle Cell Patients** *(presented 8/4/2016)*
- 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.

**Visual Inspection of Blood Products** *(presented 7/21/2016)*
- Identify steps in performing visual inspection of all blood products.
- Recognize causes of bacterial contamination in blood products, including a review of the AABB bulletin concerning investigation of possible bacterial contamination of platelets.
- Identify common characteristics of a septic transfusion reaction.
ADVERSE REACTIONS TO TRANSFUSION

**Adverse Reactions to Transfusion: Descriptions and Risks (presented 7/7/2016)**
- List the five 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: 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.

ALL CASE STUDIES

**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.

- 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.

**Case Studies (presented 6/16/2016)**
- 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.

**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.

ANTIBODY DETECTION AND IDENTIFICATION

**Antibody Detection and Identification (presented 5/21/2015)**
- Identify pre-analytical considerations for antibody identification.
- Describe possible testing options to determine antibody specificity (given the results of an antibody panel).
- List limitations of performing a red blood cell phenotype and suggest solutions to overcome those limitations.

**Clinical Management of the Serological Interference by DARA (presented 3/3/2016)**
- Explain the clinical benefits of DARA in treating multiple myeloma patients.
- Explain how DARA interferes with pretransfusion testing.
- Identify and apply various mitigation techniques used to remove the interference of DARA in pretransfusion testing.

**Importance of Drug History when Attempting a Serologic Workup (presented 3/3/2016)**
- Recognize drugs that are most likely to influence serologic testing.
- Characterize the mechanism of Daratumumab (DARA) interference and know the appropriate testing alternatives that can be performed or ordered when patients are on the drug.
- Summarize a drug history that can aid in testing and interpretation of results.

**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

Blood Components and Transfusion Therapy (presented 5/19/2016)
- Discuss the testing procedures involved in donor processing, including anticoagulant solution and infectious disease testing performed.
- Identify blood components, their main function, and indications for transfusion for: red blood cells, platelets, plasma, cryoprecipitate, and granulocytes.
- Classify 'specialized' components that may be requested or required for transfusion.

Platelet Transfusions: Managing the Platelet Refractory Patient, ABO Compatible, Crossmatched, HLA matched, PAS Platelets (presented 11/3/2016)
- Identify the mechanisms of platelet refractoriness, including recognition and management of patient refractoriness to platelet transfusion.
- Describe new platelet products, including platelets with additive solutions, PAS Platelets and pathogen reduced platelets.

Practical Use of Platelet Antibody Testing and Matched Platelets (presented 10/20/2016)
- Utilize case studies to demonstrate platelet antibody testing and use of specialized platelet products.
- Recognize the basics of platelet testing: what can be learned and when to order tests.
- Understand platelet testing results to help decide if matched platelets are clinically useful and which platelet product should be ordered.

BLOOD GROUPS

Clinical Importance of Rh System Variants in Patients and Donors (presented 12/1/2016)
- Understand and describe disease caused by or associated with Rh blood group variation, particularly in obstetrics.
- Determine when to refer patients for high resolution molecular characterization of the Rh system, particularly for RhD.

RH Blood Group System (presented 2/18/2016)
- Discuss the history and importance of the Rh system including Rh genes, biochemistry, and antigen development.
- Review antigens of the Rh system (including phenotype, genotype, and nomenclature) and the associated clinical significance of Rh alloantibodies.
- Define AABB standards for Rh(D) typing in donors, transfusion candidates and obstetric patients.

RhD Genotyping – Resolving Discrepancies and Assessing Risk (presented 12/1/2016)
- 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.

Serologic Detection of Weak and Partial D - What Does it Mean for Patients and Donors (presented 3/17/2016)
- Participants will gain knowledge to evaluate clinical situations involving weak or partial D types.
- Be able to associate literature review on transfusion of selected antigen negative blood to apply to transfusion decisions and recognize and classify results that require further study.

BLOOD UTILIZATION OR PBM

A Clinical Tool for Transfusion Therapy: The American Red Cross Compendium of Transfusion Practice Guidelines, 3rd Edition (presented 1/26/2017)
- 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.

Indications for Blood Component Transfusion (presented 6/2/2016)
- Review indications for transfusion of:
  - Red blood cells (RBCs)
  - Plasma
  - Platelets

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.
### INFECTIOUS DISEASES

**Hemorrhagic Fevers and Other Emerging Infectious Threats** *(presented 3/5/2015)*
- Define and characterize the hemorrhagic diseases and other infectious agents currently affecting transfusion medicine.
- Describe the currently accepted testing and transfusion strategies for afflicted patients.
- Identify the potential infectious threats on the horizon that have potential to impact transfusion medicine.

**Zika Update** *(presented 3/3/2016)*
- Reviews the characteristics of the Zika virus, including description, vectors, transmission, symptoms, prevention and protection of the blood supply.

**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

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- Understand and describe disease caused by or associated with Rh blood group variation, particularly in obstetrics.
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**RhD Genotyping – Resolving Discrepancies and Assessing Risk** *(presented 12/1/2016)*
- 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.

**Transfusion Medicine in the Era of Personalized Genomic Medicine** *(presented 4/7/2016)*
- Understand how genetic variation can determine quantitative and qualitative antigen expression.
- Understand how molecular methods can be used to predict antigen expression.
- Know when molecular immunohematology testing can improve transfusion medicine practice and more personalized patient care.

### REGULATORY AND ACCREDITATION

**Ask the Experts** *(presented 12/1/2016)*
- Understand what is expected from each accrediting organization in regards to recommendations, interpretations, and requirements.

**Ask the Experts: Question and Answer with Blood Bank Inspectors** *(presented 10/6/2016)*
- Understand what is expected from each accrediting organization in regards to recommendations, interpretations, and requirements.
- Ask questions specific to local inspections by any of the represented organizations.

**ISBT Terminology** *(presented 12/15/2016)*
- Review ISBT Terminology
- Apply ISBT terminology for recording blood group antigens
- Describe other correct terminology used in blood bank

**The Role of the Transfusion Safety Officer in Transfusion Medicine** *(presented 10/6/2016)*
- Identify development and implementation strategies for a transfusion safety officer role – including experience and skills to consider when seeking a candidate AND training and support of the role.
- Recognize the impact and responsibilities of the transfusion safety officer role in a patient blood management program.

**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**

*Platelet Transfusions: Managing the Platelet Refractory Patient, ABO Compatible, Crossmatched, HLA Matched and PAS Platelets (presented 11/3/2016)*

- Identify the mechanisms of platelet refractoriness, including recognition and management of patient refractoriness to platelet transfusion.
- Describe new platelet products, including platelets with additive solutions, PAS Platelets and pathogen reduced platelets.

*Practical Use of Platelet Antibody Testing and Matched Platelets (presented 10/20/2016)*

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- Understand platelet testing results to help decide if matched platelets are clinically useful and which platelet product should be ordered.

*Prenatal Testing and Requirements (presented 10/6/2016)*

- Differentiate clinically significant and insignificant antibodies in prenatal patients.
- Describe detection and monitoring techniques for clinically significant antibodies in prenatal patients.

*Rh Immune Globulin (RhiG). One size does not fit all. (presented 10/6/2016)*

- Overview of Rh prophylaxis and prevention of RhD immunization.
- Describe preparation and administration of Rh prophylaxis.
- Define current CAP recommendation for OB patients with weak or variable RhD typing.
- Describe challenges of typing for RhD by serologic methods.

*Transfusion Management of the Sickle Cell Disease Patient (presented 8/18/2016)*

- Evaluate data supporting the value of providing phenotypically matched red cells, including the antigen frequencies of commonly requested antigen negative red cell components.
- Indicate strategies for providing antigen negative blood for sickle cell patients.

*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.