



# OHIO ASSOCIATION OF BLOOD BANKS



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## *From The OABB President*

I hope that everyone had a very Merry Christmas and Happy New Year. As we settle in for another Ohio winter and make our New Year's resolutions, I encourage all Ohio blood bankers to become involved in the Ohio Association of Blood Banks. This would be a great time to contribute your talents to OABB. We are currently accepting all volunteers interested in working on a committee. In the last newsletter I focused on the Education Committee. This is one of our largest committees because the members take care of our proficiency tests, the Fall Workshop, and contribute "Technical Tips" to our newsletter. This would be a great time to join this committee because many of the current members have a wealth of information to share. The committee usually meets once a year in April to plan out the year. We would especially like to hear from anyone who would consider chairing this committee. Unfortunately, we were not able to provide our annual Fall Workshop this year due to not having a chairperson.

Besides Education, there are several other smaller committees that would be glad to accept your help. Maybe you would like to help put this newsletter together four times a year. Phylis Moder would love to work with anyone looking to expand his or her interests in this area. Membership has been declining over the past few years. Cyndi Condrey is looking for ideas to turn this trend around. Maybe you have experience or a desire to learn more about the regula-

tory area of our profession. If so, Cindy Zalek will be happy to work with you. Finally, we need to continue to elect qualified Board members and officers. If you would like to guide the selection of the future leaders of this organization, Mary Schumacher would like to hear from you. Getting involved is very easy; just email your desire to help either to our Ultimate Assistant at [admin@ultimateassist.com](mailto:admin@ultimateassist.com), or to me personally at [greggw@fmchealth.org](mailto:greggw@fmchealth.org) and we will put you in contact with the committee chairperson of your choice.

I hope that everyone noticed the continuing education credit opportunity in the last newsletter. Our Past President and Secretary, Joanne Kosanke, has taken this project on to give our members opportunities to not only receive credits, but also keep our knowledge base well rounded. We hope that this will fit into the continuing education plan at your institution. The answers for the current article will be published in the following newsletter. We plan that each Continuing Education Activity to be worth 0.5 CH. This would be another area where contributions will be welcomed.

On behalf of the OABB Officers and Board Members, I wish all of you the best in this New Year.

Sincerely,

Gregg Witham, MT(ASCP)SBB  
OABB President

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### Unannounced Assessments – American Association of Blood Banks (AABB)

An AABB audioconference was held on Thursday, November 30, 2006 on Unannounced AABB Assessments. The speakers were Holly Rapp, Director, Accreditation and Quality and Judy Sullivan, Manager, Accreditation Programs. The following information was discussed during the audioconference and is taken from the handout given to the participants who were able to attend the audioconference.

There are several reasons for the unannounced assessment; to increase the public trust in the assessment process, recent General Accounting Office (GAO) report expressed concerns about the integrity of inspections where the facility receives prior notification of date. The Center for Medicare and Medicaid Services (CMS) has applied restrictions on accrediting organizations in regard to the scheduling of assessments and inspections.

The unannounced assessments begin on January 1, 2007. Seven months prior to the facility's accreditation expiration date, the facility will receive a fax and will be asked to confirm their accreditation information contact, credentials, title, email address and medical director. When AABB receives the fax back from the facility, or 6 months prior to the expiration date of the facility accreditation, AABB will update the information and a renewal packet will be sent to the accreditation contact. It was noted that the renewal packet will look different in that the forms are now color coded; yellow forms need to be completed and returned within 10 days, pink forms need to be completed and returned with the preassessment materials and green forms contain information only.

The facility will note their blackout dates on the planning form. The facility may choose 5 days in the quarter as black out dates. The planning form will also note the time that staff will be available to participate in the assessments as well as parking, security requirements, airports and hotels in the area. You will know the names of the assessment team.

Assessment/CAP coordinated assessments must occur before the AABB expiration date and/or CAP anniversary date, whichever comes first. Two examples were given:

Scenario 1: AABB second quarter (April-June), CAP Anniversary Date July 10<sup>th</sup>, 2007 - Assessment will be performed from April 1 to June 30, 2007.

Scenario 2: AABB second quarter (April-June), CAP Anniversary Date May 10<sup>th</sup>, 2007 - Assessment will be performed from April 1 to May 10<sup>th</sup>, 2007.

The most frequently asked questions about this process include the following:

- Q. Will the assessments take longer than before?
- R. Maybe because of the time it takes to gather the necessary personnel, documents. The suggestion for the assessors is to start reviewing the laboratory standard operating procedures (SOPs) while the facility is trying to gather all of the necessary information for you.
- Q. May I (the facility) communicate with the assessment team prior to the assessment?
- R. No, any questions that you have should be directed to the National Office, phone 301-215-6492 or email to [accreditation@aabb.org](mailto:accreditation@aabb.org). The accreditation staff will facilitate the communication between the facility and the assessors.
- Q. What if you, the facility, delays in submitting the preassessment materials?
- R. The preassessment materials must be submitted within the 24 hours of accepting the team. If no materials are received prior to the beginning of the quarter, the assessor will plan the assessment date anyway and plan for extra time on the facility site.
- Q. If the team shows up at an inconvenient time, can we ask them to come back another day?
- R. No, the assessors are sensitive to emergencies, staffing issues, etc.

In conclusion, the speakers noted that this will be a learning process for everyone. So, patience is a virtue and should be exercised by all parties concerned. Please continue to share ideas, experiences and concerns with the national office.

Please note that the next audioconference on this will be Thursday, January 25, 2007.

**Attention: New Addition to AABB Audioconference Series*****Unannounced Assessments Audioconference***

Thursday, November 30, 2006 (# 064594)  
2:00 pm-3:00 pm (ET) ~ 7:00 pm-8:00 pm (GMT)  
or  
Thursday, January 25, 2007 (# 074595)  
2:00 pm-3:00 pm (ET) ~ 7:00 pm-8:00 pm (GMT)

Environmental pressures have caused many accrediting organizations to move to unannounced assessments, and AABB has not been immune to these pressures. **This program will review the AABB accreditation process and describe the process changes that will occur with unannounced assessments.** Issues such as AABB/CAP coordinated assessments, blackout dates, timeframes and requirements will be discussed. Facilities will be provided with strategies and suggestions to successfully manage unannounced assessments.

**Objectives:**

- ◆ Discuss changes in accreditation processes resulting from the
- ◆ implementation of unannounced assessments
- ◆ Explain the process for managing AABB/CAP coordinated assessments
- ◆ Develop strategies for preparing and managing an unannounced AABB
- ◆ assessment

**Audience:**

Accreditation Contacts and Medical Directors of AABB Accredited Facilities

- ◆ Facilities to be assessed in 2007 should register for November 30
- ◆ Facilities to be assessed in 2008 should register for January 25

**Program Level:** Intermediate to Advanced

**Director/  
Moderator:**

**Kathleen J. Sazama, MD, JD**  
Professor, Laboratory Medicine, UT MD Anderson Cancer Center  
and Chair, Accreditation Program Committee

**Faculty:**

**Holly Rapp, MT(ASCP)SBB, CQA(ASQ)CQMgr**  
Director, Accreditation and Quality  
AABB

**Judy Sullivan, MS, MT(ASCP)SBB, CQA(ASQ)**  
Manager, Accreditation Programs  
AABB

**How to Register:**

Register online at [www.aabb.org](http://www.aabb.org)> Meetings and Events> Audioconferences

- ◆ Registration for November 30, 2006 audioconference closes on November 27
- ◆ Registration for January 25, 2007 audioconference closes on January 22

### June OABB Continuing Education Activity: Answers

#### Red Blood Cells

After reading this Continuing Education article, the participant shall be able to state

- ◆ the protein that causes progenitor cells to mature into red blood cells
- ◆ the standard for an approved preservative-anticoagulant
- ◆ a common disease state that requires transfusion above a hemoglobin level of 7.0 g/dL
- ◆ the reason leukoreduction can decrease CMV transmission
- ◆ the reason Red Blood Cells are irradiated

Questions:

1. What protein is responsible for differentiation and maturation of progenitor cells into red blood cells? For the progenitor cells to differentiate, mature, and leave the bone marrow, a protein produced by the kidney, erythropoietin, is necessary.

2. What is the required percentage of cell survival and timeframe for an approved preservative-anticoagulant? The preservative-anticoagulant must meet specific standards for maintaining the survival and function of the red blood cells throughout storage. This standard requires that 75% of the transfused donor cells are functional in the recipient 24 hours after transfusion.

3. What diagnosis is associated with a need to transfuse above the level of hemoglobin of 7.0 g/dL? When a patient has heart, lung, or cerebral vascular disease, the body cannot compensate as well, and transfusion above the level of 7.0 g/dL may be necessary.

4. Why does removing white cells from units of Red Blood Cells reduce the incidence of CMV transmission? Since CMV lives inside white cells, removal of white cells reduces CMV in a red blood cell component.

5. What cell line is affected by irradiation of Red Blood Cells to prevent graft vs host disease? Irradiation prevents the T-cells from functioning and prevents their dangerous effects.

### January OABB Continuing Education Activity: HTLA Antibodies

After reading this Continuing Education article, the participant shall be able to

- ◆ State the serologic characteristics of antibodies with high-titer, low-avidity reactivity
- ◆ State the antibodies that can be neutralized with pooled plasma
- ◆ Differentiate antibody specificities by using enzyme-treated and DTT-treated test cells.
- ◆ Identify structures where selected blood group system antigens reside
- ◆ Associate ethnic backgrounds with particular antigen-negative phenotypes

*HTLA Antibodies.* That's a bad title, because there is no antigen named high-titer, low-avidity (HTLA), and therefore no HTLA antibodies! More correctly, the title of this CE activity should be *Antibodies with High-Titer, Low-Avidity (HTLA) Reactivity.*

There are three blood group systems and a blood group collection that are associated with antibodies with HTLA reactivity. The names and ISBT symbols (in parentheses) of the blood group systems are Chido/Rodgers (CH/RG), Knops (KN), and JMh (JMh). The blood group collection is Cost (COST).

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When performing tube testing, typical HTLA reactivity gives weak reactions, usually less than 1+, with almost all panel cells. If the serum is titrated and each dilution tested with one or two test cells, the weak reactivity (low-avidity) continues to occur with diluted serum (high-titer). Testing each dilution with at least two cells has an advantage: the number of copies of antigens in the Knops system varies from person to person. If only one test cell is used, by unfortunate chance, the test cell may have a low number of copies, and dilutions of the plasma may be non-reactive. The immunohematologist concludes the antibody does not have HTLA reactivity and is off-track to identification. Interestingly, some antibodies that have historically been referred to as having HTLA reactivity don't have a high titer. When possible, antigen typing the patient's cells is included when investigating antibodies thought to be in the blood group systems listed above.

The Chido/Rodgers blood group system has six high-incidence antigens. The antigens reside on the fourth component of complement (C4) and are plasma antigens that are adsorbed onto the red blood cells. Because the antigens are present in plasma, plasma from a person who is Ch/Rg positive can be used to neutralize the antibody in the plasma of a patient with a Ch/Rg antibody.

The antigen in the plasma combines with the antibody so the antibody is no longer available to react with antigens on the red blood cells when the red blood cells are added to the test system (referred to as antibody neutralization). Neutralization studies are often used as an antibody identification technique when a patient is suspected to have an antibody with HTLA reactivity. Additionally, the use of a patient's neutralized plasma can be used to rule out antibodies to common antigens. This test method is limited to tube testing, where two drops of pooled donor plasma and two drops of patient plasma are mixed in a tube. A tube is set up for each cell to be tested, along with a set of control tubes that have 6% albumin added instead of pooled plasma. The tubes are incubated at room temperature to allow neutralization, test red blood cells are added, the tubes are incubated for 30-60 minutes at 37C, and converted to an indirect antiglobulin test. The control tubes remain reactive due to the Ch/Rg antibody, and the neutralized tubes no longer react unless an alloantibody is also present.

For antibodies that do not neutralize with pooled plasma and therefore are not Ch/Rg antibodies, another test method can be used to categorize the antibody. A solution of 0.2M DTT is used to chemically modify test cells. Antibodies with HTLA reactivity that no longer react when test cells have been treated with DTT are suspected to be in the Knops blood group system. There are many antigens in other blood group systems that can be denatured by 0.2M DTT, and whenever possible, antigen typing of the patient's cells for Knops system antigens is performed.

Often, laboratories who use 0.2M DTT-treated cells to categorize antibodies into the Knops system will also type their patient's cells for two other high-incidence antigens, Lu<sup>b</sup> and Yt<sup>a</sup>. These two high-incidence antigens are also denatured by DTT, may demonstrate HTLA reactivity, but unlike other antibodies with HTLA reactivity, may cause decreased cell survival. Kell system antigens are also denatured by DTT, so use of DTT-treated cells to rule out antibodies to common antigens is acceptable except for excluding anti-K. Since finding blood lacking K is easy (91% of donors lack K), 0.2M DTT is a useful tool, and the patient may be provided K-units.

The Knops system has four high-incidence antigens: Kn<sup>a</sup>, McC<sup>a</sup>, Sl<sup>a</sup>, and Yk<sup>a</sup>. These antigens reside on CR1. CR1 on the red blood cells is responsible for binding immune complexes and transporting them to the liver and spleen where they are removed from the circulation. Within the system, there is an ethnic difference in frequency of the Sl<sup>a</sup> antigen. In the white population, 2% are Sl(a-). In the black population, 50% are Sl(a-).

The JMH antigen is also denatured by DTT. Unlike Knops system antigens, JMH is denatured by enzymes (Ch/Rg are also denatured by enzymes). Another finding with anti-JMH is that the antibody often appears in elderly patients whose own JMH antigen is weakened. They may have a positive DAT, and in these patients the anti-JMH is an autoantibody. The location of the JMH antigen is known to be on the marker CD108, but the function of the JMH antigen (CD108) is not known.

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When antibodies are not neutralized by pooled plasma and continue to react with 0.2M DTT-treated and enzyme-treated cells, the antibodies are likely directed towards antigens in the COST collection. The location of the two antigens in the COST collection is unknown. People who are Yk(a-) are often Cs(a-), yet Cs<sup>a</sup> is not part of the Knops blood group system, since it is known that Cs<sup>a</sup> does not reside on CR1.

To summarize, Ch/Rg antibodies are neutralized by pooled plasma; Knops and JMH antigens are denatured by 0.2M DTT. JMH can be distinguished from Knops by enzyme treatment of cells; and COST antigens are not neutralized by pooled plasma or denatured by 0.2M DTT and enzymes.

Although antibodies to antigens in the blood group systems discussed in this CE activity are not clinically significant, the resolution is time-consuming, but necessary, to ensure there are no clinically significant antibodies to common antigens in the patient's sample.

References: Reid ME, Lomas-Francis C. The blood group antigen factsbook, . San Diego: Academic Press, 2004

Answers will appear in the next issue of OABB Newsletter.

Questions:

1. When performing antibody identification, an antibody is suspected of having HTLA reactivity, describe the expected serologic findings.
2. During the same investigation, if the patient's sample was neutralized with pooled plasma, what is the likely specificity of the antibody?
3. What antibodies with HTLA reactivity would not react with enzyme treated cells?
4. If reactivity was observed with 50% of cells tested, but was no longer observed after the cells were treated with 0.2M DTT, what antibody would you suspect?
5. A person who is deficient in C4 would lack what blood group antigens?

### ***Proficiency Sample Results July and November 2006***

#### **July 2006**

40 of 50 (90%) Institutions responded  
 ABO/Rh: B Negative  
 Antibody screen: Positive  
 Antibodies Identified: Anti-D and Fy<sup>a</sup>  
 Antigen Typing: Fy(a-)

#### **November 2006**

40 of 45 (89%) Institutions responded  
 ABO/Rh: AB Positive  
 Antibody screen: Negative  
 Antibodies identified: None

#### **Answers to July Questions**

1. What is the patient's blood type? What type would you select for transfusion?
  - ◆ The patient is B, Rh negative.  
Select B or O, Rh neg, Fya neg
2. What antibodies are present?
  - ◆ Anti-D and anti-Fy<sup>a</sup>
3. What are some possible explanations for the serological findings on the sample?
  - ◆ Since the patient is female, transfusion or pregnancy could have resulted in her being sensitized
4. What additional information might be helpful to determine the cause of the problem?
  - ◆ Full transfusion and pregnancy history would be helpful

**WELCOME NEW MEMBERS!**

Marlene Friedman  
American Red Cross  
Central Ohio Region

Fan Ny  
American Red Cross  
Central Ohio Region

Leela Rajappannair, M.D.  
American Red Cross  
Northern Ohio Region

Jennifer Smith (ASCP)  
American Red Cross  
Central Ohio Region



**MS PROGRAM.** University-based regional blood center and transfusion service through the College of Allied Health Sciences, University of Cincinnati is accepting applications for Fall quarter 2007 for a 15 month Master's program in Transfusion and Transplantation Sciences. Applicants apply for one of two tracks.

The **Blood Transfusion Medicine** track emphasizes all aspects of transfusion medicine including immunohematology, blood center and transfusion service operations, quality assurance, component therapy, cellular therapies, transplantation immunology and independent research. Students simultaneously fulfill the requirements for the Specialist in Blood Bank Technology (SBB) certification.

The **Cellular Therapies** track emphasizes the biology and therapeutic use of hematopoietic stem cells and other somatic cell therapies. The program includes significant hands-on laboratory experience in selection and genetic manipulation of stem cells and in the development of novel cell therapy treatment protocols.

**Application deadline:** March 1, 2007.

**Contact:** Cathy Beiting, MS, MT(ASCP)SBB, Hoxworth Blood Center, University of Cincinnati Medical Center, 3130 Highland Avenue, PO Box 670055, Cincinnati, OH 45267-0055, (513) 558-1275, email: catherine.beiting@uc.edu

**OABB Newsletter  
Submissions**

Letters, articles, and announcements of upcoming events may be submitted at any time.

Classified advertisements will be accepted from any member institution and printed at no charge.