In a Different Vein

A NEWSLETTER OF THE
MICHIGAN ASSOCIATION OF BLOOD BANKS

Vol. XXIII, No. 1
Winter, 2004

President's Message

Welcome to 2004! I am privileged to be serving as our association's president this year. I would like to thank all of you for your vote of confidence in me, and will do my absolute best to assure that the MABB continues to meet the needs of YOU, our members.

I would be remiss if I did not offer a big THANK YOU! to all who helped put on a fantastic fall meeting! The job of annual meeting chair is a daunting one, and I would in no way have been able to pull this off alone. I hope that I remembered to thank you all at the meeting, but if not, please accept my sincere gratitude for a job well done.

A meeting such as ours cannot take place without the support of our vendors and sponsors, and they really came through for us in 2003. Thanks to each and every one of you who exhibited and/or provided grants and support for speakers. Your participation was vital in making this meeting a great success.

This year's MABB president-elect and chair of the annual meeting committee, Peggy Stoe, and her committee members, are already organizing our 50th anniversary meeting, which will be held on September 22 & 23, 2004, at Schoolcraft College in Livonia. Reserve these dates on your calendar now and plan to attend. This meeting will focus on our deep reservoir of blood banking talent in Michigan. Special events are planned to mark this milestone in our association's history, so stay tuned for further details!

Many other activities are on tap for the coming year. Given the success of our "traveling" RAP sessions in Grand Rapids, Flint and Ann Arbor in 2003, the education committee, under the leadership of Sue Bowers, plans more such RAPs in 2004. Sue also joins the Executive Board this year as an at-large member. Welcome, Sue! The Spring Workshop will be held on May 13, 2004, at MSU, under the direction of Terri Downs and Vija Miske. Further details will follow.

Mary Jo Drew, MD

I would also like to take this opportunity to thank Linda Cardine, as she leaves the Executive Board, for her support, advice, and hard work as President, Past President and Executive Board member. Her many contributions to the MABB have been invaluable. Also sincere thanks are due outgoing 2003 President Michelle Tuson for her efforts in coordinating the 2003 annual meeting site and vendor details.

If you have not yet renewed your MABB membership, please do so now. If you have renewed, thank you for your continuing support. We count on the support of our fellow transfusion medicine professionals to make this organization the best it can possibly be. The MABB is not just a name, set of bylaws, or series of meetings. The MABB is the sum total of all its members, their skills, dedication, and passion for our profession. Volunteer for committee service to share your expertise with your colleagues!

Please contact me if you have any ideas or suggestions on how to make the MABB even better. I can be reached at 313-916-1573, or by Email at: mdrew1@hfhs.org.

Calendar of Events

SPRING RAP SESSION
April, 2004 ~ Details to follow

2004 SPRING WORKSHOP
May 13, 2004
Michigan State University • Lansing

MABB 50th Annual Meeting
September 22-23, 2004
Schoolcraft College • Livonia, MI

Spring RAP 2004

Topic: **Bacterial Testing of Platelets Followup - A Practical Perspective**

Format: Panel Discussion
Coming in April, 2004
Details to follow

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In a Different Vein is a quarterly publication of the Michigan Association of Blood Banks. Current and archived issues of this publication are available at the MABB web site: mabb.org.

Please feel free to submit any articles, announcements, advertisements, or case studies to ***In a Different Vein***. Items of a personal note regarding colleagues are also welcome.

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Submission deadline for next issue is 4/01/04

2004 MABB Officers

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Bruce Newman, MD
LeeAnn Weitekamp, MD
Margaret Wilde, MT(ASCP)SBB

Spring Workshop 2004

May 13, 2004

Michigan State University
East Lansing, MI

Topic of the Wet Lab:
Delayed Hemolytic Reactions

Fliers will be going out to all members soon and information will be posted on the website as it becomes available.

MABB 2003 SBB Lecture Series

Back for 2003 by popular demand was the MABB Lecture Series. The program consisted of 56 lectures and a Management Seminar designed for those preparing for the BB/SBB certification or seeking a comprehensive continuing education experience. The lectures were scheduled every other Monday from April to November, with four lectures each session. The Management Seminar in December topped off the series. The every other Monday full day schedule proved very popular with the students. We had about 20 registrations that included individual students, students sharing a registration and alternating attendance and one institutional registration. The program drew the expected local students, but also two from Lansing and four from Ohio. Student interest remained high all session with near full attendance right through to December. Student evaluation of the program was very good with high marks for the content and the speakers. The Education Committee plans to offer the program again in 2005.

Vi Williams Scholarship

Ortho Clinical Diagnostics sponsors the Vi Williams Scholarship to assist with the cost of attending the Spring Workshop. Applicants are eligible for a $125 scholarship.

The Vi Williams Scholarship is in memory of Vi Williams, who died in 1983. She was the Chief Technologist at William Beaumont Hospital in Troy and was a very active member of MABB, especially the Education Committee. She is most remembered for her commitment to quality in education and medical technology.

The scholarship is available to any non-supervisory medical technologist working in the field of immunohematology. The applicant must be a member of MABB at the time of application. The applicant must explain in writing how they would benefit from attending the Spring Workshop. The award will be presented at the lecture session on May 13, 2004.

Emanuel Hackel Scholarship

The Michigan Association of Blood Banks sponsors the Emanuel Hackel Scholarship to defray the cost of attending the Spring Workshop. Applicants are eligible for a $250 scholarship.

Dr. Hackel is professor emeritus at Michigan State University. He has been involved in the Spring Workshop for many years and he will once again be the moderator for the lecture session of the Spring Workshop in May. He has been a long time supporter of the MABB.

The scholarship is available to any medical technologist in the field of immunohematology, blood banking, or histocompatibility. An MABB member must nominate the recipient or an MABB member may nominate him/her self. To apply, the nominee must explain how they would benefit from attending the Spring Workshop. The MABB Board of Directors will select the recipient and the award will be presented at the lecture session on May 13, 2004.

Spring Workshop Scholarships Available!

Once again this year, Ortho Clinical Diagnostics is sponsoring the Vi Williams Scholarship of $125 and the MABB is sponsoring the Emanuel Hackel Scholarship of $250 to be used by the recipients to attend the Spring Workshop. Requirements are in the column to the left of this announcement and applications are available on-line at www.mabb.org under the Spring Workshop section. Deadline to apply for both applications is April 30, 2004.

Blood Bank Competency Evaluations
Joanne L. Becker, MD
Medical Director, Blood Bank
Roswell Park Cancer Institute
Buffalo, NY

It is January, the start of a new calendar year. For institutional education coordinators, (also often known as supervisor, manager, or lead tech), this can include planning another round of competency evaluations. To assist these individuals, here are questions that could be used on written competency tests. The staff at Roswell Park has reviewed the questions and they do not think that they include anything too outlandish. Some of the answers are based upon institutional SOPs, and will vary by institution.

General

1. Where is the nearest fire extinguisher to your work area?
2. Where are the MSDS sheets kept at your facility?
3. Who is your primary blood supplier and what is their phone number?
4. How many units of the following products are used annually at your institution? If you have a donor room, how many units are collected?

   RBC _____

   FFP _____

   PLT _____

Component Preparation

1. A unit of apheresis platelets contains a minimum of _____ platelets.
2. A unit of apheresis platelets labeled as leukoreduced contains fewer than _____ leukocytes.

CONTINUED ON NEXT PAGE

3. Who performs irradiation for your institution?

4. When are products irradiated?

Specimen Testing

1. Specimens received by the blood bank are to be labeled with (choose all applicable responses):

   A. Unique identification number
   B. Patient name
   C. Initials of individual obtaining sample
   D. Date
   E. Time
   F. Location
   G. Facility name

2. Once a patient has been transfused, a new sample is required how often? (Choose the single best answer.)
   A. Every 48 hours
   B. Every 72 hours
   C. Every 3 days
   D. Every 4 days

3. Interpret the results of the following tests: (midnight horror stories)

   A. In some cases additional tests or history would be important – what else would you like to know about the patients? (See Table 1 below.)

   B. What group would you crossmatch for each of the above patients A – E?

4. Interpret the following antibody screens (results for tube testing).
   What follow up testing would you like to perform? (See Table 2 below.)

5. An antibody work up shows the presence of an anti-M.

   A. How would you choose units for crossmatch if the antibody showed reactivity only at immediate spin testing?
   B. How would you choose units for crossmatch if the antibody showed reactivity through to AHG phase?

Table 1. *Patient ABO typing results*

	Patient serum mixed with:		Patient cells mixed with:		Interpretation	Crossmatch
	A cells	B cells	Anti – A	Anti – B		
A	++++	++++	0	0		
B	0	++++	+	0		
C	0	++++	++++	++		
D	0	++++	++++	0		
E	0	0	0	++++		

Table 2. *Patient antibody screen results*

	Cell I		Cell II		Cell III		Interpretation
	IS	AHG	IS	AHG	IS	AHG	
A	0	0	0	0	0	0	
B	0	++	0	0	0	0	
C	++	0	+++	0	+++	+	
D	0	+	0	+	0	+	

Transfusion-Transmitted Disease

1. What is the reported incidence of an apheresis platelet being contaminated with bacteria? (choose the single best answer)
   A. 1:2000 – 1:4000
   B. 1:1000 – 1:1500
   C. 1:5000 – 1:7000
   D. 1:40,000
2. What is the reported incidence of sepsis following a platelet transfusion? (choose the single best answer)
   A. 1:4000
   B. 1:14,000
   C. 1:24,000
   D. 1:40,000
3. Which of the following disease agents are known to be transfusion transmitted in humans? (Give all correct answers.)
   A. Malaria
   B. West Nile virus
   C. Histoplasmosis
   D. CJD
   E. Salmonella
4. A unit of blood which is NAT tested using an FDA licensed test does not need to be tested by which assay?

Transfusion Reactions (True/False)

1. Allergic transfusion reactions do not need to be reported to the blood bank.
2. When working up a suspected transfusion reaction, a positive DAT always indicates that the patient is having a transfusion reaction.
3. When working up a suspected transfusion reaction, the results of the patient's pre-transfusion testing should be reviewed.
4. A unit of blood should never be given to a patient who has a fever on pre-transfusion vital signs.
5. A drop in blood pressure may indicate the patient is having a transfusion reaction.

Answers to Competency Evaluation

General

1. Institutional response
2. Institutional response
3. Institutional response
4. Institutional response

Component Preparation

1. 3×10^{11}
2. 5×10^{6}
3. Institutional response
4. Institutional response

Specimen Testing

1. Institutional response
2. Institutional response
3. RPCI response:

	Interpretation	Crossmatch
A	Group O	Group O
B	Weak expression of A	Group A
C	Acquired B	Group A
D	Group A	Group A
E	Serum cell discrepancy – BMT in past	Group B

4. RPCI response:

	Interpretation
A	Negative – No further testing
B	Positive – Antibody work-up to follow
C	Positive – Presumed cold antibody, test at colder temperatures – possible prewarm
D	Positive – Auto vs allo antibody, vs drug interference. Check result from D control. If positive, perform DAT, obtain patient drug records, check transfusion history. If DAT + perform eluate, further testing as required.

5. A. Antigen untested units – full crossmatch before release
   B. Antigen tested units – full crossmatch before release

Transfusion-transmitted Diseases

1. A
2. D
3. A,B,E
4. HIV p24 Ag

Transfusion Reactions

1. False
2. False
3. True
4. False
5. True

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Lee Ann Weitekamp, MD

Meet the Board

Dr. Lee Ann Weitekamp is Medical Director, Vice President of Medical Affairs at Michigan Community Blood Centers, which includes Grand Valley, Saginaw Valley, and Northwest Michigan Blood Programs. She did her internship/residency at Medical College of Wisconsin Department of Pathology, and is board certified in Clinical Pathology and Transfusion Medicine.

Dr. Weitekamp has been active on National Marrow Donor Program committees and board, including serving as President of NMDP Council in 2002.

Suzan L. Bowers, MT(ASCP)SBB
Supervisor Blood Bank
St. Joseph Mercy Macomb

I grew up in Royal Oak, Michigan. I attended Wayne State University and graduated with a BS in Medical Technology. I did my internship at the old Detroit General Hospital where I developed my love of blood banking. My first and only job has been at St. Joseph Mercy Macomb. I started at the East facility in downtown Mt. Clemens in the blood bank. When the West facility opened, I went there in Hematology and became the Hematology supervisor. After four years I went part-time to have more time to raise a family. For the next eight years I worked part-time days and afternoons. A full time Blood Bank position on days became available just as my youngest was going off to first grade. I jumped at the chance to be back in Blood Bank and have been there ever since. I became supervisor in 1989. I took the MABB Lecture Series and got my SBB certification in 1990. I also supervise the specimen processing area and coordinate QA activities for the entire lab. I enjoy my involvement in the MABB Education Committee.

I have been married for almost 30 years and have two adult sons. My oldest works with my husband in his business and my youngest is completing law school. I play golf every chance I get and enjoy traveling.

MABB Executive Committee Meeting

Tuesday, December 2, 2003
Schoolcraft College, VisTaTech Center

Attendance: Dr. Mary Jo Drew, Linda Cardine, Michelle Tuson, Margaret Stoe, Margaret Wilde, Suzan Bowers, Patricia Fedoronko, and Dr. Lee Ann Weitekamp on speakerphone.

I. Meeting was called to Order at 1:25 pm.
II. Review of Minutes: Motion was made and approved to accept the minutes of the previous meeting with the following correction: Financial Report: Motion was made and approved to accept the financial report as presented.
III. Committee Reports:
  a. Education Committees:
    i. Spring Workshop 2003 – Dr. Lee Ann Weitekamp reported that the Spring Workshop was well received.
      1. The next workshop will be held on May 13, 2004.
      2. Suggestions for speakers: Ann Steiner, Dr. Martha Higgins and Jan Hamilton
      3. Subject of the "Wet Lab" will be Delayed Hemolytic Reactions
    ii. RAP – Suzan Bowers reported that the RAP sessions at Grand Rapids and Flint were a great success. Both sessions had attendance of 30 – 35 people.
    iii. SBB Lecture Series – Suzan Bowers stated that it was well attended throughout the year and will end with the Management Workshop on December 8, 2003.
  b. 2003 Annual Meeting Wrap-Up: Dr. Mary Jo Drew reported
    i. It was very successful
    ii. It received many positive reviews
    iii. Evaluations were mostly positive,
    iv. Next year's meeting location will be decided at the beginning of 2004.
    v. Ideas were discussed concerning next year Annual Meeting
  c. Newsletter – has been very good this year
  d. Bylaws Revision Update – were presented and approved by those in attendance. December 8th is the date for the final proxy count for the membership. After that date the position for Secretary is open for nomination and will be filled at the next board meeting January 27, 2004.
  e. Education: Sue Bowers to be Chairperson
  f. Publications: Dr. Bruce Newman, Mary DePouw and Ann Steiner to continue in their present positions
  g. Membership: Jan Keersmaekers to be the Chairperson
IV. Annual Meeting date was discussed and will be decided January 2004.
V. The meeting was adjourned at 3:15 pm.

Respectfully submitted by:
Patricia Fedoronko, Secretary/Treasurer

Preparing for the Ides of March: Standard 5.1.5.1 and Bacterial Testing

Laura Cooling MD, Suzanne Butch MT (SBB), Phyllis Gruszczynski MT (SBB) and Margaret Stoe MT (SBB)

March 1, 2004 is rapidly approaching and with it, the deadline for Standard 5.1.5.1: "The blood bank or transfusion service shall have methods to limit and detect bacterial contamination in all platelet components." The primary responsibility for limiting bacterial contamination lies with blood collection agencies through improvements in venipuncture preparation and blood collection. The latter includes the diversion of blood for donor testing at the onset of phlebotomy, thereby minimizing the risk that skin plugs will enter the final collected product. Conversion to single donor apheresis platelets (SDP) can also meet the limitation standard by decreasing potential donor exposures.

Methods for detecting bacterial contamination may be the responsibility of either the collection facility or transfusion center. Hospitals purchasing solely SDP may meet this requirement through their blood supplier. The Red Cross is instituting direct bacterial culturing of all apheresis units, at a surcharge of $22 per SDP. The obvious challenges to these hospitals are the added increased cost, delays in SDP availability, decreased SDP shelf life, and "market withdrawals" of culture-positive, transfused units. The American Red Cross will continue to test all SDP for bacterial growth until expiration, regardless of their transfusion status. As a consequence, transfusion services will need a mechanism and procedure for physician notification and patient follow-up of a culture-positive SDP. At this time, MCBC will not be instituting direct culturing due to concerns of high false positive rates, platelet availability, financial impact on customers and inability to apply direct culturing to both SDP and whole-blood derived platelets.

The most significant challenge to standard 5.1.5.1 is whole blood derived or pooled platelet concentrates (WB-PLT). Current methodologies for direct bacterial culturing are both cost and time prohibitive for WB-PLT. As a result, transfusion services, such as ours at the University of Michigan, must depend on surrogate markers of infection or direct bacterial detection by microscopy. Since most transfusionists are not microbiologists (nor wish to be), microscopic screening methods will require coordination with the hospital microbiology laboratory. A variety of bacterial stains have been suggested including gram stain, wright stain and acridine orange. All are relatively insensitive (10^7-10^8 CFU/mL), time-intensive and associated with significant false positive rates. It is estimated that sampling, slide preparation, staining and screening requires at least 20-30 minutes—making it impractical at the time of product pooling and dispensing. Transfusion services that have implemented gram staining do batch testing during off-peak hours.

The most commonly cited surrogate method for WB-PLT are urine dipsticks, which can detect either a fall in glucose or a fall in pH due to the buildup of lactic acid. Both markers are nonspecific and can occur during routine platelet storage, due to consumption of dextrose by platelets and residual leukocytes. Studies using dipsticks report a 1-2% false-positive rate and an increase in product wastage. In addition, urine dipsticks are not approved for platelet testing and require on-site validation. Finally, results are semi-quantitative and subject to reader interpretation. Automated readers, yielding quantitative results, are available but are limited to reading one strip at a time or need for large volumes (10-12 ml) for testing. Nonetheless, this type of surrogate testing is often the only viable option for transfusion services dependent on WB-PLT.

In our quest for a method, we evaluated three commercial urine dipsticks on 250 outdated WB-PLTs. Samples were collected by stripping tubing once, sterile sealing a small segment and aliquoting samples into glass tubes via a segment splitter. Samples were then spotted onto strips with a pipet and read at the appropriate time points. We evaluated strips for strip saturation, ease of reading, and testing time. Based on published recommendations and standards, we cultured any unit with a pH<7.0 and/or glucose <250 mg/dL. In summary, 8/250 units (3.2 %) had a pH<7.0. None of these units were culture-positive and therefore represent the expected false-positives. All units (100%) had a glucose > 250 mg/dL, regardless of pH results. More importantly, all strips were user-unfriendly when it came to testing and pooling large numbers of WB-PLTs. Although we could test, read and pool up to 5 platelets within the time constraints recommended by the manufacturer, we could not test 10 units—a critical requirement for us. We also had the opportunity to test urine dipsticks against a true, bacterially contaminated platelet unit. The implicated unit had a pH 6.5-7.0 but a normal glucose (>250mg/dL), despite gross contamination on gram stain (>10^8 CFU/mL Streptococcus). Interestingly, both pH and glucose were normal when the pooled product was tested.

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Preparing for the Ides of March: Standard 5.1.5.1 and Bacterial Testing

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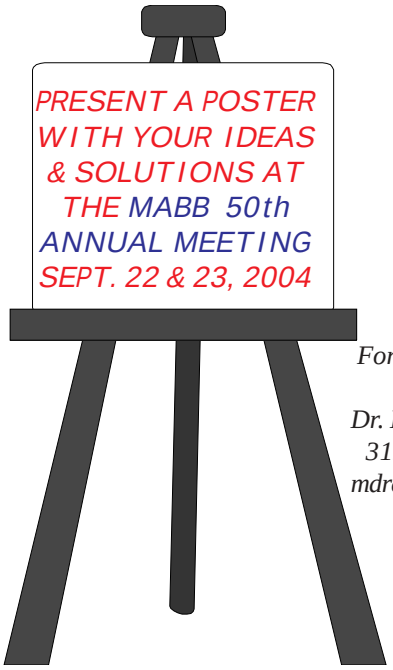
We also tested Whatman® pH indicator paper strips (pH 0-14, Type CF). Unlike urine dipsticks, Whatman strips are approved for all types of fluids. In our evaluation, Whatman pH strip required less manipulation with instant results that were not time sensitive. We easily tested 10 WB-PLT within 8-9 minutes. Whatman pH strips were also safer, with minimum blood exposure to the technologists and easier cleanup. This was achieved by simply dropping the strips directly into the test tubes containing each sample and tipping tubes (45º-60º angle) to read results. Simple pH strips are also cost-effective ($ 0.23/WB-PLT). These results were presented at the recent American Association of Blood Bank Annual Meeting and are available in Transfusion 2003: 43S;171A (abstract AP127).

Based on our evaluation and experience, we intend to screen WB-PLTs for pH only using Whatman pH strips. Our experience, and those of others, have shown that glucose is of little value. Because pooling can dilute and normalize an abnormal result, we are testing individual WB-PLT. WB-PLTs with a pH < 7.0 will be discarded with no further testing. This decision was based on the short shelf-life of platelets, coupled with the time and cost of bacterial culturing. We are anticipating a 1-3% increase in product wastage. Although we are not planning to increase our standing orders to compensate for the latter, it might be an issue for smaller hospitals with limited on-site inventories. We also purchase a small number of SDP for our patients requiring crossmatched or HLA platelets. For SDP, we will defer to the results of direct bacterial culturing performed by our blood supplier.

How to incorporate this additional task into our work flow is the next challenge. Because our WB-PLT inventory turns over in ≤ 24-30 hours, we are considering batch testing in nonpeak hours, when we routinely receive our WB-PLT shipments. This would allow efficient testing, result entry and instant availability for our busy day and afternoon shifts. We still anticipate times where only untested WB-PLTs are available for an acutely bleeding patient. In these cases, WB-PLTs will be pooled and released on an emergency basis. We have also brought automated technology into the laboratory (Ortho ProVue®), which should free technologists for other tasks. Finally, we are currently redesigning our workspace into discrete work areas to accommodate these changes and maximize our work flow. So, if you are coming to Towsley this spring, come by and check our progress!

A time to learn . . .
A time to share . . .



For Information contact
Dr. MaryJo Drew
313-916-1573
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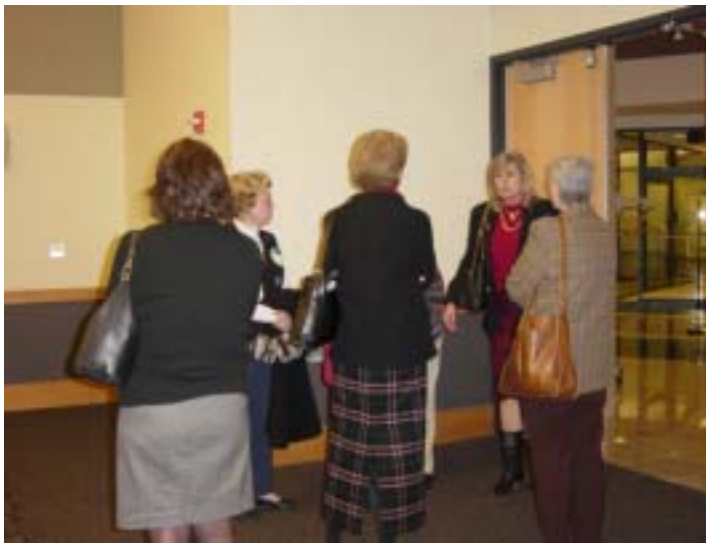
THANK YOU TO ALL OF THE MABB EXHIBITORS AND CORPORATE MEMBERS FOR YOUR CONTINUED SUPPORT!

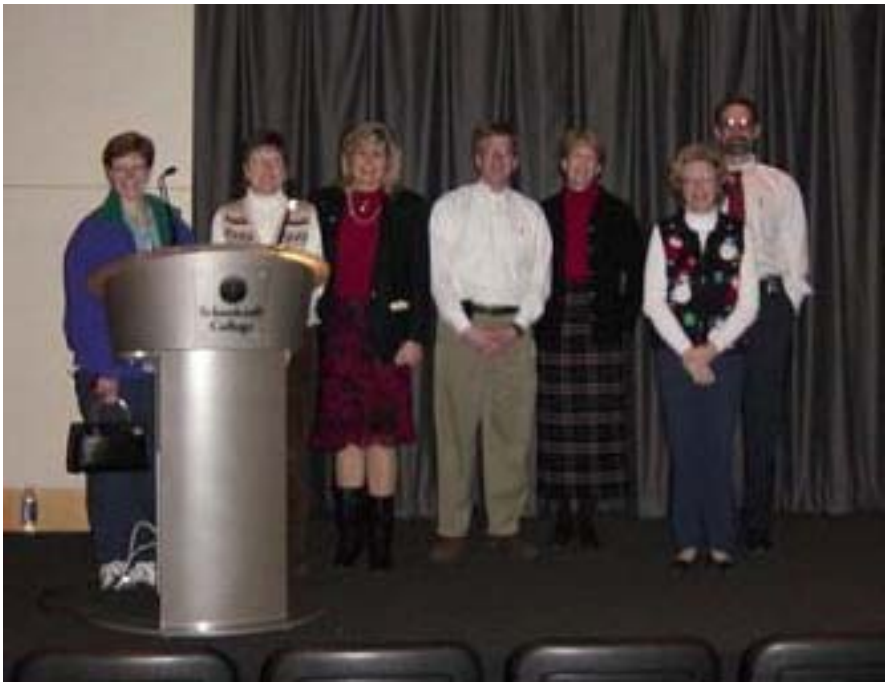
Program Planning '04

Plans are underway for the MABB 50th Anniversary Annual Meeting, to be held September 22 & 23, 2004 at Schoolcraft College
More details to follow but make sure to put these dates on your calendar now!

MABB President-Elect Peggy Stoe perusing the menu at the Schoolcraft Culinary School for the MABB 50th Annual Meeting celebration



Sue Bowers, Dr MaryJo Drew, Sue Adams, Sharon Cisco and Pat Fedoronko brainstorming ideas



Your MABB 50th Anniversary Program Planning Committee checking out the high tech auditorium at Schoolcraft College's VisTaTech Center: Michelle Tuson, Sharon Lowry, Sharon Cisco, Dr. Bruce Newman, Sue Adams, Dr. Mary Jo Drew, and Dr. Rob Davenport

"This will be a meeting to REMEMBER!"

MICHIGAN ASSOCIATION OF BLOOD BANKS
P.O. Box 3605 • Center Line, MI 48015-0605

Membership Update

You should have already received your membership renewal application in the mail. Please complete the card and return it ASAP with your 2004 membership dues to the MABB Administrative Office. I would like to get the new membership directory out to those members who requested it and need to have all updated information in order to do so. If you have any membership questions, feel free to contact Janet Silvestri in the MABB Administrative Office. All dues payments should be mailed to:

Michigan Association of Blood Banks
Administrative Office
P.O. Box 3605
Center Line, MI 48015-0605

Michigan Association of Blood Banks

50th

ANNUAL MEETING

September 22nd-23rd

PUT THESE DATES IN YOUR CALENDAR NOW!

DON'T MISS IT!
Details to follow SOON!