



Analyzer

Bulletin of the New Brunswick Society Of Medical Laboratory Technologists

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2006

President's Message

Catch the Dream in Winnipeg, Manitoba – once again, another successful Congress has come and gone. I was very lucky to attend Congress 2006 as NBSMLT's representative on the CSMLS's National Advisory Committee and National Regulatory Committee. Three times a year these committees meet to talk about issues pertaining to medical laboratory technology across our diverse country. The mandate of these committees includes dealing with advocacy and regulatory issues that affect our profession, the development of shared goals for advocacy for our profession, making recommendations to the CSMLS and to the provinces on shared programs and services, and maintaining open communication on advocacy and regulatory issues between the provincial and national bodies. This all sounds a little overwhelming but I found these meetings to be very informative. I was able to come a little closer in understanding how medical laboratory technologists play such a vital role in our health care system, both at the provincial and national levels. We have a common bond across our country – we are all a vital link in Canada's public health system.

And what about Congress itself? According to legend it is said that "the dream catcher holds the destiny of the future". I was able to share the dream of the future. Congratulations to Bill Younger and his committee for all their hard work and dedication. This Congress had something for everyone, lots of ways to learn new skills and discover new ideas, the trade show was sold out, the social events were fun, the Manitoba food was excellent, Winnipeg was beautiful and the people were great. What more could a person ask for at Congress?

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*Learning without thinking is useless...
Thinking without learning is dangerous.*

Confucius

President's Message

(Continued from page 1)

Next year the CSMLS will be hosting a leadership forum in Hamilton. This forum will be designed specifically for medical laboratory technologists who are current leaders in our profession and also for those aspiring leaders of tomorrow. I urge you to think about attending this forum and discover your potential in leadership.

Have a Great Summer!

Coral MacRae
President NBSMLT

Gisele Gagnon-Cormier, Marielle Lagace, Trudy Young, Colleen Moran, Peggy Martin, Heather Harding, Monique Collette, Susan Atkinson, Pierre Leveille and Coral MacRae were all fortunate to be able to attend the 2006 Congress in Winnipeg.



Carol Greene, Manitoba, Coral MacRae NB
Opening ceremonies



Monique Collette President Elect NBSMLT
Coral MacRae President NBSMLT



Coral MacRae, Pierre Leveille & Susan Atkinson In Winnipeg

ACR&PP Update

Bernadette Muisse



Clarification of PDP issues, as promised, will be an ongoing process.

At the last ACR&PP meeting the committee discussed mandatory skills and whether they should be included as professional development. The consensus reached was that mandatory skills are part of the requirements of the job and, as such, not eligible for credit PDP hours. Each hospital corporation determines what is defined as mandatory skills but some of the most common ones are, fire and safety procedure review, disaster plan review, annual review of manuals, and CPR recertification.

Providing training for “new techniques” does not include the routine training that a technologist receives as part of the job. This refers to implementation of new procedures or tests not previously offered by the laboratory department. Training on new instruments, not included as part of the initial job orientation, often requires learning new skills and methodology and so is eligible for credit hours.

Under professional activities, Health and Safety and Infection Control refer to committee meetings. Participation on these committees is often a choice made by the technologist and not actually in their job description.

The definition of the NBSMLT professional development program is that there is a learning component in the activity, applicable to the field of medical laboratory technology, which enhances your knowledge base. Professional development provides for lifelong learning relevant to the professional life of the medical laboratory technologist.

Competence focuses on what is required of an employee in the workplace rather than on the learning process. It embodies the ability to transfer and apply skills and knowledge to new situations and environments. The National Training Board defines Competency as, “the knowledge and skill and the application of that knowledge and skill across industries or within an industry, to the standard of performance required in employment.”¹ This infers that the employer is responsible to determine the competence of the employee. The NBSMLT holds the position that the member has a professional responsibility to maintain competence.

The definitions of competence range from “level at which performance is acceptable”² to “an underlying characteristic of an individual which is causally related to effective or superior performance”³. Competency then, is often different things to different people, and frequently the parameters are subjective.

Proficiency has been described as the ability to apply knowledge to situations likely to be encountered and to deal with them without extensive re-



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course to technical research and assistance⁴. To be successful in one's career, there must be a degree of proficiency, demonstrated by skill in the command of the fundamentals derived from practice and familiarity. It has been said that "practice greatly improves proficiency"⁵.

¹www.gymnastics.org.au/education/rpl_09_defini.htm

²<http://www.ozarka.edu/assessment/glossary.cfm>

³www.oup.com/uk/booksites/content/0199253978/student/glossary/glossary.htm

⁴www.indiana.edu/~iuaudit/glossary.html

⁵wordnet.princeton.edu/perl/webwn

This is a representation of the percentage of members who hold a current NBSMLT PDP certificate. The number of technologists holding a valid PDP certificate is 32%. The committee will review applications again in September and November.

May 2006



New Brunswick Community College-Medical Laboratory Technology Week Activities

Submitted by Crystal Lockhart

At the New Brunswick Community College-Saint John Campus the staff and students in the Medical Laboratory Technology program decided to celebrate Med Lab Week this year with a full week of activities.

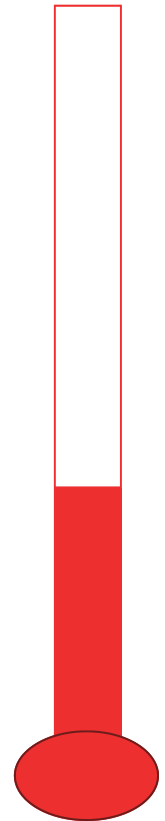
On Monday, staff and students held a pot-luck lunch with lots of scrumptious food. It was a great chance for the students to relax and take a break from their studies.

On Tuesday we were very fortunate and honoured to have Ilse Holler as our guest lecturer. Ilse spoke of her very illustrious career as a Medical Laboratory Technologist, at the bench, in a supervisory role and as an executive with the CSMLS. We would like to publicly thank Ilse for coming to do this, the students really enjoyed it.

On Wednesday we served a coffee and muffin break for the students, which was again another excuse to enjoy some good food and socialization.

On Thursday we had dual lunch time activities with a Med Lab Walk, and a movie showing.

To cap off the week **on Friday**, we set up a display booth at the front entrance to the college where we served cake (again with the food) and gave out information about Medical Laboratory Technology to students and staff from the college.





Congratulations !!!

These technologists have also completed the requirements for the NBSMLT Professional Development Program.

*Shasta Barrieau
Claudette Casey
Suzanne Charest
Kelly Clark
Pam Comeau
Rose Crain
Sylvie Deschamps
Louise Doucette
Shelly Dupuis
Michelle Finnegan
Peggy Flett
Pauline Gauvin
Mary Hamilton
Heather Harding
Tina Jenkins*

*Donna Lamb
Adrien LeBlanc
Donna LeBlanc
Crystal Lockhart
Sharon O'Connell
Sharon Nason
Lynn Richardson
Sandra Rooney
Hilary Smith
Shelley Stymiest
Laurie Trites
Linda Turgeon
Francine Volpé
Tabatha VanWagoner
Erin Whitman*



Please remember to include all necessary documentation with your PDP applications; this will prevent any additional delay in the processing. If you wish original documents to be returned, please include a stamped self-addressed envelope.

**Many thanks
your ACR&PP committee.**

Academy Reports

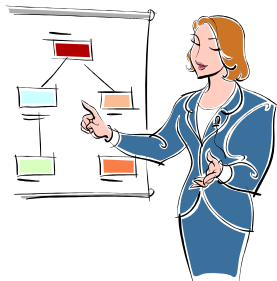
April 1, 2006 the **Moncton Academy** hosted an Education event at the Moncton Hospital. Three speakers presented information to an audience of 34 members. Marcel Caissie MD, originally from Shediac, is currently Chief of the Radiology department at the Georges-L Dumont Hospital. Dr. Caissie is a founding member of the NB Provincial Breast Screening Committee and has participated in provincial and federal committees on breast cancer. He has a special interest in breast imaging and has recently introduced the breast MRI and vacuum assisted biopsy procedures in his department. He spoke to us on these new technologies. It was fascinating to hear how the MRI technique, used in conjunction with mammography and ultrasound, can detect even smaller lesions than was possible in the past.



The nutrition break was sponsored by **Sarstedt, Great Canadian Bagel** and **The Cookie Cutter**.

Becky Close, RN spoke briefly of her role as infection control nurse at the South-East Regional Health Authority before explaining the history of, and current strategies for, the pandemic flu. Becky itemized some of the improvements in society which may contribute to a more rapid identification of this virus when it occurs, as well as the advances which may speed its spread. She drove home the fact that many of the precautions in place in 1918 are still the recommended steps we will take when the next pandemic occurs. Her overview was perhaps less reassuring than some would have liked, but it is extremely difficult for most people to comprehend the reality of a pandemic. We tend to forget that, by definition, the illness will have a widespread effect with, most probably, a high mortality rate.

Bernadette Muise, MLT gave the final presentation on the role of the NBSMLT and the Professional Development Program. She explained the difference between the regulated and non regulated provinces, as well as the advocacy nature of the CSMLS. The general requirements of the PDP were reviewed and Bernadette then responded to several questions regarding documentation. Bernadette invited suggestions, comments and questions to be directed to the next ACR&PP committee meeting for further discussion and clarification if required.



At the last Academy meeting, Monique Collette had suggested holding a pot luck fundraiser. Immediately following the Education sessions a potluck lunch was provided at a cost of \$5.00 with the proceeds to be directed to the Canadian Cancer Society, \$100.00 was raised and donated. Shelley Stymiest and Sasha Wright organized the Education Day and are to be commended on its success.

On June 10 and 11, members of the Moncton Academy will be participating in the Dragonboat Event for charity to be held at Jones Lake.

...This just in....

In an effort to prevent the spread of the Avian Flu, George Bush has a plan to bomb the Canary Islands...

Med Lab Week at the Moncton Hospital

Submitted by Rania Elhalabi

Well another year has come and gone, and once again Med Lab Week was a huge success! We started the week out with a bang, for lunch the entire lab staff was treated to pizza and a celebratory cake. As usual we had our display table set up in the main lobby of the hospital. This year we expanded to having two tables instead of one. The tables were jam packed with items representing each department in the lab. Of course histology's items were what attracted people to the table. We had a piece of brain, gall stones, an ovary, and an enlarged gallbladder, just to name a few. Cytology and Hematology had a variety of slides set up under a microscope. Microbiology had bacteria growing on plates, Transfusion Medicine had a unit of red cell concentrate, platelets and plasma, along with different blood groups and Chemistry had a variety of reagents and even a pregnancy test. To top it all off we had a backdrop behind the table full of pictures of the lab. All this put together was quite impressive. We had the tables up in the lobby for three days which were manned by lab techs who were there to answer any questions from the public and other hospital staff.

Also during the week, lab techs had an opportunity to attend several lectures on different topics. These lectures were presented by lab techs who gave a thirty minute talk on any topic of their choice. Some of the topics included "The PAP test: Everything you never wanted to know!", "Accreditation" and "It isn't the flu". The lectures were interesting, informative and very popular. There was quite a large attendance from lab staff for all lectures. Finally on Friday, Med Lab week was winding down and everyone was invited to go out for dinner and celebrate. We had a lot of positive comments about the entire week that came from lab techs, the public and also hospital staff. One such comment was from a nurse who stopped by the table in the lobby who said that "just because no one sees us, and we are behind the scenes but none the less very important, the work that we do is very valuable and that we are really appreciated". Every tech that stopped us in the halls commented on what a great job we did and the public in general were interested in everything we do and were quite curious. Everyone in the lab received a gift for all their exceptional work and dedication. This was just a way for everyone to be appreciated for all their hard work.

To organize an entire week of activities is not an easy task. Not only did we have a booth in the lobby and several lectures to be presented but other little touches had to be done. This all started about four months before; two people were up for the challenge of organizing Med Lab week. We planned everything down to the smallest detail. We worked on this almost every week trying to do our bench work and plan an entire week of activities all at the same time. We made phone calls to book all our equipment, we recruited volunteers to man the tables, we had an information pamphlet made up and put on the hospital intranet as well as in the blood collection area for the public. The day before Med Lab week was to begin we came in on our own time and put our banner in the lobby, we put up posters, table tent cards in the cafeteria, assembled the gifts and finished up the final touches.

Four months of work for one week, and what a week it was. Everything went off with no major problems. But it was all worth it in the end. Thanks to the volunteers who took time out of their busy schedules to staff the booth and to proudly represent our profession. We also want to express our appreciation to the techs who presented those great lectures for everyone and to our lab manager for her support and for helping to

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Med Lab Week at the Moncton Hospital

Submitted by Rania Elhalabi

(Continued from page 7)

kick off Med Lab week. Finally I would personally like to thank my partner Melissa King who was there four months ago and who stuck it out with me, I couldn't have organized med lab week without your help.

So once again another Med Lab week has come and gone. It was a huge success and ideas for next year are already being talked about. It's important that we get out there and raise our profile, we should be proud of all the important work that we do and the invaluable service that we provide. Remember we are "Laboratory Professionals and we are on the Frontlines for your Health".



Kelly Steele & Peggy Flett

Academy Reports (cont.)

Fredericton

What a great start to 2006 that the **Fredericton Academy** has had. In March, an education day was held in Florenceville. Dr. C. Marco gave an interesting lecture on Fetal Fibronectin.

Lunch and an academy meeting were held following the lecture. Med Lab Week was also a success, with Dr. J. Goltz giving a lunch time lecture on Leptospirosis at the DECRH.

The academy is currently looking for a public relations representative. Feel free to contact me with any questions.



Respectfully submitted,
Erin Whitman

March 2006, *Vein to Vein* Conference in Edmonton Alberta

Submitted by Bernadette Muise



The Alberta Capital Health Region and Canadian Blood Services present a joint conference on Transfusion Medicine topics. These groups, along with the Calgary region, have been alternating the hosting of this conference since 1998. It is a venue that allows health professionals, technologists, nurses and physicians to come together to learn more about the practice of transfusion.

This conference was attended by approximately 150 health professionals. The topics ranged from the “hot” buffy coat platelet preparation; being piloted by CBS in Edmonton; to recognition of a transfusion reaction from the nursing perspective. Speakers provided an overview of where CBS blood collections are being used nationally, as well as clarifying the role of the Special Access program of the CBS.

Case studies of a missing “e” antigen; and the result of an ABO incompatible heart transplant in a newborn proved enlightening and thought provoking. The technologist must remember that just because a monoclonal antisera fails to react as expected in a particular case, does not necessarily mean it doesn’t work. As technologists, we must try to be aware of the procedural limitations of the reagents with which we work. In the case of the ABO incompatible heart transplant the miracle of Mother Nature is reaffirmed as the child ceases to produce the genetically expected naturally occurring antibody as a result of immune tolerance built up to the transplanted organ.

Accreditation issues were addressed by one of the technologists responsible for helping the University Hospital in Edmonton achieve AABB accreditation. He explained how it can be daunting preparing for that first inspection.

There was a presentation on the off label use of recombinant VIIa, some myths dispelled and pitfalls identified, with the recognition that because it is a powerful agent, a policy for its use needs to be developed.

Each session was very informative and I congratulate the organizers for a well planned conference. The committee was fortunate in the level of sponsorship which allowed for very reasonable registration costs.

The *Vein to Vein* event was replaced in 2005 due to the CSTM conference held in Banff and in 2007, it will again be replaced by CSTM “On Track to the Future” which will be held in Calgary.

Congratulations to the most recent successful candidates of SouthEast Regional Health Authority in the CSMLS MLA Certification exams.



Joyce Breau Jeanne Mercure Cormier

Kim Forsythe Doug Mitton Gerald Thibodeau



Labour in the Laboratory

A book review by Claudette Ptasznik

'Labour in the Laboratory' by Peter Twohig is a history of the origins of the laboratory workforce in the Maritimes between 1900 and 1950. Judging from the title, I had assumed that the focus would be on the mainly female workers and their contribution to healthcare. Instead I found that the first few chapters mainly told the story of doctors and lab managers who were predominantly men. Of course that was part of the reality. Females working in the lab during this time were mainly those with a post secondary education who had no interest in nursing or teaching, the traditional female occupations at the time. Many female doctors couldn't find placement in the male dominated healthcare system and so resorted to lab work as an alternative to going overseas. As for males, lab work was just a stepping stone on the way to becoming doctors.



It wasn't until I read the chapter titled 'Recruitment, Mobility and Wages' that I felt that the author really dealt with the issues that have affected laboratory workers from the very origins of the profession. The most common recurring theme even today is retention. Reasons for this are the same today as they were in the 50's and unfortunately the attempted solutions to this problem have not been any more creative. Low wages and limited opportunity for advancement were cited as the cause of retention difficulties in the Maritimes in particular. Attempts to recruit more males to the profession haven't been successful in raising rates of compensation. Males are more likely to seek opportunities elsewhere in search of higher wages and promotion while females have historically been anchored with family obligations.

There is the nagging sense that not much has changed during the past 70 years of medical laboratory history. In the words of Dr Twohig: "What remains to be negotiated is whether laboratory workers can assert some authority and claim economic reward, job security or enhanced status". That continues to remain our challenge.

I recommend this book to my younger peers in the hopes that seeing where we have come from and the obstacles we've met will give them insight into the directions we should be taking as professionals.



Dr. Twohig will be speaking at Maritech in Saint John in October.

We welcome the opportunity to benefit from his insights into our profession.

From the Editor:

This year is starting with a bang as far as educational events are concerned. The Saint John Academy will be hosting Maritech at the Delta Brunswick, October 26th – 28th. Plans are getting underway for what promises to be a successful scientific conference including a trade show and of course the NBSMLT Annual General Meeting. We anticipate that our industry partners will support this event as they always have in the past. Watch future issues of the newsletter for updates as they become available.

The Fredericton Academy will be partnering with River Valley Health Authority and Euroimmun Diagnostics to present the second annual Autoimmune Antibody Network Conference in Fredericton at the Crowne Plaza Fredericton, Lord Beaverbrook on September 21st and 22nd which promises to be an exciting educational event.

As always, the newsletter is one avenue of communication between the NBSMLT Board of Directors and the membership, please feel free to submit questions, suggestions, and even articles that



might be of interest to the members. We have a wonderful profession and one of the best parts of it is the willingness of our members to share information.

Deadlines for submission for 2006:

July 21
November 3

Send any submissions to:
Bernadette Muise
Transfusion Medicine
The Moncton Hospital
135 MacBeath Ave, Moncton NB
E1C 6Z8
Email : *Analyzer@nbnet.nb.ca*

Editorial policy:

The purpose of this newsletter is to provide a means of communication between the members of the NBSMLT and its Board of Directors. The opinions expressed in the MLT Analyzer are those of the contributors and do not constitute official policy of the NBSMLT. The editor reserves the right to edit submissions as required.

FYI:

Health Canada provides up to date information on a variety of health related topics. Recently released was information about Lyme Disease and Tuberculosis. To learn more; check out the web-sites below:

http://www.hc-sc.gc.ca/iyh-vsv/diseases-maladies/lyme_e.html

http://www.hc-sc.gc.ca/iyh-vsv/diseases-maladies/tubercu_e.html

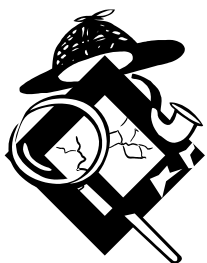
<http://www.canadian-health-network.ca/>

**Attention: All Retired NBSMLT Members and/or
Members with change of address or employer information**

Memo From The Registrar Janet Kingston

To retain membership in the Society or record changes in address or employment, please contact the Registrar. Cost of membership is \$30.00 for retired members starting in the year 2000. You will receive applicable publications and correspondence. Please note: members must contact CSMLS *directly* to obtain CSMLS Retired membership. Please note that all changes of address or employment must be made with **BOTH** the NBSMLT and CSMLS.

Please Mail To
Janet Kingston, Registrar
PO Box 20180,
Fredericton, NB
E3B 7A2



Elementary, My Dear Watson

Sherlock Holmes and Dr. Watson go on a camping trip, set up their tent, and fall asleep. Some hours later, Holmes wakes his faithful friend. "Watson, look up at the sky and tell me what you see."

Watson replies, "I see millions of stars."

"What does that tell you?"

Watson ponders for a minute. "Astronomically speaking, it tells me that there are millions of galaxies and potentially billions of planets. Astrologically, it tells me that Saturn is in Leo. Timewise, it appears to be approximately a quarter past three. Theologically, it's evident the Lord is all-powerful and we are small and insignificant. Meteorologically, it seems we will have a beautiful day tomorrow. What does it tell you?"

Holmes is silent for a moment, then speaks. "Watson, you idiot, someone has stolen our tent."



Election Information 2006

Nomination Information

The time is here once again for the nomination of President Elect for the New Brunswick Society of Medical Laboratory Technologists.

The Nomination Committee requests that you put forward names of NBSMLT members to stand for this important position. It is an opportunity for you to nominate technologists with a vision for the future, an individual who will be able to direct the Society's affairs in these interesting and challenging times.

Please forward all nominations to the Society's office on or before Sept 15, 2006.

Term of Office

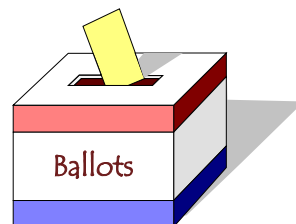
In order to comply with the 1991 Medical Laboratory Technologists Act, an annual election will be held by the Society for the office of President Elect. This will be a three year term: the first year (2007) the technologist will serve as President Elect, the second year (2008) he/she will become President of the Society and the third year (2009) this individual will serve as Past President.

Board Members

The other members of the Board will consist of the six Area Directors, elected by their respective academies. There will also be a lay representative, appointed by the government, serving on the Board.

Service and Goals

In order to provide the membership with background information regarding the candidates' present and past service in Society matters, a summary must be provided of his/her professional activities. A statement regarding goals as President Elect of the New Brunswick Society of Medical Laboratory Technologists should also be included. This information shall accompany the instructions sent with the ballot to each member.



Nomination Form

Election of President Elect

In order to comply with the 1991 Medical Laboratory Technology Act, the membership are to elect a technologist to the position of President elect each year. The term of office will be for three years, progressing from President Elect, to President, and the final year, Past President.

I _____ allow my name to stand for the position of President Elect of the New Brunswick Society of Medical Laboratory Technologists.

Signed _____

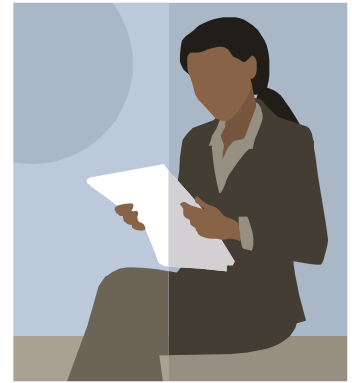
Date _____

Nominated by _____

Seconded by _____

A puzzle piece toward the hemochromatosis picture

Submitted by M. Joy Sowers



A review :

A novel ferroportin mutation in a Canadian family with autosomal dominant hemochromatosis

Hereditary Hemochromatosis is a medical abnormality whose genetic causations are as yet to be fully determined. About one million individuals in the USA are affected by this disease, exceeding the prevalence of cystic fibrosis and muscular dystrophy combined. The disease is caused by the continued intestinal absorption of dietary iron despite adequate or raised body iron stores (Ezquer *et al*, 2005).

As early as the 1800's, classical symptoms of hereditary hemochromatosis which usually appear between ages 40 and 60, had been defined as diabetes, bronze pigmentation of the skin, and cirrhosis. In the 1970's, studies showed hereditary hemochromatosis to be an autosomal recessive disorder linked to the region of the short arm of chromosome 6. In 1996, the 1st hemochromatosis gene (HFE) encoding for a transmembrane iron regulatory protein was identified (Pietrangelo, A. 2004). Currently there are four types of hereditary hemochromatosis each caused by mutations involving a different gene. Types I, II, and III are autosomal recessive disorders whereas Type IV is an autosomal dominant form. Type I (HFE), the most prevalent, occurs 1 in 250 individuals (Lyon *et al*, 2001) of Northern European ancestry, and is associated with one mutation, C282Y, a substitution of tyrosine for cysteine at the 282nd amino acid position in the gene protein sequence (DOE, 2006). Type II (HJV) or Juvenile hemochromatosis, associated with mutations in the hemojuvelin gene found on the long arm of chromosome 1, is more severe, developing iron overload in the 2nd or 3rd decade (Morris *et al*, 2005). Type IV results from a mutation in the SLC40A1(FPN 1) gene located on the long arm of chromosome 2 which encodes for an iron export protein, ferroportin (Morris *et al*, 2005). HFE and FPN 1 develop iron overload in the 4th and 5th decades (Pietrangelo, 2004).

Types I, II, and III are characterized by parenchymal iron overload in the liver, pancreas, heart, joints and pituitary gland. Type IV differs in that the Kupffer cells (reticuloendothelial macrophages) retain iron. The FPN 1 protein is an iron transporter, responsible for the export of iron from duodenal enterocytes and cells of the mononuclear phagocyte system (Lui *et al*, 2005). Iron is essential for growth and survival, a required element in the formation of hemoglobin and myoglobin and a component of enzymes such as catalase and peroxidase. Iron overload leads to cirrhosis, primary liver cancer, diabetes, or cardiomyopathy (Hanson *et al*, 2001).

Morris *et al* were presented in 1996 with a proband of Scandinavian origin who displayed arthritis, abdominal pain, and had a ferritin level of 2248 µg/L (normal 10 - 200 µg/L) and a transferrin saturation (serum iron/total iron binding capacity X 100%) of 65% (normal <45%). Ferritin is an iron protein complex regulating iron transport from the intestinal lumen to the plasma containing 23% iron bound with apoferritin, a protein of the intestinal wall (Stedmans, 2000). The proband demonstrated poor tolerance for phlebotomy treatments (weekly removal of approximately 500 ml of blood) and quickly became anemic. Phlebotomy is the safest, most effective, and most economical therapeutic approach to maintaining ferritin and transferrin levels. The proband also has a paternal cousin diagnosed with hemochromatosis based on clinical findings. Investigation of proband's husband showed normal iron studies (serum iron, ferritin and transferrin saturation levels) while all four children

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A puzzle piece toward the hemochromatosis picture

Submitted by M. Joy Sowers

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showed increased serum ferritin levels.

Routine HFE gene testing in the Molecular Genetics Lab at the Children's and Woman's Hospital, Vancouver, B.C. (Morris, 2006), involves PCR (Polymerase Chain Reaction) mediated amplification and subsequent digestion with mutation specific restriction endonucleases, RsaI and DpnII. Two PCR primers C282Y F/R and H63D F/R produced restriction fragment length polymorphisms (RFLPs) 396 and 208 base pairs in length. When cut with these restriction enzymes the two regions of the HFE gene encompassing single mutation sites; (G → A at nucleotide 285 and C → G at nucleotide 142) could be identified (Morris, 2006). HFE gene testing showed the proband and all four children were heterozygous for the C282Y mutation and her husband was negative for mutations in the HFE gene. Patients with HFE mutations respond very well to therapeutic phlebotomy resulting in decreased ferritin levels. The poor response to phlebotomy and the increasing ferritin levels was cause for further investigation. Morris *et al* sequenced the exons of the ferroportin gene (FPN1). Extracted DNA from whole blood underwent PCR amplification. Electrophoresis on a 0.8% agarose gel separated the DNA fragments. A gel extraction kit was used to extract their PCR product. This was quantitated by electrophoresis on a 2% agarose gel. Sequencing was performed using ABI PRISM genetic analyzer and software. They discovered a novel mutation, N185D, a single nucleotide substitution of A → G at position 553 of the cDNA. This resulted in a substitution of aspartic acid for asparagine at amino acid 185.

Other family members, siblings and their children, aunts, uncles and 1st degree cousins (showing symptoms of hemochromatosis not due to HFE mutations) of the proband and control subjects were tested for the N185D mutation. This was accomplished using a PCR and restriction enzyme digestion approach. A new primer was designed for PCR amplification containing a 2 base pair mismatch: 5'-TGGCCAACAGCCATGGGGGACAAG-3'. This resulted in a 138bp product. The single A → G nucleotide substitution created an AhdI restriction cut site producing fragments of 115bp and of 23bp. Individuals homozygous for the wild type allele produced one RFLP of 138bp and those heterozygous for the mutation produced two -138bp and 115bp when cut with AhdI. Fifteen members of three successive generations were reported to be heterozygous for the new mutation (Morris *et al*, 2005).

Iron studies were also conducted on the N185D carriers in the pedigree. All revealed elevated ferritin levels. There appeared to be an age-dependent increase in the biochemical iron indices (Morris *et al*, 2005).

Phenotypic expression of hemochromatosis is variable, depending on a complex interplay of the severity of the genetic defect, age, environmental influences as diet, other sources of iron loss, and alcohol use (Hanson *et al*, 2001). As the rate of iron overload and clinical symptoms vary, advanced complications are presented before the disease is often diagnosed. Absorbed iron is progressively accumulated in organs such as the liver, pancreas and heart. This accumulation of iron causes cirrhosis and liver failure, diabetes mellitus, cardiomyopathy and other complications that lead to premature death (Ezquer *et al*, 2005). This affects the quality of life of the patient. Present treatment of hemochromatosis is phlebotomy. The weekly or biweekly removal of blood can last up to two years before obtaining normal iron levels. This is then followed by a maintenance schedule of every few months (Lyon *et al*, 2001).

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A puzzle piece toward the hemochromatosis picture

Submitted by M. Joy Sowers

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An alternative therapeutic approach for all forms of hereditary hemochromatosis independent of its etiology and mechanism would be to reduce expression of the apical DMT-1 transporter gene. DMT-1 (divalent metal transporter- 1) is an iron transporter of the enterocytes and is responsible for iron uptake from the intestinal lumen. Recent studies have reported a short antisense gene that represses DMT-1 gene expression carried by an adenoassociated viral vector. This would reduce iron uptake by 50 - 60 % in the human intestinal cells. This appears to be the first model of gene therapy aimed at hemochromatosis (Ezquer *et al* 2005). Gene therapy has proven effective when the function of the gene is understood, the location of expression is known, and the nature of the mutation allows accessibility. Hereditary hemochromatosis mutations fall within these parameters therefore gene therapy holds promise.

HFE knockouts in mice are currently in the research stage. The role of the normal gene is determined by creating mutations. The N185D mutation is predicted to reside in the cytosolic intermembrane component of the protein. The nucleotide change occurs in a sequence of 28 amino acids that appear to have a sequence identity with the mouse. This conservation of sequence implies an important region for protein structure and function (Morris *et al*, 2005). Knockout mutations of other genes involved in iron metabolism, such as beta₂-microglobulin, transferrin receptor, and DMT-1, strongly modified the amount of liver iron suggesting that modifier genes may influence the course of hemochromatosis in humans (Hanson *et al*, 2001).

Due to the high incidence of mutations in the population, it has been recommended that population screening be implemented. This is still under review (Lyon *et al*, 2001).

As hemochromatosis diagnosis generally occurs mid-life when patients already have significant iron overload, screening in families with a genetic history will be effective in early monitoring of the disease. Availability of genetic testing allows hereditary hemochromatosis to be confirmed by genotyping which is considered >99% sensitive for a given mutation (Lyon *et al*, 2001).

The discovery of the novel mutation of the ferroportin gene (FPNI) by Morris *et al* has produced one more piece of puzzle in completing the picture of hereditary hemochromatosis. The work of Morris *et al* has demonstrated the potential for the immediate long term alleviation of human suffering.

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A puzzle piece toward the hemochromatosis picture

Submitted by M. Joy Sowers

(Continued from page 16)

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The Dress...

Jennifer's wedding day was fast approaching. Nothing could dampen her excitement-- not even her parents' nasty divorce. Her mother had found the PERFECT dress to wear and would be the best-dressed mother-of-the-bride ever!

A week later, Jennifer was horrified to learn that her father's new young wife had bought the exact same dress as her mother's!

Jennifer asked the new wife to exchange it, but she refused. Absolutely not. I look like a million bucks in this dress, and I'm wearing it," she replied.

Jennifer told her mother who graciously said, "Never mind sweetheart. I'll get another dress. After all, it's your special day." A few days later, they went shopping and did find another gorgeous dress. When they stopped for lunch, Jennifer asked her mother, aren't you going to return the other dress? You really don't have another occasion where you could wear it."

Her mother just smiled and replied, "Of course I do, dear. I'm wearing it to the rehearsal dinner the night before the wedding!"



Fredericton and River Valley Health are the proud hosts for

The 2nd Conference of Autoantibody Network
 Sept 21 – 22, 2006

Autoimmune Diagnostics
“Scanning the Past and Illuminating the Future”

Crowne Plaza Fredericton Lord Beaverbrook
 659 Queen Street, Fredericton, NB
 1-506-455-3371 or toll free 1-866-444-1946
 www.crowneplaza.com/fredericton

Room Rates: Traditional	\$129 single/double
Executive Class and River View	\$139 single/double

Delegates are responsible for making their own reservations. Reservations may be made by calling hotel directly or via email to:

tarsenault@cpfredericton.com

Indicate you are registering for the Autoantibody Network Conference. Any delegate registering prior to July 20, 2006 will have a chance to win one complimentary upgrade to an Executive Class Room for two nights.



Thursday, Sept 21, 2006

0800 – 0900 Registration

Chair: Dr. Mario D'Costa0900 – 0915 Dale Tozer, MLT, RT
*Opening Introduction - Welcome*0915 – 0930 **Dr. Donglai Ma**
*AAN – The Net is Working*0930 – 1030 **Keynote Speaker: Dr. Eng M Tan**
Autoantibody Diagnostics: Scanning the Past & Illuminating the Future

1030 – 1045 Nutrition Break

1045 – 1130 **Dr. James Henderson**
*Psycho/social Aspects of Connective Tissue Diseases*1130 – 1215 **Dr. Wolfgang Schlumberger**
Anti-CCP Autoantibodies – An Update

1215 – 1230 Questions & Discussions

1230 – 1240 The 2nd Conference Picture Taken
1240 – 1330 Lunch**Chair: Marguerite Zeale, ART**1330 – 1415 **Dr. Mario D'Costa**
*ANCA – Past, Present and Future*1415 – 1500 **Dr. Donglai Ma**
GBM Autoantibodies and Beyond

1500 – 1515 Nutrition Break

1515 – 1600 **Dr. Wolfgang Schlumberger**
*Autoantibodies against Cardiolipins*1600 – 1700 Round Table Questions & Discussions
*“Bring Your Questions, Share Your Experience”*1830 – 1900 Social Time – Meet your Colleagues
1900 - ??? Kitchen Party – Time for Fun!!!*(Continued on page 20)*

(Continued from page 19)

Friday, Sept 22, 2006

Chair: Dr. Donglai Ma

- 0900 – 0910 *Presentation by Next Conference Host*
- 0910 – 0955 **Dr. Yoshinao Muro**
*Anti-DFS70 Antibody
Its Clinical Significance and is it an Antinuclear Antibody?*
- 0955 – 10:40 **Dr. Wolfgang Schlumberger**
Serological Markers of Autoimmune Liver Disorders
- 1040 – 1055 Nutrition Break
- 1055 – 1140 **Dr. Jianying Zhang**
*Detection of Autoantibodies to Tumor-Associated Antigens for Immunodiagnosis
of Cancer*
- 1140 – 1210 Questions & Discussions
- 1210 – 1300 Lunch

Chair: Dale Tozer, MLT, RT

- 1300 – 1400 **Marguerite Zeale, ART**
Quality Control of Autoantibody Testing in the Clinical Lab
- 1400 – 1500 **Dr. Wolfgang Schlumberger**
Quality Assurance – From Manufacturer Point of View
- 1500 – 1520 Nutrition Break
- 1520 – 1600 **Andrea Krapf**
New Developments in EUROIMMUN
- 1600 – 1620 Questions and Discussion

DEPART FROM CONFERENCE



REGISTRATION FORM

The 2nd Conference of Autoantibody Network



Autoimmune Diagnostics “Scanning the Past and Illuminating the Future”

Sept 21-22, 2006

Crowne Plaza Fredericton Lord Beaverbrook
659 Queen Street, Fredericton, NB
1-506-451-8972 or toll free 1-866-444-1946

Institution (University/Hospital/Clinical Lab, please include department or division)				
Title: (Dr/Prof/Mr/Ms)	Surname		First name	
Street		City	Prov	Postal Code
Tel		Fax		
Email				

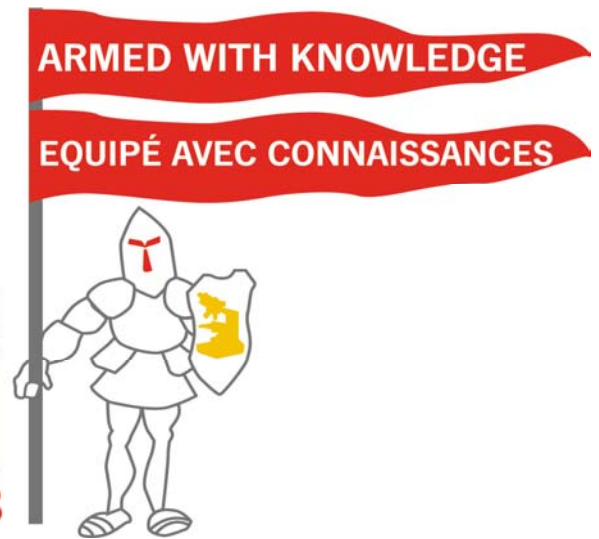
PLEASE INDICATE IF YOU WILL BE ATTENDING: KITCHEN PARTY (Sept 21)				
ATTENDANCE	<input type="checkbox"/>	YES	<input type="checkbox"/>	NO
PLEASE INDICATE YOUR CHOICE	<input type="checkbox"/>	LOBSTER	<input type="checkbox"/>	STEAK
Like to bring a guest? Extra Tickets may be purchased for \$40				
Indicate # of extra tickets only:	<input type="checkbox"/>	LOBSTER	<input type="checkbox"/>	STEAK

Registration Fee (includes Kitchen Party) **Before Aug 18/06 - \$150.00**
After Aug 18/06 - \$200.00

Please submit completed registration form and cheque (payable to “Autoantibody Network”) to:
Ms. Dale Tozer
Haematology Laboratory
Dr. Everett Chalmers Regional Hospital
PO Box 9000, Priestman St
Fredericton, NB Canada E3B 5N5
Email: dale.tozer@rvh.nb.ca
Phone: 1-506-452-5449
Fax 1-506-452-5417

Do you have any autoantibody related questions to be discussed at the conference? Please let us know:

2006
MARITECH
 SAINT JOHN NB OCT 26 - 28



Keynote speaker: Moira McLaughlin

Professor of Anthropology St. Thomas University Graduate of U of Tennessee. As a specialist in osteology and body decomposition, she has become an invaluable resource to Maritime RCMP, police forces and Medical Examiners. Dr McLaughlin's talk will provide insight into the field of forensic anthropology and it's relativity to the forensic artist by examining some of her case studies.

Plenary speakers: Dr Todd Hatchette

Director of Immunology and Virology at the QEII Health Sciences Centre
'Avian Influenza and Its Pandemic Potential'

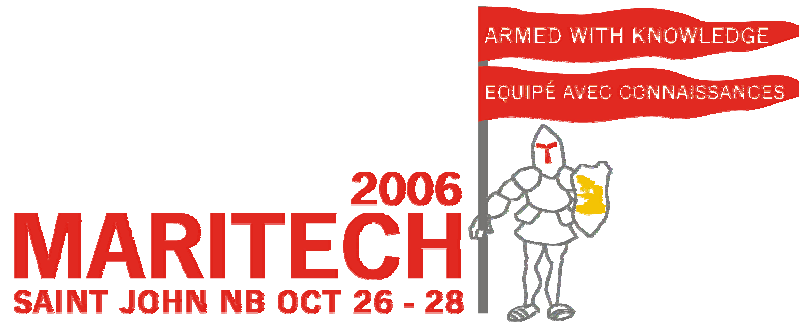
Dr D.H. Lalonde B.Sc, M.D., FRCSC
 Professor of Surgery, Dalhousie University
'Operation Smiles-Volunteer Plastic Surgery'

Highlights of our program

Speaker	Topic
Francine Bordage (bilingual)	Tertiary Cardiac Care in NB
Dr Ihssan Bouhtiany (bilingual)	Drugs of Abuse
Dr Richard Garceau (bilingual)	CMV:Disease and Laboratory Diagnosis
Dorothy Harris	Right Product, Right Place, Right Time
Dr Dan Fontaine (bilingual)	FNA Head and Neck
Dr Margaret Kayser	Chemistry Behind Anti-cancer Drugs (Taxol analogues)
Dr Peter Twohig	Labour in the Laboratory-Professional identity, politics and healthcare work
Dr Philip Welch	Fragile X-An intriguing multi-faceted disorder
Dr Beth Gilbert	Effective Communication and Active Listening

*Full program (including workshops) as well as registration form will be made available in the August issue of the 'Analyzer' and on the NBSMLT website: www.nbsmlt.nb.ca

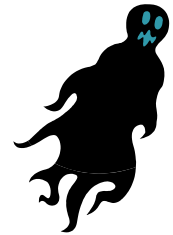
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Social Program:

Meet and Greet (casual): Wednesday Oct 25, 2006 18:00-22:00
Early registration/Trinity Room
Cash bar /Snack foods provided by Saint John Academy

Exhibitors Reception: Thursday Oct 26, 2006 18:30-20:30
Exhibitor area, Delta Hotel

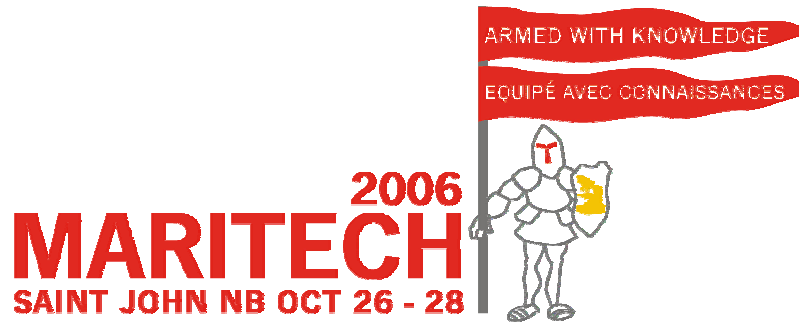


Haunted Walking Tour: Thursday Oct 26, 2006 at 20:30
Cost \$13.00 (min 15 people)

Guided by *Ghosts and Goblins* through Saint John's Loyalist Burial Grounds and ending in one of our **Favourite Haunts**.



Phoenix Dinner Theatre: **Show and Dinner** (max 180)
Friday Oct 27, 2006
'Heaven or Nothing' (a game show comedy)
\$47.00 includes transportation, show, dinner, tax and gratuities.
Menu: *crisp garden salad, dinner rolls, mashed potatoes, garden vegetable medley.*
Choice of: 1) *Beef Bourguignon;*
2) *Dill encrusted salmon fillet*
3) *Lemon breast of chicken*
Seasonal Dessert, Tea or coffee



Early registration date: <i>Sept 22, 2006*</i>	Full registration 2 1/2 days		1 Day TH or FRI		½ Day TH or FRI or SAT		Amount
	Early	after Sept 22	Early	after Sept 22	Early	after Sept 22	
NBSMLT/CSMLS member	\$ 180	\$ 220	\$ 75	\$ 90	\$ 35	\$ 45	\$
Non-member	\$220	\$ 230	\$ 90	\$ 100	\$ 45	\$ 50	\$
Student	\$40		\$20		N/C (lunch not included)		\$

Registration Fees (Lunch and nutrition breaks are included)

*****prize draw for early registrants (weekend for two/Delta Hotel)*****

Registration Contacts:

Susan Findlater/Suzanne Turcotte
 C/O Hematology Lab
 Saint John Regional Hospital
 2100 University Ave
 Saint John , N.B. E2L 4L2
 Info: call 506-648-6883 fax 506-648-6869
 Email: finsu@reg2.health.nb.ca

Accommodations – Register under “Maritech 2006” for Delta special rates.

Hotel	Address	Price Single/Double	Parking	Phone
Delta Brunswick Hotel	39 King Street	\$129+Tx. / \$129+Tx.	\$10.50 guests	1-800-268-1133
		Register under “Maritech 2006”	N/C week-ends	506-648-1981
Hilton Saint John	1 Market Square	\$124+Tx std room	\$14.95	1-800-561-8282
		\$169+Tx executive use code MAR102506A		506-693-8484
Fort Howe Hotel & Convention Centre (formerly Coastal Inn Fort Howe)	10 Portland St.	\$93 + Tx single	Free	1-800-943-0033
		\$102 + Tx double		506-657-7320
		\$119 +Tx single executive \$129 +Tx double executive		