CANNT ACITN
CANADIAN ASSOCIATION OF NEPHROLOGY NURSES AND TECHNOLOGISTS
L'ASSOCIATION CANADIENNE DES INFIRMIÈRES ET TECHNICIENS DE NÉPHROLOGIE

CANNT JOURNAL
JOURNAL ACITN

Volume 18, Issue 4 October–December 2008

IN THIS ISSUE:

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2. National Kidney Foundation. K/DOQI Clinical Practice Guidelines for Bone Metabolism and Disease in Chronic Kidney Disease. *Am J Kidney Dis.* 2003;**42**(Suppl 3):S1-S201.
3. Renagel® Product Monograph, Genzyme Canada; 2006.

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CONTENTS

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Website: www.cannt.ca

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Letter from the Editor: Gillian Brunier

Lettre de la rédactrice en chef : Gillian Brunier

Thank you to our 2008 reviewers!

Merci à nos critiques de 2008!

There is much work that takes place behind the scenes to bring high-quality articles to publication in the **CANNT Journal**. I would like to thank the following reviewers who assisted us in manuscript review during 2008. It is these manuscript reviewers who have volunteered their time and provided such expert assistance in reviewing manuscripts over this past year. Please take a moment to acknowledge their support of the **CANNT Journal** and advancement of Canadian nephrology practice.

Une part importante du travail se fait dans l'ombre avant la parution d'articles de grande qualité dans le **Journal ACITN**. Je profite de l'occasion pour remercier les personnes suivantes qui ont participé à la révision de manuscrits en 2008. Elles ont donné gracieusement de leur temps et mis à contribution leurs connaissances spécialisées dans la révision des articles avant leur parution au cours de la dernière année. Nous prenons donc le temps ici de reconnaître leur soutien dans la publication du **Journal ACITN** et de souligner leur collaboration aux progrès de la pratique de la néphrologie au Canada.

2008 Reviewers

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De plus, je désire remercier les personnes suivantes qui participent à la revue de la traduction des rapports et manuscrits :

And to the two reviewers this year who have so carefully read the proofs of the French translation of reports and articles for the **CANNT Journal:**

Arlette Desranleau, RN, BSc, CNeph(C), NephroCare Clinical Manager, Fresenius Medical Care Canada

Chantal Saumure, RN, BSN, MBA, Nurse Manager, Hemodialysis and Telenephrology, Beausejour Regional Health Authority, Moncton, NB

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See the highlights and award winners from CANNT 2008 on page 8 of this issue!

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Site web : www.cannt.ca

• **Voici les échéanciers à rencontrer pour soumettre des articles/nouvelles au journal :**
Janvier–mars – le 15 janvier,
pour publication le 15 mars
Avril–juin – le 15 avril,
pour publication le 15 juin
Juillet–septembre – le 15 juillet,
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Turning toward our future: The next 40 years

As I compose my final message to you as CANNT president, I reflect upon the past year's accomplishments. We have had another successful year as an organization in this, our 40th year. In partnership with the board of directors and membership, we have completed a number of important projects in 2007/08. We have revised the Standards of Nursing Practice under the leadership of Marsha Wood, RN, MN, CNeph(C). Marc Héroux, C.Tech, led the working group developing new Home Dialysis Technological Standards of Practice, and both documents were fully translated into French and have been made available to the membership on CD and on-line at **www.cannt.ca**. We also updated our website under a new provider, an initiative that will allow us greater flexibility in future to better serve the membership. Our hope is that through the English site and the soon-to-be-launched French site (**www.acitn.ca**), CANNT will be able to offer, amongst other things, educational opportunities that will support you in your practice and your certification initiatives. Additional accomplishments are outlined in the annual report available on the website.

Our annual symposium was held in Quebec City, October 23–26, 2008. The theme "Our Past Turned Toward our Future" reflected both our 40th anniversary celebrations and our vision moving forward toward the next 40 years. I would like to extend, on behalf of the board of directors, a thank you to conference co-chairs Liane Dumais and Danielle Boucher and their planning committee members for their efforts in planning this excellent symposium. Feedback was extremely positive and complimentary about the program, the learning and networking opportunities, and the entertainment provided to attendees. During our annual general meeting, we were pleased to recognize CANNT award recipients Jillian Campbell, Jim McDougall, Robert Haché, Barb Wilson, Billie Hilborn, Karen MacDonald, Sandra Lagace, Katie Nikl, Cynthia Yam, Nicole Veronivici, Sue Young, and Lori Harwood and colleagues. We look forward to coming together again in 2009 for the symposium in St. John, New Brunswick.

At CANNT 2008, we also celebrated our 40th anniversary. We were pleased to welcome previous presidents of CANNT and to honour them by having them act as flag bearers at our opening ceremonies. We were privileged to hear from Fran Boutilier, one of the founding members of the organization we now know as CANNT. The highlight of the celebrations was the **CANNT Journal** issue, co-edited by two committed members, journal editor Gillian Brunier and Faye Clark, former CANNT president. Special thanks to these exceptional women for their commitment and to all of the contributors to this keepsake issue for sharing their experiences and knowledge.

The board of directors had its fall meeting in the three days preceding the symposium. I would like to express my thanks to the board for its support and energy this past year. To outgoing members Lori Harwood, Jane Alfarero, and Marc Héroux, sincere thanks for your commitment to CANNT through your time as board members. To new members Marilyn Muir, Shripal Parikh and Gail Barbour, I hope you will find the experience to be rewarding and energizing. I look forward to the coming year, as I move on to assume the role of past-president, with Janet Baker assuming the president's role for 2008/09.

All the best to you and yours for a very happy and safe holiday season.

Alison Thomas, RN(EC), MN, CNeph(C),
CANNT President

Se tourner vers l'avenir : les 40 prochaines années

En composant mon dernier message à titre de présidente, j'ai passé en revue les réalisations de l'an dernier. Nous avons connu en tant qu'organisation une autre année exceptionnelle qui a été marquée notre 40e anniversaire de fondation. En partenariat avec les membres, nous avons accompli un nombre important de projets en 2007–2008. Nous avons révisé les Normes de pratique infirmière sous la direction de Marsha Wood, inf., M.Sc.Inf., CNéph(C). Marc Héroux, C.Tech, a dirigé le groupe de travail sur la rédaction des Normes de pratique technique pour la dialyse à domicile. Ces documents ont été entièrement traduits en français et ont été remis sous forme de cédéroms à l'ensemble de nos membres lors du congrès. Ils sont aussi disponibles en ligne à **www.cannt.ca**. Nous avons également mis à jour notre site Web avec le soutien d'un nouveau fournisseur. Cette initiative nous assurera une plus grande souplesse afin de mieux rencontrer vos besoins. La version francophone du site sera bientôt disponible à l'adresse suivante : **www.acitn.ca**). Je vous invite à consulter en ligne notre Rapport annuel qui présente d'autres réalisations.

Notre Congrès annuel a eu lieu dans la ville de Québec, du 23 au 26 octobre 2008. Notre thème « Notre passé tourné vers l'avenir » (*Our Past Turned Toward our Future*) reflétait à la fois notre 40e anniversaire de fondation et notre vision d'aller de l'avant, de nous tourner vers les 40 prochaines années. J'aimerais, au nom des membres du Conseil d'administration, remercier les deux coprésidentes du Congrès, Liane Dumais et Danielle Boucher, ainsi que les membres du comité organisateur pour les efforts déployés dans la planification de cet excellent Congrès. Les commentaires ont été extrêmement constructifs et élogieux à propos du programme, des ateliers d'apprentissage, des occasions de réseautage et des divertissements. Au cours de notre assemblée générale annuelle (AGA), nous avons honoré les récipiendaires de prix d'excellence suivants : Jillian Campbell, Jim McDougall, Robert Haché, Barb Wilson, Billie Hilborn, Karen MacDonald, Sandra Lagacé, Katie Nikl, Cynthia Yam, Nicole Veronivici, Sue Young et Lori Harwood et ses collègues. Nous attendons avec impatience le moment de nous rassembler de nouveau en 2009, à Saint Jean, au Nouveau-Brunswick.

Au Congrès de 2008, nous avons également célébré le 40e anniversaire de notre association. Nous avons eu le plaisir d'accueillir d'anciennes présidentes de l'ACITN et de les honorer en leur demandant d'agir comme porte-drapeaux lors de la cérémonie d'ouverture. Nous avons eu le privilège d'avoir des nouvelles de Fran Boutilier, membre fondateur de notre association qui est aujourd'hui connue sous la dénomination de l'ACITN. Les faits saillants de ces célébrations ont été le numéro spécial du Journal de l'ACITN, coédité par deux membres très engagées, Gillian Brunier, rédactrice en chef, et Faye Clark, ancienne présidente. Je tiens à remercier très sincèrement ces deux femmes exceptionnelles pour leur engagement ainsi que tous ceux et celles qui ont contribué de près comme de loin à la création de ce numéro spécial en partageant leurs expériences et leurs précieux souvenirs.

Les membres du Conseil d'administration ont eu leur réunion automnale au cours des trois jours précédents le Congrès. J'aimerais remercier tous les membres du Conseil d'administration pour leur précieux soutien et leur inépuisable énergie au cours de la dernière année. Aux membres sortants, Lori Harwood, Jane Alfarero et Marc Héroux, je vous remercie du dévouement dont vous avez fait preuve tout au long de votre mandat à titre de membre du Conseil d'administration. Aux nouveaux membres, Marilyn Muir, Shripal Parikh et Gail Barbour, j'espère que vous trouverez l'expérience enrichissante et énergisante. C'est donc avec impatience que j'attends la nouvelle année, à titre de présidente sortante, avec Janet Baker à la présidence pour 2008–2009.

Je vous souhaite, à vous et à votre famille, tous mes vœux de santé et de bonheur pour la saison des fêtes.

Alison Thomas,
inf. aut., M.Sc.Inf., CNéph(C)

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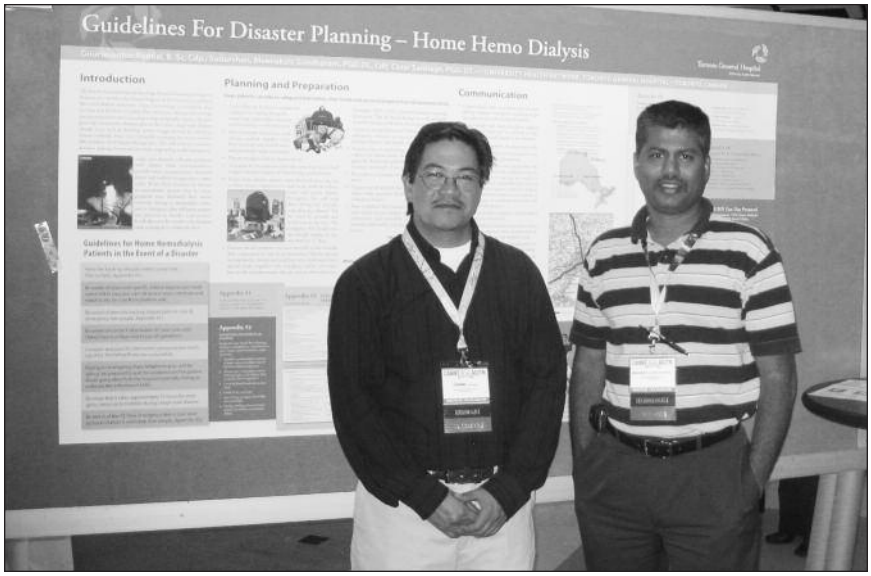
CANNT 2008 Highlights

Our Past Turned Toward Our Future

October 23–26, 2008, Quebec Convention Centre, Quebec

Celebration was in the air at CANNT 2008! Many milestones were celebrated during this year's CANNT conference… for 40 years, CANNT members have been gathering from across Canada at an annual conference for a time of learning, networking and socialising; for 100 years, the Canadian Nurses Association has been the professional voice of Canadian nurses in all areas of specialty; and for 400 years, Quebec City has been heralded as a founding city in our great nation!



Cesar Santiago and Meenakshi Sundharam Sudarshan from Toronto, Ontario, displaying their poster presentation entitled, "Guidelines for disaster planning—Home hemodialysis".

Troy Rossmann, co-author, stands beside his poster presentation called, "Technical challenges of delivering mobile rural renal dialysis in Alberta".

For all of these celebrations to showcase, CANNT 2008 was aptly themed: Our Past Turned Toward Our Future. With almost 800 people gathered from across Canada and internationally, CANNT 2008 featured scientific sessions: 42 oral presentations and 60 posters, entertaining and thought-invoking keynote speakers, leading-edge technology and services featured in the exhibit hall, and social activities showcasing the history and talent of Quebec City. CANNT was pleased to host delegate representatives from the Canadian Nurses Association (CNA) and the American Nephrology Nurses Association (ANNA).

CANNT 2008 was highly successful in large part due to the generous support of the corporate partners that sponsored various components of the conference:

PLATINUM ($10,000 +)
Amgen Canada, Baxter Corporation, BHC Medical, Fresenius Medical Care, Gambro Inc., Hoffmann-La Roche Ltd., Ortho Biotech and Shire Canada.

BRONZE ($2,500–$4,999)
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Thursday, October 23

Four hundred (400) delegates gathered to participate in five different preconference workshops, provided by corporate partners Fresenius Medical Care (Advances in Nephrology Care through

Fran Boutilier, first CANNT President, speaks to delegates about the early days of the association.

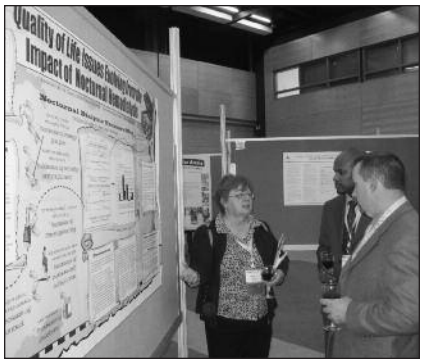
Technology), Baxter Corporation (Basics of Peritoneal Dialysis—in both English and French), and Hoffmann-La Roche (from Shunt to Buttonhole—What does the future hold?). In addition, a joint workshop by CANNT and the Canadian Nurses Association on nephrology certification preparations was offered.

Following these three-hour workshops, two dinner meetings (for just under 300 delegates) were featured: The Evolution of Dialysis Technology (Baxter Corporation), and Predialysis Care and the Vexing Problem of Unplanned Dialysis Starts (Ortho Biotech).

"Celebrate Good Times—Come On!" was the celebratory theme for the opening wine and cheese reception held in the Exhibit Hall on Thursday evening. The Exhibit Hall showcased 34 different vendors, as well as the 60 scientific poster displays. With milling historic characters Jean Talon and Jacques Cartier, in addition to Quebec's founding father Samuel de Champlain, the historic past was brought to life during this opening reception. Specific thanks are extended to Hoffmann-La Roche for its generous support of this event.

Friday, October 24

After breakfast in the Exhibit Hall, delegates were invited to the opening ceremonies, followed immediately by the opening keynote speakers, Adwoa Buahene and Giselle Kovary of n-Gen Performance. Their keynote address specifically addressed the similarities and differences across the four generations of employees in today's workforces. CANNT's Annual General Meeting and Award Celebration followed. Friday afternoon brought three sets of concurrent sessions that highlighted research, technical, pediatric, administration, pharmaceutical and nursing topics—session sponsors included: BHC Medical and Baxter Corporation. Friday evening was an open evening for most delegates—and they took full advantage of everything that Quebec City had to offer… shopping, fine dining and tourist destinations. To honour the 40 years of the association's existence, the current board of directors of CANNT held two celebrations on Friday evening back-to-back. The first event, CANNT's 40th Celebration Reception, offered a time of light refreshments and presentations to all delegates. The second event, the CANNT President's Reception, was held in the beautiful Panorama Room on the 23rd floor of the Hilton Hotel for a



Bonnie Couture from Calgary, Alberta, discussing the poster presentation that she co-authored named, "Quality of life issues evolving from the impact of nocturnal hemodialysis".

Award winners from CANNT 2008

- **Award of Excellence Clinical Practice:** Sandra Lagacé, Moncton, NB
- **Award of Excellence Administration/Leadership:** Jillian Campbell, Toronto, ON
- **Award of Excellence Education:** Katie Nikl, Vancouver, BC
- **Award of Excellence Mentorship:** Cynthia Yam, Edmonton, AB
- **Award of Excellence Technical:** Tie: Robert Haché, Moncton, NB and Jim McDougall, Toronto, ON
- **Award of Excellence Novice Practitioner, Western Region:** Nicole Veronovici, Edmonton, AB
- **Franca Tantalo Bursary** (Post Graduate) was awarded to Billie Hilborn, Toronto, ON
- **Frances Boutilier Bursary** (Baccalaureatae) was awarded to Karen MacDonald, Sydney, NS
- **Research Grant** (innovative research project, supporting the development of nephrology practice) was awarded to Barb Wilson, London, ON—"The culture of vascular access cannulation among nurses in a chronic hemodialysis unit"
- **2008 Manuscript Award** was awarded to Sue Young, Vancouver, BC, for her manuscript "Rethinking and integrating nephrology palliative care"
- **CANNT Journal 2008 Award** was awarded to Lori Harwood, Barbara Wilson, Bonita Thompson, Elizabeth Brown and Danae Young, London, ON, for their article, "Predictors of hemodialysis central venous catheter exit-site infections" published in the April–June 2008 issue of the CANNT Journal.

Poster Award Winners

"Building partnerships: Promoting peritonitis prevention"
Debra Appleton, Sharron Izatt, Elizabeth Kelman, Fatima Benjamin-Wong, Wendy Clarke, Cathy Dickenson, Kay McGarvey, Judith Ferguson, Emily Harrison, Linda Nasso, Mina Kashani, Ramona Cook, Estrella Mercurio, Cenona Wilson, Pat Pollard, Christina Rajsic, Jannette Solomon, Patricia Trieu, Sharon Fairclough and Saverina Sanchez, Toronto, ON

"The impact of single-needle hemodialysis on new chronic dialysis starts for individuals with arteriovenous fistulae"
Barbara Wilson, Lori Harwood, Bonita Thompson, Gail Barbour, Mike Berta, Lisa Hannah, Betty Herman, Elaine Liston, Margaret Robb, Nola Rowland and Twylla Dawn Wyton, London, ON

"Achieving patient and management expectations through an interdisciplinary peritoneal dialysis approach"
Sylvie Bureau and Nicole Mathieu, Montreal, QC

"Le réseau vasculaire: un capital à préserver pour le futur"
Diane Desmarais and Lyse Pelletier, Montreal, QC

"Achieving the 2006 pediatric kidney disease outcomes quality initiative anemia targets in hemodialysis: outcomes following a nurse-driven anemia protocol"
Lori Paillé and Colin White, Vancouver, BC

"Picture this... Putting a face to positive patient identification"
Saverina Sanchez and Annette Weeres, Richmond Hill, ON

smaller group. At this event, the current board of directors honoured as many past presidents as could attend, as well as recognizing corporate partners and key participants in CANNT's history.

Saturday, October 25

Dr. Gilles Lapointe of "Allô Docteur" fame started the delegates' day with their sides in stitches, as he shared his humorous keynote address, "Preserving Your Health in a World of Change"! With a full schedule again on Saturday, delegates were definitely able to find topics of interest: four sets of concurrent sessions suited to their professional interests and needs. Thanks are extended to Gambro, Ortho Biotech, Covidien and Fresenius Medical Care for offering four sponsored concurrent sessions.

After the last foray in the Exhibit Hall over lunchtime, delegates participated in the panel presentation, "Dialysis and Transplantation: Accessibility for All or Selection Criteria?" The 90-minute discussion was thought-provoking for everyone involved!

For many delegates (over 360 in fact!), one of the highlights of CANNT 2008 was the evening of entertainment that featured the extraordinary "Painchaud Family" of Quebec City! Their talent and truly captivating humour entertained and amazed! All in all, the evening certainly captured its name, "Que la fête continue!" Thanks are offered to BHC Medical for its financial support of this event.

Sunday, October 26

Delegates began their morning with a tasty, seated breakfast with a quiet time to socialize and reflect—thanks are extended to Gambro for its sponsorship of Sunday's breakfast and two keynote speakers. Richard Worzel, a renowned Canadian futurist, offered a thought-provoking and intriguing address on "Dark Clouds and Silver Linings: The Future for Health Care Professionals." Certainly another component that captured the conference theme "Our Past Turned Toward Our Future." A brief invitation to CANNT 2009 in Saint John, New Brunswick, was given immediately prior to the final keynote speaker, Danièle Sauvageau, who is former Head Coach of the first Canadian Olympic Hockey Team to win gold in 50 years. Ms. Sauvageau's message, "Going for Gold in Leadership" left everyone present inspired to move strongly into their futures, both personally and professionally.

All in all, CANNT 2008 was a tremendous success. CANNT appreciates the hard work of the CANNT 2008 planning committee including: Danielle Boucher (co-chair), Liane Dumais (co-chair), Diane Boisvert, Julie Dupont, Robert Hache, Lori Harwood, Julie Paquet and Chantal Saumure. Conference planning and management services were provided by Heather Reid and Sharon Lapointe of Innovative Conferences & Communications. Congratulations and thanks are extended to everyone involved!

CANNT past presidents—Celebrating CANNT's 40th Anniversary together are some past presidents: Back row: Susan MacNeil, Denise Gaudet, Valerie Price, Anita Amos, Lori Harwood. Front row: Phyllis Malek, Faye Clark, Rita Brownrigg, Alison Thomas, Fran Boutilier.

Delegates attending CANNT's 40th Anniversary Celebration proudly wearing their CANNT T-shirts.

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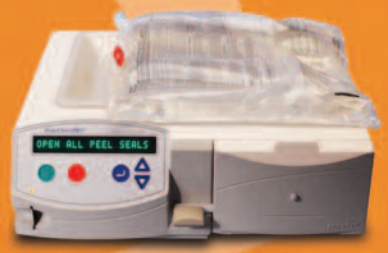

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Personalized Dialysis

The Kidney Foundation of Canada Allied Health Committee Annual Report 2008

by Eleanor F. Ravenscroft, RN, MSN, PhD, CNeph(C), Outgoing CANNT representative to the Kidney Foundation of Canada Allied Health Scientific Committee

It has been an honour and pleasure to represent CANNT on The KFOC Allied Health Scientific Committee for a four-year term from 2004 to 2008. This is my last report to the CANNT board; Heather Beanlands, RN, PhD, is the new CANNT representative to The KFOC Allied Health Scientific Committee as of the 2009 competition.

The Kidney Foundation of Canada (KFOC) plays a major role in supporting and advancing kidney-related research and scholarship through research grants, fellowships, and scholarships to biomedical and allied health professionals. The KFOC Allied Health Scientific Committee met in Toronto on March 29, 2008, to review funding applications for Allied Health Research Grants, Fellowships, and Scholarships. The Kidney Foundation of Canada Research Council used recommendations from the Allied Health Scientific Committee in making final funding decisions. The results of the Allied Health 2008–2009 competition are:

Allied Health Research Grants

The grants are awarded for a research project relevant to clinical practice. The principal investigator must be an allied health professional (i.e., nurse, dialysis technician, dietitian, social worker, etc.).

BEANLANDS, Heather, Martha E. Horsburgh, Elizabeth A. McCay, Michelle A. Hladunewich, Souraya Sidani, Daniel C. Cattran
Ryerson University, Toronto
Can psychosocial variables and self-management behaviours help explain progression in chronic kidney disease?
Category: Quality of Life
2007–2008: $31,204
2008–2009: $18,454

NICHOLAS, David, Michelle McClure, Kelly J. McCormick, Annette Vigneux, Gail L. Picone
The Hospital for Sick Children, Toronto
Evaluation of an online peer support network for parents of children with chronic kidney disease (CKD)
Category: Quality of Life
2007–2008: $49,973
2008–2009: $49,980

PATERSON, Barbara, Lee Ann Sock, Denis LeBlanc, Heather L. MacDonald
University of New Brunswick, Fredericton
Facilitating integrated and culturally relevant health care for rural Aboriginal people who undergo hemodialysis in an urban centre: An intervention development study
Category: Dialysis
2007–2008: $42,325
2008–2009: $43,225

DETTMER, Elizabeth, Margot I. Mitchell, Rita Pool, Jeffrey Schiff, Sharon Lorber, Miriam E. Kaufman
The Hospital for Sick Children, Toronto
Development and testing of a self-management program for youth post-kidney transplant: A pediatric and adult care collaboration
Category: Quality of Life
2008–2009: $39,443
2009–2010: $45,691

BISSONNETTE, Janice, Kirsten Woodend, Gregory Knoll
University of Ottawa, Ottawa
Evaluation of a collaborative case management on clinical target and adherence achievement for transplant CKD patients
Transplantation
2008–2009: $30,000

Allied Health Doctoral Fellowships

The Allied Health Doctoral Fellowships assist allied health professionals in academic and research preparation at the Doctoral level. Fellowship recipients may train in Canada or abroad.

BARNIEH, Lianne
Supervisor: Brenda Hemmelgarn
University of Calgary, Calgary
A patient-centred educational intervention to improve the choice of living kidney donation among renal transplant recipients: A randomized controlled trial
Category: Transplantation
2007–2008: $27,000
2008–2009: $27,000
KFOC Southern Alberta Branch Allied Health Doctoral Fellowship

MANTULAK, Andrew
Supervisors: Anne Westhues, Marshall Fine
Wilfrid Laurier University, Waterloo
The lived experience of parents caring for a child with end stage renal disease
Category: Quality of Life
2007–2008: $27,000
2008–2009: $27,000

ROY, Patrick
Supervisors: François Madore, Jacques LeLorier
Hôpital du Sacré-Coeur de Montréal
Observance aux thérapies cardiovasculaires préventives chez les patients souffrant d'insuffisance rénale sévère: impacts sur le développement des événements cardiovasculaires
Category: Renal Failure
2008–2009: $25,000
2009–2010: $25,000

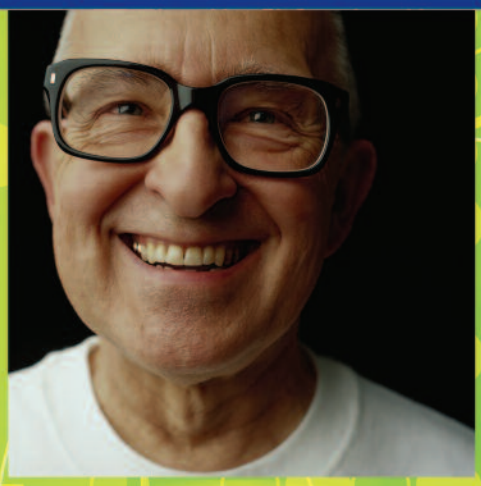
Allied Health Scholarships

Allied Health Scholarships assist students with a demonstrated interest in nephrology or urology in pursuing their education at the master's, doctoral or nurse practitioner level. No Allied Health Scholarships were awarded for 2008–2009.

Application Deadlines

The Kidney Foundation of Canada invites applications for the 2009 competitions. The application deadlines are:
Biomedical Research Grants and Scholarships: **October 15, 2008**
Allied Health Research Grants: **October 15, 2008**
Allied Health Fellowships and Scholarships: **March 15, 2009**

More information about these and other funding opportunities (e.g., the Krescent Research Program), application forms, and help in preparing your application are available on The Kidney Foundation of Canada website, www.kidney.ca, or contact:
Coordinator
Research Grants and Awards
The Kidney Foundation of Canada
300-5165 Sherbrooke St. West
Montreal, QC H4A 1T6
Telephone: 1 (800) 361-7494, ext. 232
(514) 369-4806, ext. 232



We never stop looking for answers.

We focus on the research and development of medicines for central nervous system, gastrointestinal, renal and human genetic diseases.

We put people first, improving the quality of life for patients, their families and their caregivers. Through the commitment of our employees, we're making a difference in the health of Canadians and the communities in which they live.

Shire BioChem is proud to support the Canadian Association of Nephrology Nurses and Technologists.

Nous recherchons sans cesse de nouvelles solutions.

Nos efforts ciblent la recherche et le développement de traitements novateurs des maladies des systèmes nerveux central, gastro-intestinal et rénal ainsi que des maladies relatives à la génétique humaine.

Les gens étant au cœur de nos préoccupations, nous améliorons la qualité de vie des patients, de leur famille et des aidants. L'engagement de nos employés nous permet de faire la différence en matière de santé pour les Canadiens et leurs communautés.

Nous sommes fiers de nous associer à l'Association canadienne des infirmières et infirmiers et des technologues de néphrologie.

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Regional reports
Rapports régionaux

Western Region (Rick Luscombe)

So comes the end of my term as VP of Western Canada. It has been a tremendous experience. I would like to especially thank all of my liaisons throughout the past two-and-a-half years for all of their support. Without them, these reports would not have been possible.

Manitoba

- Health Sciences Centre in Winnipeg is expanding this fall, adding 10 more stations.
- Health Sciences Centre has been providing lunch and learn sessions. Topics range from dietary issues and vascular access to hypertension control.
- Fifth annual Manitoba Renal Program conference in partnership with Western PD days occurred September 26–28. The theme of the conference was "Taking care home."
- Winnipeg's Seven Oaks Renal Clinic/Peritoneal Dialysis Unit and chronic kidney disease (CKD) programs are booming.
- Seven Oaks welcomes two additional RNs to its program, Phyl Pawluk in predialysis, and vascular access nurse Kim Jenkin.
- Dr. Paul Komenda will start a new nocturnal home hemodialysis program this fall.
- Health Science Centre will continue to train patients for short daily hemodialysis.
- The current assisted PD program is going to reopen in partnership with homecare and then health care aides will be trained under Homecare and Hospital (St. Boniface and Seven Oaks) supervision.
- The Manitoba Renal Program, in collaboration with Sunnybrook Health Sciences Centre in Toronto, will be part of a multicentre study funded by the Canadian Institutes for Health Research (CIHR) and the Physician Services Incorporated (PSI) Foundation, looking at a home care assisted PD website data collection program. All new start dialysis patients are registered: inclusion and exclusion criteria are applied to determine if further data collection is required. The program captures baseline information such as dialysis start dates, access, predialysis care, comorbidities, lab values, eligibility for PD or hemodialysis, was PD offered and if not, why, if PD was refused, why. Education and outcomes will also be captured.
- Boundary Trails Health Centre Dialysis Unit has implemented an activity challenge for patients, family members and staff. Goals of the challenge are fun, awareness of current state of physical activity and, ultimately, to improve activity level. The unit's first challenge was to walk to Churchill, Manitoba. They've exceeded their expectations and now have decided to split the team in two and race to the coasts. Good luck!

Saskatchewan

- The Saskatoon Transplant Program welcomes Nephrologist Dr. Rahul Mainra to the program.

Alberta

no report

British Columbia

- Provincial vascular access service team working on developing a provincial vascular access workshop for nurses focusing on assessment and cannulation.

Fraser Health Authority

- Abbotsford hospital establishes new nephrology program.

Vancouver Coastal Health Authority

- Providence Health Care KFC (CKD clinic) is working towards electronic charting.
- Link nurse will become involved in pre-transplant work-up for CKD patients to assist with transitioning patients into pre-transplant.

B.C. Children's

- A new Multi-Organ Transplant Program began October 1.
- Two poster presentations at CANNT this year and presented at B.C. Nephrology Days.
- Three-year pilot project with the Pediatric Program Renal Management Model is coming to a successful close with key quality indicators being met or exceeded.

Northern Health Authority
Prince George

- Vascular Access Clinic has moved to the regional care clinic area within the Prince George Regional Hospital. Clinics are now twice monthly.
- The in-centre unit got new dialysis machines in September.
- The Independent Care Unit is now in full operation three days per week with future plans of operating five days a week. Two new patients have recently started.
- The home hemodialysis program has two patients waiting to be trained at this facility.
- The staff in the chronic kidney disease (CKD) program continues to work along with chronic disease management to see how we might work collaboratively to provide care to outlying communities. There are currently 520 clients in our CKD program.

Vancouver Island Health Authority

- Port Alberni had a family lake/BBQ day August 10 at Sproat Lake. The event was well attended by the members of our small community dialysis unit. Activities included swimming, campfires and roasting marshmallows. The group gets together every few months.
- Victoria continues with its lunch and learn education sessions on Wednesdays. These sessions occur about once a month with approximately 10 to 20 nurses attending.
- A pilot project is underway to promote peritoneal dialysis as a first choice.

Thanks to Marilyn Muir, Irmy Friesen, Mona Livingstone, Audrey Miller, Katie Nikl, Angel McKay, Ruth McCarroll, Janet Love, Gayle Kroetsch and Lori Paille for their contributions.

Région de l'Ouest (Rick Luscombe)

Mon mandat à la vice-présidence de la région de l'Ouest du Canada tire à sa fin. Ce fut une expérience formidable. J'aimerais remercier ici tout spécialement mes agents de liaison pour leur soutien constant tout au long de ces deux années et demie. Sans leur précieuse collaboration, ces rapports n'auraient pas été possibles.

Manitoba

- Les travaux d'agrandissement du *Health Sciences Centre* seront entamés cet automne pour l'ajout de 10 nouveaux postes de dialyse.
- Des déjeuners-causeries ont été donnés au *Health Sciences Centre* sur différents sujets, de la nutrition, en passant par les accès vasculaires, à la maîtrise de l'hypertension.
- La 5e Conférence annuelle du Programme de néphrologie du Manitoba, s'est déroulée du 26 au 28 septembre, en association avec les Journées de l'Ouest sur la DP. Le thème était : « Les soins à domicile » (*Taking care home*).
- Les programmes de MRC et de l'unité de DP de la clinique de néphrologie *Seven Oaks* de Winnipeg sont en pleine éclosion.
- La clinique *Seven Oaks* a embauché deux nouvelles infirmières : Phyl Pawluk en prédialyse et Kim Jenkin pour les accès vasculaires.
- Le Dr Paul Komenda instaurera cet automne un nouveau programme d'hémodialyse nocturne à domicile.
- Le *Health Science Centre* continuera de former les patients en hémodialyse quotidienne de courte durée.
- Le programme actuel de DP assistée sera de nouveau accessible en partenariat avec le Service des soins à domicile. Des aides-soignants seront formés sous la supervision des Soins à domicile et de l'Hôpital (Saint-Boniface et *Seven Oaks*).
- Le Programme de néphrologie du Manitoba, tout comme le *Sunnybrook Health Sciences Centre*, de Toronto, fera partie d'une étude multicentrique, financée par les Instituts de recherche en santé du Canada (IRSC) et la *Physician's Services Incorporated (PSI) Foundation*, portant sur l'évaluation d'un programme de collecte de données par site Web de DP assistée à domicile. Tous les nouveaux patients qui entreprennent des traitements de dialyse sont inscrits à cette étude : des critères d'inclusion et d'exclusion sont appliqués afin de déterminer si une collecte de données plus approfondie est nécessaire. Le programme collecte l'information de départ, telle que les dates de début de la dialyse, le type d'accès, les soins en prédialyse, les maladies concomitantes, les valeurs de laboratoire, l'admissibilité pour la DP ou l'HD, si l'option de la DP a été offerte, sinon pourquoi, si l'option de DP a été refusée, et pourquoi, etc. Les données touchant à l'éducation et aux résultats patients seront également saisies.
- L'Unité de dialyse du *Boundary Trails Health Centre* a lancé un défi à ses patients, aux membres de leur famille et au personnel. Les objectifs du défi sont : le plaisir, la prise de conscience de l'état actuel de l'activité physique et l'amélioration ultime du niveau d'intensité de l'activité physique. Le premier défi de l'unité consistait à marcher jusqu'à Churchill, au Manitoba. Comme ils ont dépassé leurs attentes, ils ont décidé de séparer l'équipe en deux et de faire la course jusqu'au rivage. Bonne chance !

Saskatchewan

- Le personnel du Programme de transplantation de Saskatoon souhaite la bienvenue au Dr Rahul Mainra, néphrologue.

NOTICE BOARD

- Ottawa Supper Clubs–Contact Janet Graham, Nephrology Unit, Ottawa Hospital, **jgraham@ottawahospital.on.ca**
- **February 10–12, 2009.** The National Association of Nephrolgy Technicians/Technologists (NANT 2009) 25th Annual Symposium, Hotel Riviera, Las Vegas, Nevada. Website: **www.nant.biz**
- **March 8–10, 2009**. The Annual Dialysis Conference. Houston, Texas. Website: **www.som.missouri.edu/Dialysis/**
- **March 12, 2009**. World Kidney Day. International Federation of Kidney Foundations. Website: **http://www.ifkf.net/worldkidneyday.php**
- **March 15, 2009**. Kidney Foundation of Canada. Deadline for Allied Health Fellowships and Scholarships. Contact: Coordinator, Research Grants and Awards, (800) 361-7494, ext. 232, E-mail: **research@kidney.ca**. Website: **www.kidney.ca**
- **April 4, 2009.** Exam date for CNeph(C) certification exam. Contact Canadian Nurses Association Certification Program, e-mail: **certification@cna-aiic.ca**. Website: **www.cna-aiic.ca** Toll-free phone number: 1-800-450-5206
- **April 26–29, 2009.** The American Nephrology Nurses Association (ANNA) 40th National Symposium, Hilton San Diego and the San Diego Convention Center in San Diego, CA. Website: **www.annanurse.org**
- **June 15, 2009. CANNT Awards, Bursaries and Grant Application Deadline**. For more information, contact Debbie Maure at the CANNT National Office (705) 720-2819, toll-free 1-877-720-2819, e-mail **cannt@cannt.ca**, or visit our website at **www.cannt.ca**
- **August 28–30, 2009.** The 3rd North American Chapter Meeting of the International Society for Peritoneal Dialysis (ISPD), The Westin Bayshore, Vancouver, BC. Website: **www.ispd.org**
- **September 5–8, 2009.** 38th European Dialysis and Transplant Nurses Association/European Renal Care Association (EDTNA/ERCA) International Conference, Hamburg, Germany. Website: **www.edtnaerca.org**
- **September 16, 2009**. Nephrology Healthcare Professionals Day.
- **October 15, 2009**. Kidney Foundation of Canada. Deadline for Allied Health Research Grants. Contact: Coordinator, Research Grants and Awards, e-mail: **research@kidney.ca**. Website: **www.kidney.ca**
- **October 15–18, 2009. CANNT 41st National Symposium**. Saint John Trade & Convention Centre, Saint John, New Brunswick Conference Planner: Heather Reid: e-mail: **hreid@innovcc.ca**. Website: **www.cannt.ca**

Alberta
Aucun rapport

Colombie-Britannique
- L'équipe du *Provincial Vascular Access Service Team* (PVAST) planche sur le développement d'un atelier provincial sur les accès vasculaires à l'intention des infirmières qui assurent l'évaluation et le piquage des accès vasculaires.

Fraser Health Authority
- L'Hôpital d'Abbotsford a instauré un nouveau programme de néphrologie.

Vancouver Coastal Health Authority
- La clinique pour les MRC de *Providence Health Care KFC* travaille sur la conception de rapports électroniques.
- Une infirmière de liaison participera à la préparation prégreffe des patients atteints de MRC afin de les aider dans cette transition.

BC Children's
- Un nouveau Programme de greffe d'organes multiples a été inauguré le 1er octobre dernier.
- Nous allons présenter deux affiches scientifiques au Congrès de l'ACITN/CANNT cette année. Ces affiches ont fait l'objet d'une présentation aux Journées de la néphrologie en C.-B.
- Un projet pilote de trois ans mené sur le modèle de prise en charge du programme pédiatrique de néphrologie s'achève avec succès, notons au passage que les indicateurs-clé de qualité ont été satisfaits, voire dépassés.

Northern Health Authority
Prince George
- La clinique d'accès vasculaires a déménagé au Centre régional de soins cliniques du *Prince George Regional Hospital*. Les cliniques ont maintenant lieu deux fois par mois.
- L'unité de dialyse en centre hospitalier a reçu ses nouveaux appareils de dialyse en septembre.
- L'unité de soins autonomes fonctionne à plein régime trois jours sur sept, en prévision de passer à cinq jours sur sept. Deux nouveaux patients viennent d'entreprendre des traitements de dialyse.
- Le Programme d'hémodialyse à domicile a deux patients en attente de recevoir leur formation.
- Le personnel du Programme de prise en charge des maladies rénales chroniques (MRC) continue de travailler avec le personnel du Programme de prise en charge des maladies chroniques afin d'évaluer comment il pourrait collaborer plus étroitement dans la prestation de soins aux collectivités sur le territoire. On compte actuellement 520 patients dans notre programme de MRC.

Vancouver Island Health Authority
- À Port Alberni, nous avons eu une Journée en famille avec BBQ le 10 août dernier au lac Spoart. De nombreux membres de notre petite unité de dialyse ont participé à cet événement qui comportait des activités telles que : natation, feux de camp et guimauves grillées. Notre groupe se réunit régulièrement.
- Le Centre de Victoria continue ses déjeuners-causeries le mercredi. Ces séances de formation ont lieu tous les mois et accueillent de 10 à 20 infirmières.
- Un projet pilote est en cours afin de promouvoir la DP, comme option de traitement de premier choix.

Je tiens à remercier Marilyn Muir, Irmy Friesen, Mona Livingstone, Audrey Miller, Katie Nikl, Angel McKay, Ruth McCarroll, Janet Love, Gayle Kroetsch et Lori Paille de leur précieuse collaboration dans la rédaction de ce rapport.

Ontario Region (Jane Alfarero)

Forty years since its inception, CANNT has become the key of the nephrology world. The increase in membership is evident over the years. We thank the board of directors of CANNT for their invaluable commitments.

This year (2008) marks CANNT's 40th anniversary and it is just fitting to celebrate it in Quebec City, which is also celebrating its 400th anniversary. Together it is a double celebration.

We welcome Gail Barbour as the new CANNT Vice President for Ontario.

There are many CANNT initiatives across Ontario that are reported by respective unit liaisons.

Central East and Toronto Region
Soldiers' Memorial Hospital
- Dinner Club meeting with lab technologist updating the group on lab values for the renal patient. Nurses throughout the hospital (ICU, medical unit, and complex continuing care units) have been learning how to perform continuous ambulatory peritoneal dialysis (CAPD) and continuous cycling peritoneal dialysis (CCPD) in response to the greater number of patients choosing peritoneal dialysis (PD).

Royal Victoria Hospital (Barrie)
- Had in-service on Management of Methanol and Ethylene Glycol by Orillia Soldiers' Memorial Hospital educator (Laurie Pritchard). There was a two-week trial on new dialyzer (Rexeed 15S) on six patients, results of which will be discussed during the next CQI meeting.
- Welcome to staff Yvonne Creamer and Brenda Heittola from the Intensive Care Unit (ICU) and also to Sarah Allen (social worker) who came from Scarborough General Hospital CKD/PD program.

Toronto General Hospital (UHN)
- Nurses attended Dr. Oreopolous Scholarship Grant workshop on Prevention in Renal Diseases held in Prince Hotel. There is an ongoing updating on the Procedure Manual.

Toronto East General Hospital
- There is an update/review infection control practices in hemodialysis unit to align with the "Safer Healthcare Now" initiative. In-service was provided by staff RN (Anna Lee) on buttonhole technique. Study group was formed with nursing practice leader (Kerry Overholt) to prepare for 2009 Canadian Nurses Association (CNA) certification exam.
- Student pharmacist initiated a blood pressure (BP) clinic for all hemodialysis outpatients to monitor BPs on non-dialysis treatment days. Working group was formed to look at establishing exercise program for outpatient hemodialysis program.
- Hemodialysis Partnership Council (which is an interdisciplinary council) was formed and has set specific targets and goals for the upcoming year for hemodialysis unit.
- Members of the hemodialysis unit participated in a workshop on team-building. The setting was a boat cruise on Lake Ontario and it was attended by large dedicated group of hemodialysis staff.

Sick Children Hospital (Toronto)
- Two nurses and three physicians attended the Paediatric Fistula First for the mid-west region in Cleveland in August to look at nursing care, radiology and initiation of fistulas in the

paediatric population.
- A new physiotherapy program has been up and running for the last four months. It is focusing on fistula preparation and strengthening. Patients are now coming early prior to treatment to use the gym and setting up a workout program.
- The new RO system is finally complete and running.

Penetanguishene General Hospital
- Is hiring new staff and, hopefully, will have the manpower to start new programs.

Collingwood General and Marine Hospital
- There was an in service on water treatment and dialysis fluid composition principles.

Headwaters Health Care Centre
- Started doing buttonholes nine months ago—an ongoing initiative.

St. Michael's Hospital (Toronto)
- In-services were provided on primary nursing and Tegaderm IV dressings for central lines. Initiatives on change from gauze dressing at CVC site to Tegaderm IV and machine evaluation for new equipment.
- Congratulations to Jillian Campbell (Program Director) and Jim McDougall (Technologist). They are recipients of CANNT Awards of Excellence.

Credit Valley Hospital
- There was an educational evening for staff, patients and families by the kidney transplant team from St. Michael's Hospital (Toronto).
- Symposium "With a Little Help from My Friends" was held in Mississauga. Staff and patients from Credit Valley Hospital, Brampton Civic Hospital and Oakville Trafalgar Memorial Hospital collaborated with the Kidney Foundation to make the evening a success.
- The Home Dialysis Program has changed machines for home use.
- The Renal Services Department has initiated measures to make waiting time more pleasant and meaningful for renal patients. Rearranging the furniture, getting volunteers involved, visits from the therapeutic clown and pet therapy have increased conversation, brought laughter in the room and decreased complaints about waiting times.
- Marie Webb (Vascular Access Coordinator) will be presenting "Fistula Banding for Steal Syndrome: An Interventional Approach". Wendy Clark (member of The City-Wide Peritoneal Dialysis Interest Group) will do a poster presentation on "Building Partnership: Promoting Peritonitis Prevention" and will also do a verbal presentation on "Building Benchmarks: A Foundation for Practice".
- The "Renal Pat on the Back" program was initiated at the Credit Valley Hospital site last year, and this program has expanded to the renal care centre (offsite unit for hemodialysis), home therapies and progressive renal insufficiency clinic. Staff members are encouraged to post a kidney on a designated bulletin board with a short note stating something positive a coworker has done that impacted their work life.

St. Joseph's Health Centre
- Renal program has its monthly education calendar full. Topics included: infection control, renal metabolic diseases, transplant, vascular access, fluid balance and mock arrest. Planning is in progress on the "Free" All Saint (by St. Michael's Hospital and St. Joseph's Health Centre) Renal Symposium.
- The unit had participated in trialing the Vasc-Alert Access Surveillance Monitoring program. Renal social workers are in the process of working to form a renal patient council. Initial patient survey is completed.
- Educators have initiated Nephrology Nursing Exchange Program E-Journal Club. Educators from other centres can get access to the e-journal website (through Amgen representative). The educator is responsible for uploading articles and posting questions for the journal.

William Osler Health Centre
- The unit had its third annual symposium for hospital staff. Speakers include topics on generational differences in the workplace, as well as liver dialysis.
- Educational road show to all departments at both hospital sites is underway.
- Hemodialysis unit has started buttonhole program with one-third established accesses A cannulation-go-to initiative has been started to provide each hemodialysis with a cannulation resource nurse for difficult cannulation and consultation.
- The unit is also investigating adequacy in dialysis by studying Kt/V on a daily treatment basis and comparing these results to six weekly urea reduction ration (URR) to view inconsistencies and make recommendations for process and treatment.
- Saverina Sanchez represented the hospital at CANNT. She gave both oral and verbal presentations. Sharon Fairclough also represented the hospital and did two poster presentations.

Halton Healthcare Services (Oakville)
- There were two vascular access workshops covering the basics of access care, as well as the introduction of new initiatives. Staff attended many presentations in the Greater Toronto Area (GTA), as well as travelling to British Columbia for a renal meeting in Vancouver.
- Vascular Access Clinic with vascular surgeon from Toronto has been in place for nearly six months. There was positive feedback from both patients and staff.
- Burlington Satellite project is well underway. Expected opening is Spring 2009.
- The unit has recently completed safety needle trial, which included formal evaluation from a core group of patients, as well as staff.
- Chris Lynskey is travelling to China in mid-October as part of cultural delegation for nephrology nursing. There are only two nurses representing Canada and 25 nurses representing the U.S.

Peterborough Regional Dialysis Program
- Janet Graham reviewed the highlights of Amgen's Vascular Access Module. The four-hour interactive educational event included a PowerPoint presentation and time for the group to discuss various clinical situations.
- The University Health Network (UHN) transplant team gave two presentations, one to the program patients and the other to staff. This was a great opportunity for the staff and patients to meet with the transplant team to get acquainted with the transplant process and answer questions.
- Peterborough Regional Health Centre moved to its brand new building in June 2008. The move is the climax of 10 years planning by the hospital to make it a reality. The building amalga-

mated two former sites of Roger Street (formerly St. Joseph's) and Hospital Drive (formerly Civic). The new unit has 24 chairs open and there are an additional six chairs available for future growth of the program.
- The program's satellite at Ross Memorial in Lindsay moved into a beautiful wing in the hospital. The unit has nine chairs open and six more for growth.

Sunnybrook Health Sciences Centre
- Sunnybrook is one of the top employers in the Greater Toronto Area for 2008. There are many positive changes in hemodialysis unit initiated by the new unit manager (Eleanor Ravenscroft). The unit is undergoing machine evaluation. We will be starting a hemodialysis catheter evaluation later this year.
- Nephrology Healthcare Professionals Day was celebrated with a hot breakfast. It was attended by the nephrology multidisciplinary team. We thank Shirley Drayton, manager of home dialysis and the nephrology floor, and Eleanor Ravenscroft, manager on hemodialysis unit, for arranging the sumptuous breakfast.
- The City-Wide PD Interest Group symposium was held May 20, 2008, at Sunnybrook. More than 150 nurses from the Greater Toronto Area and beyond attended the meeting entitled, "Making PD Accessible."

Eastern Ontario

Cornwall Dialysis Clinic
- The staff continues to do journal clubs monthly. Donna Schofield (staff) will do verbal presentation on "Foot Care: An Update."
- Dialysis clinic will be starting to do monthly med reconciliations and diabetic foot checks.

Cornwall Community Hospital
- CANNT supper club in Ottawa was attended by two nurses.
- A foot assessment on all patients done yearly and every three months on high-risk patients (i.e., diabetics or with foot ulcers) was started at the Ottawa Hospital.

Bayshore Centre Dialysis
- The centre will be implementing a new care plan model called, Problem-Oriented Health Recording (POHR) and replacing the current treatment plan. In-service to the staff has started.
- A new Sanyo Scientific Biomedical medication fridge that is connected to the clinic's security system has been purchased for Eprex and Aranesp. The staff is notified during off-hours if the temperature goes out of range of two to eight degrees Celsius. There was a power outage recently and the staff was able to go to the centre and rectify the situation. No supplies were lost.
- Betty VanBeek and Sherry Martucci obtained Level II Acute Care Certification for Occupational Health and Safety.

The Ottawa Hospital (Civic Campus)
- After a trial at the Riverside Campus (of the Ottawa Hospital), the Civic Campus rolled out the Foot Care Assessment program.
- Four nurses attended CANNT and clinical educator presented at CANNT.
- The New Start Unit of the Ottawa Hospital continues to successfully deal with patients commencing hemodialysis therapy. They continue to teach the patients and their families treatment options and reinforce the teaching previously completed in the prerenal clinic.
- Several staff attended various workshops to improve patient care including a "skintastic" workshop and skills fair put on by various departments of The Ottawa Hospital.

The Ottawa Hospital Riverside Campus
- Dr. Akbari (new medical director for general nephrology) initiated a monthly lunch and learn for all nephrology clinic personnel. The topics are presented by MDs, dietitians or nurses.
- General Nephrology Program started a pilot project in September offering a telemedicine clinic for Cornwall area patients. The response has been positive and there is now planning to expand telemedicine activity in January 2009.
- The Progressive Renal Insufficiency (PRI) clinic teaching team has restructured its education program as part of the provincial peritoneal dialysis (PD) initiative to help meet the unit's goal, which is to increase therapies as a treatment of choice.

Hawkesbury General Hospital
- Hemodialysis unit consists of a fair population of patients who live in senior residences. The unit recognized the need of educating personnel who give care to dialysis patients. The unit decided to start an education project aimed at educating caregivers for the dialysis population. The plan is to start small, then expand.

The Ottawa Hospital (Riverside Campus)
- Home dialysis staff is training on two machines (Bellco Formula 2000 and Domus Plus), single needle double pump to be used in nocturnal hemodialysis. Training manual, policies and procedures have been developed and fine-tuned. Staff continues to learn and develop expertise.
- Staff attended educational session, "Info to go" (Baxter) caring for the PD patient tool kit, for teaching PD to community nursing staff.
- Staff also attended education session, "Patient first: Modality, eligibility, patient's choice and self-management." Two staff members have obtained their CNeph(C) certification.

The Ottawa Hospital (Riverside Campus) Hemodialysis
- The unit is the first to initiate the "Foot Care—Registered Nurses Association of Ontario (RNAO) Best Practice Guideline" that has been successful.
- Janet Graham (Access Coordinator) is providing monthly in-services regarding hemodialysis access questions and concerns.
- Rita Browning has been promoted to a corporate position of Quality Assurance Coordinate—Nephrology Division. She will assume responsibility for Nephrocare documentation and support. An interim educator (Lorrie Liberty) has been assigned educator responsibilities for the Riverside Campus until her replacement is found.

South West and Central South Region

Adam Linton Dialysis Unit (London)
- Staff prepared CANNT poster presentation. Renal Education Day was held at Victoria Hospital. Vascular Access Task Team reconvened after a summer break.

London Health Sciences Centre (South St. Dialysis Unit)
- A poster presentation at CANNT on "Targeting Dry Weight Treatment Plan." The unit is on the beginning stage of Quality Improvement Project of Showering Technique on patients

with a Permacath.
- This unit has the most fistula/graft accesses among the London renal programs.

Grand River Hospital (Kitchener)
- Palmerston Satellite Unit has opened. There are six stations and it is not up to capacity yet. The unit welcomes a new vascular surgeon.
- Joy Bevan has left dialysis to accept a promotion within the organization.

North Region
North Bay General Hospital (Scollard Site)
- Five staff from the unit attended CANNT in Quebec City. The unit is anticipating new dialysis machines in the next few months. In the late fall 2010, the unit will be moving to the new hospital site currently under construction.
- Congratulations to Sue Palmateer for achieving CNeph(C) in addition to completing her BScN.
- Lynda Perrault (unit clerk for 10 years) officially retired in July, but returned part-time this fall. Ann Hummel is now the unit's full time clerk.
- The unit has been busy with many acute dialysis procedures in the critical care unit over the summer.

Sudbury Regional Hospital (Nephrology Unit)
- After 34 years of dedicated service in the nephrology department, Ron Mazey has moved to another position in the hospital. Ron had been a renal technician, head technician and manager and, just before leaving, he was the supervisor of the department. Stephanie Cranston has taken over Ron's position as Supervisor of Nephrology.
- Nephrology Unit moved on the weekend of CANNT. All areas of nephrology previously scattered around the hospital are relocating on the 9th floor of North Tower of the hospital. It will be a different concept than the unit is used to and change can be difficult. However, the staff and patients are up for the challenge.
- The unit is planning a dinner and learn in November, a presentation by Dr. Berall.

Région de l'Ontario (Jane Alfarero)

Depuis 40 ans, soit depuis sa création, l'ACITNest devenue une composante clé du monde de la néphrologie. Son effectif n'a cessé d'augmenter au fil des ans. Nous tenons à remercier ici les membres du Conseil d'administration de leur engagement inestimable.

L'année 2008 marque son 40e anniversaire de fondation et quoi de mieux que de célébrer cet anniversaire dans la ville de Québec qui célèbre son 400e. Deux fois plus de raisons de festoyer!

Nous souhaitons la bienvenue à Gail Barbour en tant que nouvelle vice-présidente de pour la région de l'Ontario.

Vous trouverez ci-dessous les nombreuses initiatives mises de l'avant en Ontario comme rapporté par les agentes de liaison.

Centre-Est de l'Ontario et Grand Toronto
Soldiers' Memorial Hospital
- Un dîner-causerie a eu lieu avec le technologue médical pour une mise à jour sur les valeurs de laboratoire des patients en néphrologie. Le personnel infirmier de l'hôpital, notamment des unités de soins intensifs, de médecine générale et de soins continus complexes, a suivi une formation sur la dialyse péritonéale continue ambulatoire (DPCA) et sur la dialyse péritonéale continue cyclique (DPCC) afin de répondre aux besoins d'un grand nombre de patients qui ont choisi cette modalité de traitement.

Royal Victoria Hospital (Barrie)
- Le personnel infirmier a reçu une formation sur le méthanol et l'éthylène glycol par Laurie Pritchard, éducatrice du Orillia Soldiers' Memorial Hospital. On a procédé à une évaluation de deux semaines d'un nouveau dialyseur (Rexeed 15S™) auprès de six patients ; les résultats de cette évaluation seront présentés au cours de la prochaine réunion sur l'amélioration continue de la qualité (ACQ). Nous souhaitons la bienvenue à Yvonne Creamer et Brenda Heittola des soins intensifs et aussi à Sarah Allen, travailleuse sociale, qui nous vient du Programme de DP/MRC du Scarborough General Hospital.

Toronto General Hospital (UHN)
- Dans le cadre d'une subvention éducative, des infirmières ont participé à un atelier présenté par le Dr Oreopolous sur la prévention des maladies rénales.
- Une révision de notre Manuel de procédures est en cours.

Toronto East General Hospital
- Nous révisions actuellement nos pratiques de prévention et de contrôle des infections dans l'unité d'hémodialyse afin d'assurer des soins de santé plus sûrs (Safer Healthcare Now). Une formation sur place sur la technique du trou de bouton a été offerte par Anna Lee, infirmière. Un groupe d'étude, dirigé par Kerry Overholt, chef d'équipe en pratique des soins infirmiers, a été formé pour offrir du support aux personnes inscrites à l'examen de certification.
- Un étudiant en pharmacie a instauré une clinique de prise de tension artérielle (TA) chez tous les patients hors centre en hémodialyse afin de surveiller leur TA durant les jours où ils n'ont pas de traitement. Un groupe de travail a été formé pour la création d'un programme d'exercices pour le Programme d'hémodialyse extrahospitalière.
- L'Hemodialysis Partnership Council (qui est un comité de discipline) a été formé et a fixé pour l'unité d'hémodialyse des objectifs précis à atteindre au cours de la prochaine année.
- Des membres de l'unité d'hémodialyse ont participé à un atelier pour favoriser le développement d'un esprit d'équipe au sein du groupe au cours d'une croisière sur le lac Ontario. Un grand nombre du personnel de l'unité a pris part à cette activité.

Sick Children Hospital (Toronto)
- Deux infirmières et trois médecins ont assisté à une conférence du Paediatric Fistula First dans la région du Centre-Ouest de Cleveland en août dernier pour observer ce qui se fait en matière de soins infirmiers, de radiologie et d'instauration d'une fistule chez la population pédiatrique.
- Un nouveau programme de physiothérapie a été inauguré et mis en oeuvre depuis les quatre derniers mois. Ce dernier est orienté sur la préparation et le renforcement du membre qui recevra la fistule. Les patients se présentent maintenant plus tôt à leur traitement de dialyse afin d'utiliser le gym et de suivre un programme de mise en forme.
- Le nouveau système de traitement d'eau par osmose inverse est enfin installé et fonctionnel.

Penetanguishene General Hospital
- Nous sommes en pleine période de recrutement et nous espérons recruter

le personnel nécessaire pour lancer de nouveaux programmes.

Collingwood General and Marine Hospital

- Nous avons eu une formation sur place sur le traitement de l'eau et les principes de base des fluides en dialyse.

Headwaters Health Care Centre

- Il y a neuf mois, nous avons commencé à utiliser la technique du trou de bouton. Il s'agit maintenant d'une initiative continue.

St. Michael's Hospital (Toronto)

- Nous avons reçu des séances de formation sur les soins infirmiers primaires et sur le mode d'emploi des pansements i.v. Tegaderm™ pour les cathéters centraux. Nous envisageons de passer d'un pansement de gaze pour cathéter veineux central à un pansement i.v. Tegaderm et évaluons aussi de nouvelles pièces d'équipement. Nous tenons à féliciter Jillian Campbell, directrice de programme, et Jim McDougall, technologue, pour les Prix d'excellence qu'ils ont reçus de l'ACITN.

Credit Valley Hospital

- L'équipe de transplantation rénale du St. Michael's Hospital, de Toronto, a organisé une soirée d'information à l'intention du personnel, des patients et de leur famille, sur l'importance du soutien de l'entourage pour le bien-être du patient (With a Little Help from My Friends). Le personnel et les patients du Credit Valley Hospital, du Brampton Civic Hospital et du Oakville Trafalgar Memorial Hospital ont collaboré avec la Fondation du rein pour faire de cette soirée, qui a eu lieu à Mississauga, un franc succès.
- Le Programme de dialyse à domicile a remplacé ses appareils.
- Le Service de néphrologie a instauré des mesures pour rendre la période d'attente plus plaisante et plus constructive pour les patients en néphrologie. Le réaménagement des meubles, la participation de bénévoles, les visites-surprises du Dr Clown et la zoothérapie ont fait jaser et ont contribué à diminuer les plaintes à propos du temps d'attente.
- Marie Webb, coordonnatrice aux accès vasculaires, présentera une conférence intitulée Fistula Banding for Steal Syndrome: An Interventional Approach. Wendy Clark, membre du groupe d'intérêt sur la dialyse péritonéale, soit le City-Wide Peritoneal Dialysis Interest Group, présentera une affiche scientifique sur la prévention de la péritonite intitulée Building Partnership: Promoting Peritonitis Prevention ainsi qu'une communication orale intitulée Building Benchmarks: A Foundation for Practice.
- Le programme d'encouragement Renal Pat on the Back a été instauré au Credit Valley Hospital l'an dernier et ce programme s'étend maintenant au centre satellite d'hémodialyse Renal Care Centre, aux thérapies à domicile et à la clinique d'insuffisance rénale progressive. Les membres du personnel sont invités à afficher au tableau d'affichage dans leur secteur respectif une petite note faisant état de l'influence positive qu'a eue un collègue sur leur vie professionnelle.

St. Joseph's Health Centre

- Le Programme de néphrologie présente un calendrier mensuel d'éducation bien garni. Les sujets incluent : contrôle de l'infection, maladies du métabolisme rénal, transplantation, accès vasculaires, équilibre liquidien et réanimation cardiorespiratoire (RCR). Les travaux de planification du Symposium de néphrologie (menés par le St. Michael's Hospital et le St. Joseph's Health Centre) vont bon train.
- L'unité a participé à l'évaluation du Programme de surveillance de l'accès Vasc-Alert™. Les travailleurs sociaux travaillent à créer un Conseil des patients en néphrologie. Un sondage initial des patients a été fait.
- Un Journal électronique a été créé pour faciliter les échanges entre les éducateurs des soins infirmiers en néphrologie. Les éducateurs des autres centres peuvent ainsi accéder au site Web de ce e-Journal (grâce au soutien du représentant d'Amgen). Chacun a la responsabilité de télécharger des articles et d'envoyer ses questions au Journal.

William Osler Health Centre

- L'unité a tenu son 3e symposium annuel de formation continue. Les conférenciers ont abordé les thèmes suivants : les différences générationnelles au travail et la dialyse hépatique.
- Une tournée éducative dans tous les départements des deux sites de l'hôpital est en cours.
- L'unité d'hémodialyse a instauré un programme de trou de bouton avec un tiers des accès établis. Une procédure de ponction de la fistule a été instaurée et une infirmière conseillère maintenant accessible pour consultation en cas de situation difficile.
- L'unité se penche également sur la qualité de la dialyse en examinant le Kt/V sur une base quotidienne de traitement et en comparant ces résultats à un ratio de réduction de l'urée (urea reduction ration ou URR) sur six semaines pour passer en revue les incompatibilités et apporter des recommandations tant sur le plan du processus que sur celui du traitement.
- Saverina Sanchez représentera notre hôpital au Congrès de l'ACITN. Elle donnera des présentations orales. Sharon Fairclough représentera aussi notre hôpital et présentera deux affiches scientifiques.

Halton Healthcare Services (Oakville)

- Nous avons eu deux ateliers sur les accès vasculaires qui ont couvert les fondements des soins à leur apporter ainsi qu'une introduction à deux nouvelles initiatives. Le personnel a assisté à de nombreuses présentations dans la région du Grand Toronto ainsi qu'à la réunion de néphrologie à Vancouver, en Colombie-Britannique.
- Une clinique sur les accès vasculaires donnée par un chirurgien vasculaire de Toronto est maintenant offerte depuis près de six mois. Nous avons reçu une rétroaction positive à la fois des patients et du personnel.
- Le projet d'un centre satellite à Burlington va bon train. Nous anticipons l'inauguration au printemps 2009.
- L'unité a terminé récemment une étude sur la sécurité des aiguilles qui incluait une évaluation formelle par un groupe-cadre formé de patients et de membres du personnel.
- Chris Lynskey ira en Chine à la mi-octobre pour accompagner la délégation culturelle des soins infirmiers en néphrologie. Il n'y a que deux infirmières qui représentent le Canada, alors qu'il y en a 25 pour représenter les États-Unis.

Peterborough Regional Dialysis Program

- Janet Graham a passé en revue le module sur les accès vasculaires d'Amgen. Cette activité éducationnelle et interactive de quatre heures comportait une

présentation en PowerPoint ainsi qu'une période de discussion en plénière sur divers cas cliniques.
- L'équipe de transplantation de la University Health Network (UHN) a donné deux présentations, la première pour les patients et la seconde pour le personnel. Ce fut une belle occasion pour le personnel et les patients de rencontrer les membres de l'équipe de transplantation, de se familiariser avec le processus et d'obtenir des réponses à leurs questions.
- Le Peterborough Regional Health Centre a emménagé dans son nouvel édifice en juin 2008. Le déménagement est l'apogée de 10 années de planification et de préparation par le personnel de l'hôpital pour en faire une réalité. L'édifice regroupe deux anciens pavillons qui avaient pignon sur Roger Street (anciennement St. Joseph's) et sur Hospital Drive (anciennement Civic). La nouvelle unité compte 24 postes de traitements avec la possibilité d'ajouter six autres postes en prévision d'une croissance.
- Le programme satellite du Ross Memorial à Lindsay a déménagé dans une belle aile de l'hôpital. L'unité possède neuf postes de traitements en exploitation, en plus de six en prévision de sa croissance.

Sunnybrook Health Sciences Centre
- Le Sunnybrook a été reconnue comme l'un des meilleurs employeurs de la région du Grand Toronto en 2008. L'unité d'hémodialyse a fait l'objet de nombreux changements constructifs qui ont été entrepris par la nouvelle directrice, Eleanor Ravenscroft. L'unité évalue actuellement des appareils de dialyse. Nous allons entamer plus tard cette année une évaluation des cathéters d'hémodialyse.
- L'équipe multidisciplinaire en néphrologie a célébré la Journée des professionnels de la santé en néphrologie autour d'un copieux petit-déjeuner. Nous remercions Shirley Drayton, infirmière gestionnaire de l'unité la dialyse à domicile et de néphrologie, et Eleanor Ravenscroft, chef de l'unité d'hémodialyse, pour ce somptueux petit-déjeuner.
- Le Symposium du City-Wide PD Interest Group a eu lieu le 20 mai dernier au Sunnybrook. Plus de 150 infirmières de la région du Grand Toronto et de la région périphérique ont assisté à la conférence donnée sur l'accessibilité de la DP intitulée Making PD Accessible.

Est de l'Ontario

Cornwall Dialysis Clinic
- Notre Club de lecture poursuit ses activités mensuelles. Donna Schofield, donnera une présentation sur les soins des pieds intitulée Foot Care: An Update.
- La clinique de dialyse commencera à procéder à des réconciliations de médicaments et à des vérifications pour dépister le pied diabétique.

Cornwall Community Hospital
- Deux infirmières ont participé au souper-conférence de l'ACITN, qui a eu lieu à Ottawa.
- Un programme d'évaluation des pieds de tous les patients effectuée tous les ans chez les patients à faible risque et tous les trois mois chez les patients à risque élevé (c.-à-d. présentant des pieds diabétiques ou des ulcères) a été instauré à L'Hôpital d'Ottawa.

Bayshore Centre Dialysis
- Le Centre mettra en œuvre un nouveau plan de soins avec consignation au dossier médical des problèmes (Problem Oriented Health Recording ou POHR) et remplacera le plan existant. La formation sur place du personnel a déjà commencé.
- Nous avons fait l'acquisition d'un nouveau réfrigérateur à médicaments qui est branché sur le système de sécurité de la clinique pour conserver les agents stimulant l'érythropoïèse. Le personnel est informé en dehors des heures normales de travail si la température ne se trouve plus dans la plage des 2 à 8 degrés Celsius. Récemment, il y a eu une panne d'électricité et un membre du personnel a pu se rendre au Centre et corriger la situation. Nous n'avons subi aucune perte de médicaments.
- Betty VanBeek et Sherry Martucci ont obtenu leur niveau II dans la certification des soins actifs en santé et sécurité professionnelles.

L'Hôpital d'Ottawa (Campus Civic)
- Après une étude menée au Campus Riverside (de L'Hôpital d'Ottawa), le personnel du Campus Civic a inauguré son programme d'évaluation des pieds diabétique.
- Quatre infirmières participeront au Congrès de l'ACITN et une éducatrice clinique sera également présente.
- L'unité Nouveau départ (New Start Unit) de L'Hôpital d'Ottawa continue de traiter avec les patients qui entreprennent une thérapie par l'hémodialyse. On y enseigne aux patients et à leur famille les options de traitement et on renforce les notions apprises en clinique de prédialyse.
- Plusieurs membres du personnel ont assisté à divers ateliers afin d'améliorer les soins aux patients, incluant un atelier sur l'évaluation de l'intégrité de la peau (skintastic) et une foire des compétences mise de l'avant par divers départements.

Campus Riverside de L'Hôpital d'Ottawa
- Le D[r] Akbari (nouveau directeur médical pour le département de néphrologie générale) a instauré un dîner-causerie mensuel pour tout le personnel clinique de la néphrologie. Les sujets sont présentés par des médecins, des diététistes ou des infirmières.
- Le Programme de néphrologie générale a entamé un projet pilote en septembre sur la possibilité d'offrir la télémédecine aux patients de la région de Cornwall. La réponse est très favorable et on envisage maintenant d'étendre l'activité de télémédecine en janvier 2009.
- L'équipe d'enseignement clinique sur l'insuffisance rénale progressive (IRP) a procédé à une restructuration de son programme d'éducation dans le cadre de l'initiative provinciale axée sur la dialyse péritonéale (DP) afin d'aider à atteindre l'objectif de l'unité qui consiste à augmenter la DP comme traitement de choix.

Hôpital général de Hawkesbury
- L'unité d'hémodialyse comprend une population importante de patients qui vivent dans des résidences pour personnes âgées. Nous reconnaissons le besoin d'éduquer le personnel de ces résidences. Un projet d'éducation visant à former ce personnel a été mis sur pied.

L'Hôpital d'Ottawa (Campus Riverside)
- Le personnel de la dialyse à domicile est en formation sur deux appareils (Bellco Formula 2000 et Domus Plus), la pompe double à aiguille unique sera utilisée pour l'hémodialyse nocturne. Nous avons élaboré un manuel de for-

mation et peaufiné les politiques et procédures de l'unité. Le personnel continue de se perfectionner.
- Le personnel a participé à une séance de formation sur la trousse d'information sur les soins aux patients en DP (Info to go de Baxter), conçue pour enseigner la DP au personnel infirmier communautaire.
- Le personnel a également assisté à une séance de formation intitulée Patient First: modality, eligibility, patient's choice and self-management. Deux infirmières de notre personnel ont obtenu leur certification en néphrologie, CNéph(C).

L'Hôpital d'Ottawa (Campus Riverside), unité d'hémodialyse
- L'unité est la première à instaurer avec succès les lignes directrices des meilleures pratiques démontrées de l'Association des infirmières et infirmiers autorisés de l'Ontario (RNAO).
- Janet Graham, coordonnatrice aux accès vasculaires, offre tous les mois des séances de formation sur place pour répondre aux questions et aux inquiétudes sur les accès vasculaires.
- Rita Browning a été promue à un poste de gestion en tant que coordonnatrice à l'Assurance de la qualité—Division de la néphrologie. Elle aura la responsabilité de documenter NephroCare et d'apporter son soutien. Lorrie Liberty a été nommée éducatrice intérimaire pour le Campus Riverside jusqu'à ce que l'on trouve un remplaçant.

Sud-Ouest et Centre-Sud de l'Ontario
Adam Linton Dialysis Unit (London)
- Le personnel a préparé une affiche scientifique pour le Congrès de l'ACITN. La Journée de la formation en néphrologie s'est tenue au Victoria Hospital. Les activités du Comité sur l'accès vasculaire ont repris après une pause durant l'été.

London Health Sciences Centre (South St. Dialysis Unit)
- Le personnel a préparé et présenté une affiche scientifique intitulée Targeting Dry Weight Treatment Plan. L'unité en est à l'étape initiale d'un projet d'amélioration continue de la qualité sur la marche à suivre pour prendre une douche à l'intention des patients présentant un cathéter permanent.
- L'unité possède le plus grand nombre de fistules parmi les programmes de néphrologie du London.

Grand River Hospital (Kitchener)
- Le centre satellite de Palmerston est maintenant ouvert. Il compte six postes de traitements. Le centre ne fonctionne pas encore à sa pleine capacité. L'unité souhaite la bienvenue à un nouveau chirurgien vasculaire. Joy Bevan a accepté une promotion au sein de la direction.

Nord de l'Ontario
North Bay General Hospital (site Scollard)
- Cinq membres du personnel assisteront au Congrès de l'ACITN à Québec. L'unité prévoit faire l'acquisition de nouveaux appareils de dialyse au cours des prochains mois. À la fin de l'automne 2010, l'unité déménagera ses installations dans le nouveau site de l'hôpital qui est actuellement en construction.
- Félicitations à Sue Palmateer pour avoir réussi l'examen de certification en néphrologie, CNéph(C), en plus d'avoir terminé son B.Sc.Inf.
- Lynda Perrault (commis d'unité depuis 10 ans) a officiellement pris sa retraite en juillet dernier, mais a repris du service à temps partiel cet automne. Ann Hummel est maintenant commis d'unité à temps plein.
- De nombreuses procédures de dialyse aiguë chez des patients à l'unité des soins critiques nous ont tenus passablement occupés durant l'été.

Sudbury Regional Hospital (unité de néphrologie)
- Après 34 années de loyaux services en néphrologie, Ron Mazey a accepté un nouveau poste au sein de l'hôpital. Ron a occupé les postes suivants au sein du service de néphrologie : technologue, chef technologue et chef d'équipe et jusqu'à tout récemment il était superviseur du département. Stephanie Cranston assume maintenant le poste de superviseure de la néphrologie.
- L'unité de néphrologie a déménagé dans ses nouveaux locaux. Tous les secteurs de la néphrologie (qui étaient dispersés un peu partout dans l'hôpital) s'installeront au 9e étage de la Tour Nord de l'hôpital. Ce changement pourrait s'avérer difficile. Toutefois, le personnel et les patients sont prêts à relever le défi.
- L'unité prépare un souper-conférence en novembre ; le Dr Berall y donnera une présentation.

Quebec Region (Lisette Lafrenière)

Time goes by so quickly. It seems to me that several months ago we were talking about planning the 2008 conference and that seems so far away now. So, now it's over. Of course, I'm talking about the 2008 CANNT Annual Conference that took place in Quebec City in October. Dear members, I hope that you enjoyed your visit. We celebrated the 40th anniversary of the CANNT and the 400th foundation of Quebec City in great numbers. We are proud to have hosted this special event.

Centre de santé et des services sociaux (CSSS) of South Lanaudière—Pierre-Le Gardeur Hospital

As we already informed you in the previous issue of the **CANNT Journal**, we received a visit from the Canadian Council on Health Services Accreditation (CCHSA) on June 9, 2008. The visitors met several persons along the process and a preliminary report has been presented. According to this report, the visitors identified several strong points, such as the strength of our team in terms of respect of the rights and wishes of the customers and the respect of the standards and procedures of our unit. Moreover, they noticed all of the effort and energy we exhibit in infection control. Improvement opportunities have also been raised and identified. Our goal, of course, is to deliver safety and quality in the continuum of health care and services.
—*Lisette Lafrenière*

McGill University Health Centre (MUHC)
Montreal General Hospital

Even at the beginning of summer, our dialysis centre was running at full capacity, 23 dialysis stations, three patients per day per station, six days a week, and this without taking into account patients who were receiving their dialysis therapy at home or in satellite centres.

We have been very busy this summer. All of our stations have been taken up by three cohorts per chair and more, without counting patients in ICU who required our speciality care. Fortunately, the Peritoneal Dialysis (PD) Clinic and the

Nocturnal Home Dialysis Program helped us to go through this period, because several hemodialyzed patients have been referred to these modalities. Despite the fact that we had to adjust the ratio to sometimes up to four patients per nurse (4:1)… staff members kept smiling.

Royal Victoria Hospital

We spend a lot of effort in recruiting more patients in PD. We aim at "recapturing", by trying to intervene with the patients who required urgent dialysis treatment and once the emergency period has passed, we try to determine with him/her the possibility of using the PD modality.

We also had a very busy summer due to patient transfers to other centres, to transplantation centres, etc. Despite this bustling period, the staff kept smiling.
—Marie-Josée Stonely

Centre de santé et des services sociaux (CSSS) of Chicoutimi

Lots of action: Ginette Lavoie, RN, will take a well-deserved retirement at the end of June. Esher Girard, Nurse Manager of the Dialysis Unit, officially left on March 31 to hold the position of Nurse Manager of the ICU. Martine Gravel has been appointed to replace her. She should start soon in her new position. The unit has welcomed two new patients recently. A reorganization of schedules has been mandatory at this point. So, we are now open three evenings per week and on Sundays.

Centre de santé et des services sociaux (CSSS) of Gatineau–Hull Hospital

The management team has authorized a new nocturnal home dialysis project for five patients. Hélène Prévost, Hemodialysis Nurse Clinician, has been appointed Project Manager. She started the training of our first patient on October 1. We are very pleased with this project. The patient started doing her nocturnal home hemodialysis therapy in mid-November 2008.

We hired three newly graduated nurses on June 9, 2008.
—Serge Gauvreau

Notre-Dame Hospital
Sir Mortimer B. Davis Montreal Jewish General Hospital

We are pleased to announce the promotion of Sophie Pouliot to the position of Nurse Manager of the dialysis unit. She has been a nurse clinician in our unit for the last four years. We are thrilled that she continues to contribute, in a different manner, to improve the quality of care we deliver to our patients and their families.

Jointly with Mari Sarian, our Educator, we are confident that we will be able to identify and address our clinical development needs. During the summer, a pharmacist will join our team.

The hiring of new nursing personnel allows us to release:

- Shériane Cowie, for her new position as VA Coordinator, who will be able to focus on the patient independence (insertion of needles) and the Buttonhole technique. We are pleased to finally have the possibility to develop and implement the Buttonhole technique and to offer it to our interested patients. A second patient has just started his training on this technique.
- Vanessa Ségreti, our Nurse Clinician who also has a bachelor degree in kinesiology, wants to put in place an exercise program for patients on dialysis.

The hiring of new members allowed us to optimize the capacity of our two hemodialysis units. On the other hand, we first thought that we could accept some travelling patients during summer, but the increase in the number of regular patients prevented us from doing so.
—Francine Manceau

Trois-Rivières Regional Hospital Centre, St. Marie Pavilion

Currently

- 170 current patients
- 1 transplant patient
- 4 new patients in nocturnal home dialysis (NHD) for a total of six (central venous catheter and Buttonhole technique)
- 2 patients will soon start their NHD training
- Creating of new timetables in evenings (Tuesdays and Thursdays) and on Sundays
- Night duty effective since the very beginning of the year

Several nurse positions have been opened this winter in anticipation of quite a few retirements within the next two years. In filling the positions in advance, we hope to increase the expertise of our new staff before actual retirements.

Therefore, in order to address the requirements of our team, we have hired staff members who give support at a clinical, as well as a clerical level.

For the moment, everything is going smoothly.
—Sylvie Lehouillier,
Hemodialysis Nurse Clinician
Haut-Richelieu Hospital

We are taking the opportunity to congratulate Carole Labrie and Marc Boisvert who passed their certification in nephrology with the Canadian Nurses Association (CNA). We are very proud to count you on our team!

Several requests come from hemodialysis patients who plan to travel in our region. We try to fulfill the majority of these requests.

We had a difficult summer because of a lack of nursing personnel. Fortunately, we can count on excellent cooperation of the whole team in order to ensure quality and sufficient care.
—Hélène Perron,
Nurse Manager Dialysis Unit

Région Québec (Lisette Lafrenière)

Comme le temps passe vite. Il me semble qu'il y a plusieurs mois nous parlions de la tenue du Congrès 2008 et cela me paraissait lointain. Alors, nous y sommes. Eh! oui, je parle bien du Congrès de l'ACITN de 2008 qui se tiendra à Québec en octobre prochain. J'espère, chers membres, que vous avez planifié une visite par « chez nous » comme on dit communément. Une chose est certaine, nous vous attendons en grand nombre à pour souligner le 40e anniversaire de l'association et le 400e de la fondation de la Ville de Québec. Nous sommes fiers d'être la province hôte et j'ai très hâte de vous voir dans le « Vieux Québec ». Pour toute assistance durant le Congrès, n'hésitez pas à venir me rencontrer. Je me ferai un plaisir de vous aider.

CSSS du Sud de Lanaudière—Hôpital Pierre-Le Gardeur

Comme nous vous l'avions annoncé, nous avons reçu la visite du Conseil canadien d'agrément des services de santé (CCASS) le 9 juin dernier. Les visiteurs ont rencontré plusieurs personnes tout au long du processus et un rapport préliminaire nous a été livré. Selon ce rapport, plusieurs points forts ont été relevé, dont la force de l'équipe en matière de respect des droits et des volontés de la clientèle etlde respect des normes et des procédures propres à notre unité. De plus, ils ont constaté les efforts

et l'énergie que nous déployons en matière de prévention des infections. Des occasions d'amélioration ont également été soulevées. Notre objectif, bien entendu, consiste à offrir des soins et des services de qualité, en toute innocuité, dans un processus continu.
—Lisette Lafrenière

CUSM
Hôpital général de Montréal

Déjà au début de l'été, notre centre de dialyse était rempli à pleine capacité, soit 23 postes, trois patients par jour par poste, six jours sur sept, et ce, sans compter les patients dialysés hors centre ou aux soins intensifs.

Heureusement, la clinique de dialyse péritonéale et le service de dialyse nocturne à domicile nous ont aidés à passer au travers, car plusieurs patients hémodialysés ont été dirigés vers ces modalités. Malgré le fait que nous ayons eu à modifier le ratio jusqu'à parfois quatre patients par infirmière… nos infirmières ont gardé le sourire.

Hôpital Royal Victoria

Nous déployons des efforts pour essayer de recruter plus de patients pour la modalité de la dialyse péritonéale. Nous misons sur revitaliser cette modalité en intervenant auprès du patient qui, pour une raison urgente, doit entreprendre abruptement un traitement de dialyse. Une fois la période de crise passée, nous évaluons avec le patient la possibilité d'opter pour cette modalité, soit la dialyse péritonéale.

Nous avons vécu un été mouvementé avec des transferts de patients vers d'autres centres, des transplantations, etc. Malgré cette agitation, le personnel a gardé le sourire.

CSSS de Chicoutimi

Beaucoup de mouvements : Ginette Lavoie, infirmière, part à la fin juin pour une retraite bien méritée. Esher Girard, infirmière gestionnaire de dialyse, a quitté officiellement son poste le 31 mars dernier pour occuper le poste d'infirmière gestionnaire aux soins intensifs. Martine Gravel a été nommée pour la remplacer. Elle devrait débuter sous peu. Le département a accueilli plusieurs nouveaux patients récemment. Une réorganisation des horaires a été obligatoire. Nous sommes ouverts maintenant trois soirs sur sept et le dimanche.

CSSS de Gatineau—Hôpital de Hull

La Direction a autorisé un projet de dialyse nocturne à domicile pour cinq usagers. Hélène Prévost, infirmière clinicienne en hémodialyse, a été nommée chargée de projet. Elle a commencé la formation de notre première cliente le 1er octobre dernier. Nous sommes très heureux de ce projet. La cliente devrait obtenir son congé pour un retour à la maison vers le 14 novembre prochain.

Nous avons accueilli trois nouvelles graduées le 9 juin dernier.
—Serge Gauvreau

Hôpital Notre-Dame
Sir Mortimer B. Davis Hôpital général juif de Montréal

Nous avons le plaisir d'annoncer la nomination de Sophie Pouliot au poste d'infirmière gestionnaire de l'unité de dialyse. Sophie a travaillé en tant qu'infirmière clinicienne au sein de l'unité au cours des quatre dernières années. Nous sommes heureux qu'elle continue de contribuer, de manière différente, à l'amélioration de la qualité des soins dispensés à nos patients et à leur famille.

En collaboration avec Mari Sarian, notre éducatrice, nous sommes persuadés que nous pouvons déterminer les besoins de perfectionnement clinique et y répondre. Un pharmacien va s'ajouter à notre équipe durant l'été. L'embauche d'infirmiers et d'infirmières nous permet de libérer :

Shériane Cowie, infirmière responsable des abords vasculaire, peut ainsi prioriser l'autonomie des patients (insertion des aiguilles) pour ce qui est de la technique du trou de bouton. Nous sommes fiers d'avoir enfin la possibilité de développer cette technique et de pouvoir l'offrir aux patients intéressés. Un deuxième patient vient d'en commencer l'apprentissage.

Vanessa Ségreti, notre infirmière clinicienne détenant également un baccalauréat en kinésiologie, désire mettre en place un programme d'exercices pour les patients dialysés.

L'embauche de nouvelles recrues nous a permis l'utilisation optimale de nos deux unités d'hémodialyse. Par contre, nous pensions avoir la possibilité d'accepter des visiteurs pendant l'été, mais l'augmentation du nombre de patients réguliers nous a empêchés de les accueillir.
—Francine Manceau

C.H. Régional de Trois-Rivières
Pavillon Ste-Marie

Actuellement;
- 170 patients
- 1 patient greffé
- 4 nouveaux patients en dialyse nocturne à domicile (HDN) pour un total de 6 (cathéter et trou de bouton)
- 2 patients commencent leur formation (HDN) bientôt
- Ouverture de nouvelles plages horaires de soir (les mardis et jeudis) et en matinée le dimanche
- Garde de nuit effective depuis le début de l'année

Nous avons ouvert plusieurs postes d'infirmières cet hiver en prévision des nombreux départs à la retraite qui auront lieu au cours des deux prochaines années. En pourvoyant les postes à l'avance, nous souhaitons augmenter l'expertise du nouveau personnel avant les départs proprement dits.

Aussi, afin de combler les besoins de notre équipe sur les plans administratif et clinique, nous avons ajouté du personnel. Pour le moment, tout va bien.
—Sylvie Lehouillier, inf. clinicienne en hémodialyse

Hôpital du Haut Richelieu

Nous tenons à féliciter Carole Labrie et Marc Boisvert qui ont réussi l'examen de certification en néphrologie CNeph(C) Nous sommes très fières de vous compter dans notre équipe !

Plusieurs demandes nous parviennent de patients qui désirent recevoir leurs traitements d'hémodialyse pendant leurs vacances dans notre région. Nous tentons de répondre à la majorité de ces requêtes.

On prévoit un été difficile en raison de la pénurie de personnel infirmier. Heureusement, nous pouvons compter sur une excellente collaboration de toute l'équipe afin d'assurer des soins suffisants et de qualité.
—Hélène Perron, infirmière gestionnaire de l'unité de dialyse

Atlantic Region
Colleen Wile

Corner Brook,
Newfoundland and Labrador

- Staff and patients celebrated Nephrology Day. We had decorations and banners up in the unit. Our manager provided a cake. The CEO and

VP of secondary services were in attendance as well as members of our social work and nutrition department.
- Certificates of appreciation were given out to all staff in attendance.
- Christine Chadderton wrote a short history of Renal Care in Western Newfoundland and this will be published in the **Western Health** newsletter.
- Two staff members obtained their CNeph(C) certification.
- We have had a sad summer as we have lost many of our patients. Our patient population is heavy on the elderly side and it is always sad to lose them.
- Three staff nurses will be attending CANNT in October and are looking forward to this event especially as it is the 40th Anniversary.

Charlottetown, Prince Edward Island
- Received an inservice on "Management of common problems associated with Chronic Renal Failure and concurrent Illness" presented by Dr. David Hirsch of the Halifax Home Dialysis Program.
- Souris Hospital provided some PD respite after some the nursing staff were trained.
- Meetings are underway to address the issue of providing Provincial Respite and Long-Term Care for PD patients.

Cape Breton, Nova Scotia
- Six staff members are looking forward to attending the National CANNT symposium.
- Staff members are encouraged to become CANNT members.
- Our vascular access clinic is due to start October 18, 2008, and will be held once a month with options to change depending on the need.
- An evening dinner and presentation by Dr. Tom Hewlett and motivational speaker Charles MacDonald was the setting for Nephrology Health Care Professionals Day on September 17, 2008.

  There was a total of 48 people present for the informative and enjoyable evening.
- All staff members are getting ready for accreditation with in services on required organizational practices (ROPs).
- Frontline nurses are being trained throughout the District for Peritoneal Dialysis (PD).
- Successful patient education days were held for the chronic kidney disease (CKD) population with an upcoming session for the PD population.

Halifax/Dartmouth, Nova Scotia
- Evening Education sessions continue approximately bi-monthly. The October session was well attended. The topic was "Chronic Disease Management" presented by Linda Kloosterman.
- Main in-centre hemodialysis unit continues to pursue an exercise program for the dialysis patients and is currently investigating possible bikes to meet the needs of the patients and unit.
- Licensed Practical Nurses (LPNs) have maximized their scope of practice in caring for our stable predictable hemodialysis patients (in-centre). The plan now is to start to expand the role of the LPN in the satellite clinics with the introduction of care for tunneled central venous catheters (CVCs).
- Another successful Nephrology Education Day was held in October to provide staff the opportunity for further nephrology related education
- The transition to the new dialysis machines in the satellites should be completed by the end of December.
- Several staff members are planning to write the Nephrology Certification Exam in April and we wish them all good luck.
- The main in-centre dialysis unit has once again reached capacity and plans are being investigated to find additional space for dialysis treatments.

Moncton, New Brunswick
- Sandra Lagacé, Clinical Resource Nurse, has received the CANNT Award of Excellence in Clinical Practice.
- Robert Haché, Senior medical engineering technologist, has received the CANNT Award of Excellence—Technical Practice.
- Home Hemodialysis numbers continue to grow.
- Expansion project for the satellite unit in Miramichi is now completed. New patients are now receiving treatments in their community. In January 2009, the unit will be celebrating its 10th anniversary of operation.
- Ten nurses from the hemodialysis unit are registered for the Nephrology Certification Exam in 2009.

Bathurst, New Brunswick
Nothing new to report at this time

Saint John, New Brunswick
- An evening of celebration was held in recognition of all Nephrology Professionals with a motivational speaker, patient speaker and program review.
- Education session plans are underway.
- The organizing committee for CANNT 2009 is very excited and work is underway for a warm and cozy Atlantic conference. Members are Sherry MacPhee and Faye Clark (chairpersons), Mary Price, Evelyn Magee, Cathy Ehrhardt, Kim Hurley and Michele McDade.
- Staff Accomplishments: Kim Hurley received the SP Handa Excellence in Nephrology Nursing Award.
- I would like to recognize staff's commitment to their co-workers for the coverage offered during the summer months to assure some vacation time was possible.

Région de l'Atlantique
Colleen Wile

Corner Brook, Terre-Neuve-Labrador
- Le personnel et les patients ont célébré la Journée de la néphrologie. Nous avons décoré l'unité et installé des bannières. La direction a fourni un gâteau. Le président-directeur général et le vice-président aux Services secondaires ont assisté à cette fête ainsi que les travailleurs sociaux et le personnel du service diététique.
- Des certificats d'appréciation ont été remis à tous les membres du personnel présents.
- Christine Chadderton a écrit la petite histoire des soins de néphrologie de l'ouest de Terre-Neuve qui sera publiée dans le bulletin d'information **Western Health.**
- Deux membres du personnel ont obtenu leur certification en néphrologie, CNéph(C).
- Notre été a été passablement triste. Nous avons perdu de nombreux patients. En effet, notre population de patients compte beaucoup de personnes âgées. Et, c'est toujours triste de les voir partir.
- Trois membres de notre personnel assisteront au Congrès de l'ACITN en octobre et ont très hâte de prendre

part à cet événement, étant donné qu'on y célèbre le 40e anniversaire de fondation de l'Association.

Charlottetown, Île-du-Prince-Édouard

- Le personnel infirmier a reçu une formation sur place sur la prise en charge des problèmes courants associés à l'insuffisance rénale chronique et aux maladies concomitantes (Management of common problems associated with Chronic Renal Failure and concurrent Illness), présenté par le Dr David Hirsch du Programme de dialyse à domicile de Halifax.
- Après avoir reçu une formation appropriée, le personnel infirmier de l'Hôpital de Souris a pu fournir des soins de relève à certains patients en DP.
- Les rencontres vont bon train pour s'attaquer au problème provincial des soins de relève et de longue durée aux patients en DP.

Cape Breton, Nouvelle-Écosse

- Six membres du personnel infirmier attendent avec impatience de participer au Congrès annuel de l'ACITN/CANNT.
- On encourage vivement le personnel infirmier à devenir membre de l'ACITN/CANNT.
- Des séances de formation pratique sur l'accès vasculaire auront lieu tous les mois, au besoin, à compter du 18 octobre.
- Un souper animé par le conférencier spécialiste de la motivation, Charles MacDonald, suivi d'une présentation du Dr Tom Hewlett, a été le point culminant de la Journée des professionnels de la santé en néphrologie qui a eu lieu le 17 septembre 2008.
- Quarante-huit convives ont pris part à cette excellente soirée très informative.
- Tous les membres du personnel se préparent à recevoir la visite d'Agrément Canada sur les Pratiques organisationnelles requises (POR).
- Les infirmières de première ligne du district reçoivent la formation sur la DP.
- Les journées d'éducation des patients ont connu un franc auprès de la population de patients atteints de maladie rénale chronique. Nous planifions une prochaine séance de formation auprès de la population en DP.

Halifax/Dartmouth, Nouvelle-Écosse

- Nous continuons d'organiser des soirées d'éducation tous les deux mois environ. La soirée d'octobre, dont le thème était la prise en charge de la maladie chronique (Chronic Disease Management), présentée par Linda Kloosterman, a enregistré un taux de participation élevé.
- L'unité principale d'hémodialyse en milieu hospitalier continue de mettre en œuvre son programme d'exercices pour les patients dialysés et examine actuellement la possibilité d'acquérir des bicyclettes stationnaires qui répondent aux besoins des patients et de l'unité.
- Les infirmières auxiliaires autorisées ont maximisé leur champs de pratique en prodiguant des soins à des patients stables hémodialyse (en centre hospitalier). Le plan consiste maintenant à étendre leur rôle dans les unités satellites tout en élargissant leur champ d'expertise envers les soins aux cathéters veineux centraux tunnellisé.
- La Journée de formation pour les professionnels de la santé a eu lieu en octobre afin de leur fournir une occasion d'approfondir leurs connaissances en néphrologie.
- La période de transition pour les nouveaux appareils de dialyse dans les centres satellites devrait se terminer à la fin décembre.
- Plusieurs membres du personnel prévoient passer l'examen de certification en néphrologie en avril. Nous leur souhaitons la meilleure des chances.
- L'unité principale d'hémodialyse en centre hospitalier a une fois de plus atteint sa pleine capacité. Des projets d'études sont en cours afin de trouver de l'espace additionnel pour les traitements de dialyse.

Moncton, Nouveau-Brunswick

- Sandra Lagacé, infirmière-ressource en soins cliniques, a reçu de l'ACITN le Prix d'excellence en pratique clinique.
- Robert Haché, technologue senior en génie biomédical, a reçu de l'ACITN/CANNT le Prix d'excellence en pratique technique.
- Le nombre de patients en hémodialyse à domicile ne cesse d'augmenter.
- Le projet d'agrandissement du centre satellite de Miramichi est maintenant terminé. De nouveaux patients reçoivent leurs traitements dans leur collectivité. En janvier 2009, nous célébrerons le 10e anniversaire d'exploitation de cette unité.
- Dix infirmières de l'unité d'hémodialyse sont inscrites pour passer l'examen de certification en néphrologie en 2009. Souhaitons-leur bonne chance !

Bathurst, Nouveau-Brunswick

Rien de nouveau à signaler pour le moment.

Saint John, Nouveau-Brunswick

- Nous avons organisé une soirée de célébration pour tous les professionnels en néphrologie avec des invités spéciaux, dont un conférencier spécialiste de la motivation et un patient invité. Nous avons profité de l'occasion pour présenter une rétrospective de notre programme.
- Nous préparons actuellement de nouvelles séances d'éducation.
- Les membres du Comité organisateur du Congrès annuel de 2009 de l'ACITN sont emballées ; le travail de planification va bon train pour la tenue dans la région de l'Atlantique du prochain congrès dont l'accueil sera des plus chaleureux et amicaux. Les membres sont : Sherry MacPhee et Faye Clark (coprésidentes), Mary Price, Evelyn Magee, Cathy Ehrhardt, Kim Hurley et Michele McDade.
- Réalisations du personnel : Kim Hurley a reçu le Prix d'excellence SP Handa en soins infirmiers en néphrologie.
- J'aimerais ici souligner le dévouement dont on fait preuve les membres du personnel les uns envers les autres pour assurer une couverture durant les mois d'été, ce qui a fait en sorte qu'il a été possible de prendre des vacances.

Technical Report (Marc Heroux)

This will be my last technical update for the **CANNT Journal** as the Technologist VP of CANNT. Seeing the people at the 40th anniversary and contacting some of the more seasoned members of the association past and present makes you realize the expertise and professionalism that CANNT has grown to become for all.

Over the last few years, membership for technologists has stayed stable. The title change in the last few years has brought technologists in line with the entire association structure.

The Nephrology Healthcare Professionals Day that was an idea back in 2006 brought by the technical group has

grown to a Canadian recognized celebration of all nephrology professionals.

Certification has taken a step back until the technical certification committee meets with Ontario Association of Certified Engineering Technicians and Technologists (OACETT). Keep an eye on this column in the future for updates.

The technical standards were submitted and approved by the CANNT board in fall 2008. This year, it also included for the first time a section on home dialysis.

The Canadian Standards Association (CSA) has also gone through some changes after many years of great service. Dave Weatherill has stepped down as chair of the dialysis committee. The new chair and co-chair are Gil Grenier and Jason Maahs. The CSA has looked at our technical standards for home dialysis and are moving ahead with a needs analysis to help plan to develop a CSA standard for Canada on home dialysis.

In the coming year, a project by the technical group will include tech-swapping initiatives between units and to promote the value of sending technologist to conferences.

Rapport technologues (Marc Héroux)

Le présent rapport du Groupe technologie pour le **Journal CANNT** sera mon dernier en tant que vice-président de l'ACITN/CANNT. En faisant la connaissance des membres qui ont assisté aux célébrations du 40e anniversaire et en côtoyant certains des plus chevronnés de l'histoire passée et présente de notre Association, j'ai pris conscience de l'expertise et du professionnalisme que l'ACITN/CANNT a acquis au fil des ans pour notre bénéfice à tous.

Au cours des dernières années, l'effectif des technologues est demeuré stable. Le changement de titre qui a eu lieu ces dernières années a ramené le Groupe technologie en ligne avec la structure de l'Association dans son ensemble.

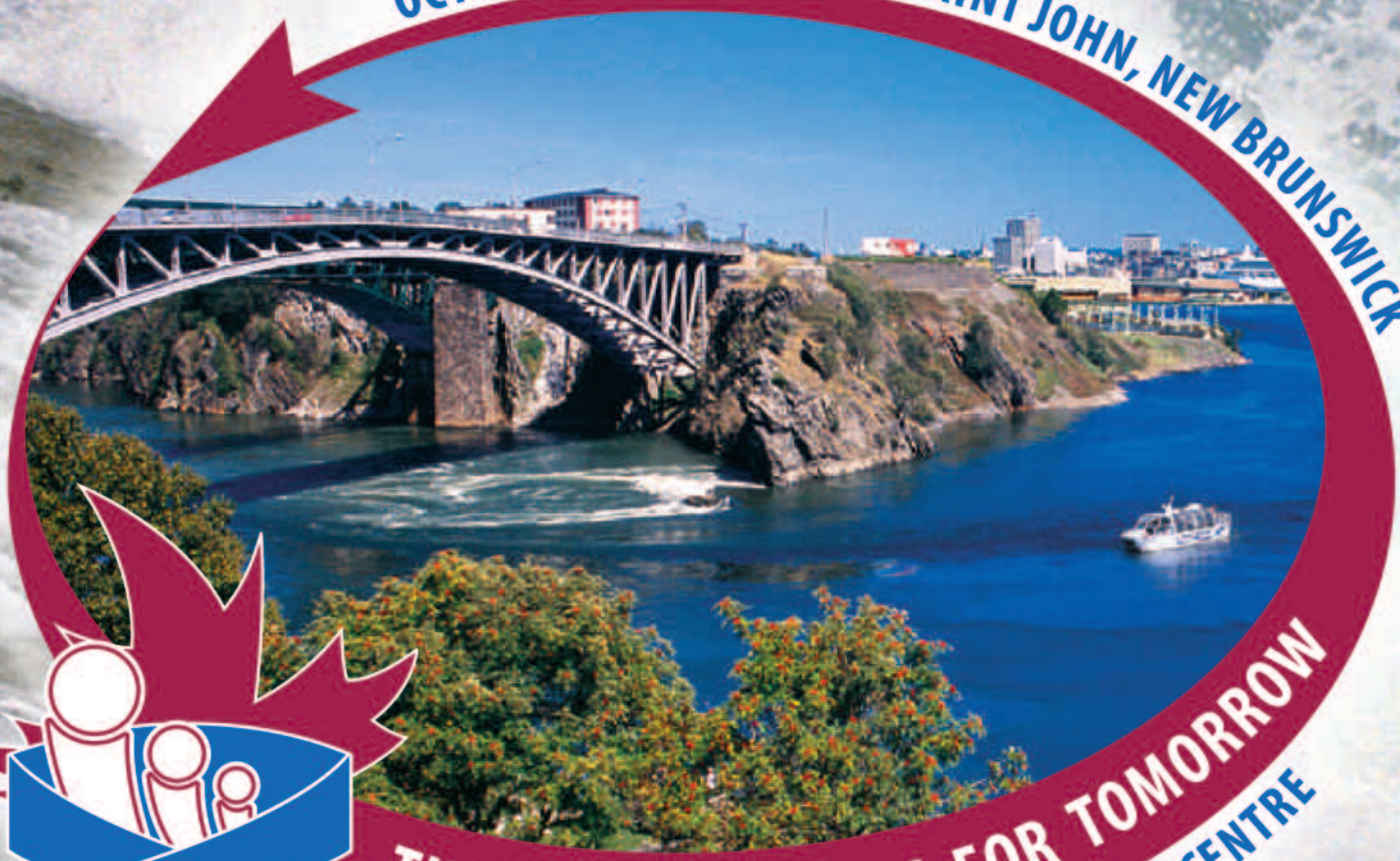
La Journée des professionnels de la santé en néphrologie, qui était à l'origine une idée du Groupe technologie en 2006, est devenue un moment de célébration pour tous les professionnels de la santé en néphrologie à l'échelle canadienne.

L'agrément des technologues en néphrologie a enregistré un certain recul. Le Comité d'agrément s'est réuni avec l'association des techniciens et technologistes certifés de l'Ontario, soit l'*Ontario Association of Certified Engineering Technicians and Technologists (OACETT*), pour prendre action. Surveillez l'évolution de cette colonne dans les prochains rapports.

Les Normes de pratique technique ont été approuvées, après examen, par le Conseil d'administration de l'ACITN/CANNT à l'automne 2008. De plus, une section consacrée aux Normes de pratique technique pour la dialyse à domicile a été incorporée pour la première fois.

L'Association canadienne de normalisation (CSA) a également entrepris certains changements. Après de nombreuses années d'excellents services, Dave Weatherill s'est retiré de la présidence du Comité de dialyse pour laisser la place au nouveau président Gil Grenier et à son coprésident Jason Maahs. La CSA a examiné nos Normes de pratique technique pour la dialyse à domicile et entreprend une analyse des besoins qui lui permettra d'établir une norme canadienne pour la dialyse à domicile.

OCTOBER 15-18, 2009 ~ SAINT JOHN, NEW BRUNSWICK



TURNING THE TIDES FOR TOMORROW

SAINT JOHN TRADE & CONVENTION CENTRE

CANNT ACITN

CANADIAN ASSOCIATION OF NEPHROLOGY NURSES AND TECHNOLOGISTS
L'ASSOCIATION CANADIENNE DES INFIRMIERES ET TECHNICIENS DE NEPHROLOGIE

CANNT/ACITN 2009

Call For ABSTRACTS

SAINT JOHN
New Brunswick
2009

*Abstracts are currently being accepted for ORAL and POSTER presentations for **CANNT 2009**, the annual national meeting of the Canadian Association of Nephrology Nurses and Technologists, to be held **October 15 – 18, 2009** at the **Saint John Trade & Convention Centre, Saint John, New Brunswick**. Topics of interest may include: clinical research, innovative projects and solutions, ethics, case presentations and clinical reviews. All abstract submissions must be evidence-based.*

CONFERENCE THEME:

The theme for CANNT 2009 is **"TURNING THE TIDES FOR TOMORROW"**. In keeping with the conference theme, abstract submissions should demonstrate leading edge nephrology topics, appropriate for the novice through to the advanced practice professional. Please consult the sidebar for possible areas of interest.

ABSTRACT SUBMISSION GUIDELINES – Deadline: April 1, 2009

All abstracts must be submitted via e-mail (hreid@innovcc.ca) as an attachment in Word or WordPerfect

Submissions must include the following:

Abstract Title
- must accurately reflect the content of the presentation

Abstract Text
- should be no longer than 250 words (font: Times New Roman 12 point)
- provide author information on a separate page
- should be as informative as possible

If **research-based**, should include:
- purpose of study
- methods
- results
- conclusions
- implications for nephrology care

If **practice/education-based**, should include:
- purpose of the project
- description
- evaluation/outcomes
- implications for nephrology practice/education

- define **all abbreviations** the first time they appear in the abstract
- use only the **generic** names of drugs
- **do not identify companies and/or products in the body or title of the abstract**

Modes of Dialysis
Pathophysiology
Pediatrics
Pharmacology
Education
Leadership
Transplantation
Technology
Chronic kidney disease
Psychosocial
Advance directives
Nutrition
Infection control
Vascular access
Professional development
Ethics
Professional practice
Research
Disaster planning

PRESENTATION INFORMATION: (provided on separate page)

- identify preferred format of presentation (ORAL or POSTER)
- full names and credentials of authors
- contact information for first author must include: full name, e-mail address, fax number, mailing address with postal code, home and work telephone numbers
- identify preferred audiovisual requirements (PC Viewer for Powerpoint or Slides)

IMPORTANT NOTES:

Only **COMPLETE** submissions received by **Wednesday, April 1, 2009** will be considered.

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CANNT/ACITN 2009

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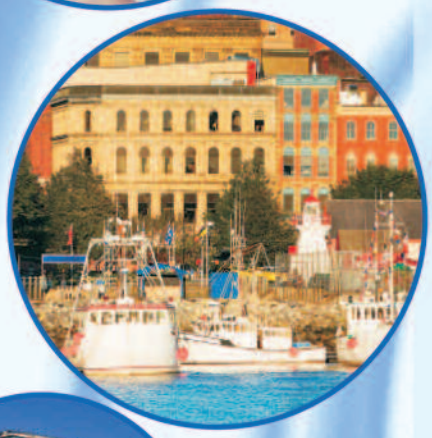

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The use of alternative anti-coagulation strategies for a nocturnal home hemodialysis patient with heparin-induced thrombocytopenia

By Rose Faratro, RN, BHScN, CNeph(C), Celine D'Gama, RN, BHScN, CNeph(C), and Christopher Chan, MD, FRCP(C)

Abstract

Heparin-induced thrombocytopenia (HIT) is a potentially catastrophic hyercoagulable state. The prevalence of HIT in individuals doing nocturnal home hemodialysis (NHD) is unknown and the appropriate treatment protocol has yet to be determined. The objective is to describe the clinical course and treatment plan of a patient who developed HIT while undergoing NHD. A 49-year-old man with a past history of end stage renal disease (ESRD) of unknown etiology was initiated on NHD in February 2005. His clinical and biochemical parameters improved after conversion to NHD. However, excessive bleeding at the vascular access sites complicated his treatments. Clinical investigations revealed development of HIT. Alternative therapeutic strategies were attempted to enable our patient to continue NHD: unfractionated heparin, citrated regional anticoagulation, Danaparoid, and Argatroban. In conclusion, NHD patients with HIT pose a specific clinical challenge. We speculate that the augmented exposure of heparin coupled with a primed autoimmune response may be responsible for the development of HIT in our patient. Further research is required to elucidate the appropriate clinical monitoring and treatment strategy for this patient.

The use of heparin as the anticoagulant of choice for the prevention of extracorporeal blood clotting has been a mainstay since the inception of hemodialysis treatments. For individuals who hemodialyze themselves at home overnight on nocturnal home dialysis (NHD), anticoagulation is a fundamental and essential component of the treatment. If the patient is unable to use heparin, outcomes could potentially be catastrophic, and may lead to treatment failure, thus, alternatives must be considered.

A patient dialyzing at home during the night faces many challenges such as access difficulties, machine malfunction and extracorporeal circuit clotting. The nature of NHD dictates that both the dialysate and blood flow rates are reduced, providing slow, gentle HD throughout the night. This reduction in blood flow rate could, however, predispose the patient to extracorporeal circuit clotting. This may lead to a need to increase the dosage of heparin during the delivery of NHD. More importantly, the patient is exposed to significantly more heparin as a result of extended treatment hours.

Case study

This is a case study of a patient who is a 49-year-old male, diagnosed with end stage renal disease (ESRD) of unknown etiology. The patient initiated renal replacement therapy in December of 2004, electing to have NHD and had an arteriovenous (AV) fistula created. He trained at the home hemodialysis (HHD) unit for several months and then was discharged home on NHD in February 2005. His dialysis prescription consisted of five to six nights per week, eight-hour treatments. The anticoagulation prescription was heparin 1:1000 units/mL, bolus 2000 units, and then hourly rate of 2000 units. With this prescription, he initially managed well, with uneventful treatments until November 2006. At that time, the patient began to complain of excessive bleeding from needle puncture sites and communicated often with the home hemodialysis staff about his frustrations related to the events that were complicating his dialysis treatment. He reported hemostasis at 50 minutes per puncture site, a significant increase from his baseline of five to 10 minutes per site. Upon investigation, blood work revealed that his platelet count, which usually trended in the lower range of normal, was now below normal.

The HHD team referred him to have his AV fistula assessed for possible stenosis, which might account for excess bleeding, and a heparin-induced thrombocytopenia (HIT) assay was also sent. The fistulogram of the AV fistula did not indicate the presence of any stenosis, which was good news for him. Unfortunately, the HIT assay result was positive, and a hematologist also confirmed the diagnosis of heparin-induced thrombocytopenia-Type 2.

NHD was no longer a treatment option for this patient. Why should this be an issue? With NHD there is less risk that the patient will be under-dialyzed. When hemodialysis is preformed frequently and slowly over a longer period of time, the treatment is better tolerated with little to no side effects. Thus, there is less risk of cramping or hypotension and the patient does not experience the usual "washed out" effects post dialysis. Furthermore, the patient does not have to make time in his schedule for a trip to the hospital to receive his dialysis therapy. The nighttime dialysis schedule allowed the patient to live a more "normal" life. The patient also reported many physical benefits from NHD: improved appetite, improved blood pressure, improved anemia, improved sleep, improvement of symptoms of restless leg syndrome. With the patient's encouragement and the knowledge that NHD resulted in many benefits for the patient, the team began to search for an alternate anticoagulant.

What is HIT? HIT-Type 1 refers to a benign non-immune condition in which no heparin-dependent antibodies are pre-

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sent. HIT-Type 2 is a severe immune-mediated drug reaction caused by antibodies to the heparin-platelet factor 4 (PF4) complexes, which can occur in any patient exposed to heparin (Tang et al., 2005). The patient develops antibodies to heparin, which can lead to life-threatening thrombotic complications. The treatment for HIT involves the cessation of heparin and the initiation of an alternative anticoagulant. The dilemma was: What is the ideal anticoagulant alternative for this individual, a nocturnal dialysis patient diagnosed with HIT-Type 2? The team reviewed its knowledge of heparin and alternatives through literature and assistance by pharmacists. The "pros and cons" of heparin were reviewed (see Table One), and it was clear that heparin was no longer an option for this patient.

While the HHD team reviewed the alternatives, the patient was converted to conventional dialysis (3 x 4 hour treatments per week) utilizing hemodiafiltration (HDF) to minimize clotting when not using an anticoagulant. HDF is a method of hemodialysis that provides continual infusion of normal saline, at the same time removing the additional volume infused. It is generally thought that this continual infusion of normal saline serves to dilute the blood in the extracorporeal circuit to hinder clot formation during the hemodialysis treatment. Utilizing HDF, he still experienced clotting of his extracorporeal circuit and, as a result, his dialysis prescription was compromised, as he was only able to average 2.5 hours per treatment. Furthermore, he had difficulty achieving target weight due to the dialysis treatments being shortened when clotting occurred, and he did not have sufficient treatment time to remove excess fluids. Additionally, he experienced a drop in hemoglobin as a result of extracorporeal circuit clotting and blood loss (each circuit of blood when clotted results in a loss of approximately 210 mL of blood, highly significant in individuals with ESRD who are compromised in their red blood cell production). The patient also expressed frustration related to increased restrictions with food and liquid intake. On a positive note, puncture site hemostasis dropped to 30 minutes per site.

Citrate dialysate (Citrasate)

On researching other forms of anticoagulation strategies, the HHD team, which includes the patient, opted to trial citrate dialysate (Citrasate). Although not available in Canada, as citrate dialysate has not as yet been approved by Health Canada, special consideration was given to our patient. The anticoagulant "citrate" is in the dialysate. The anticoagulant mechanism of citrate dialysate occurs when citrate enters the bloodstream and binds to ionized or free calcium, thus removing calcium from the blood-clotting cascade. This inhibits the blood from clotting, but may also, in theory, decrease the blood calcium level. The concentration of citrate in citrate dialysate used in this trial was 2.4 mEq/L. Unfortunately, the ability to measure the effects of citrate dialysate as an anticoagulant has not been developed.

The patient was trialed on citrate dialysate and did well on conventional dialysis, but it did not allow the patient to convert to nocturnal hemodialysis. Firstly, the patient was able to extend treatment time only to four-hour sessions. Secondly, the HDF could not be discontinued, as the blood circuit would clot regardless of citrate dialysate. However, the patient's calcium levels were not significantly influenced by the citrate in the dialysate (see Table Three), and hemostasis at puncture sites remained at 30 minutes.

The patient continued with conventional dialysis utilizing citrate dialysate until the supply was exhausted and then opted to convert back to conventional HDF dialysis. Although the patient expressed mounting frustration, he encouraged the HHD team to continue searching for a solution on his behalf.

Danaparoid sodium (Danaparoid)

The team then decided to trial danaparoid sodium (Danaparoid), a low-molecular weight (LMW) heparin, chemically distinct from heparin. It is used as a substitute for heparin in individuals diagnosed with HIT. However, literature revealed very little experience in use with home hemodialysis patients.

Danaparoid sodium is an anticoagulant that inhibits activated factor X (factor Xa) or inhibits factor Xa and thrombin through antithrombin (Alving, 2003). However, there are some important caveats when prescribing danaparoid sodium. First, some cross-reactivity in heparin-intolerant patients may occur. HIT antibodies may form, antibodies to PF4. The cross-reactivity of LMW heparin to PF4 antibodies may be as

Table One. Pros and cons of heparin for hemodialysis

Pro	Con
• Widely available • Easily convert conventional dialysis treatment to nocturnal dialysis treatment • Limited half-life • Cost 1:1000 (10 mL vial) = $1.82/each vial	• HIT

Table Two. Pros and cons of hemodiafiltration

Pro	Con
• Cost $16.78—3-prong tubing and eight 1L bags of normal saline.	• Unable to convert patient to nocturnal hemodialysis • Increased workload for the patient • Difficulty achieving target weight • Difficulty completing four hours of treatment without changing blood circuit • Drop in hemoglobin due to extracorporeal circuit clotting.

Table Three. Calcium levels dialyzing with citrate dialysate

Treatment	Calcium Total Normal range 2.20–2.62 mmol/L	Calcium Corrected Normal range 2.32–2.62 mmol/L	Calcium Ionized Normal range 1.20–1.32 mmol/L
Treatment 1			
Pre Hemo	2.33	1.19	1.23
Intra Hemo	2.08	1.04	1.1
Post Hemo	2.04	1.0	1.05
Treatment 2			
Pre Hemo	2.28	1.18	1.27
Intra Hemo	2.14	1.07	1.14
Post Hemo	2.03	1.01	1.08
Treatment 3			
Pre Hemo	2.28	1.09	1.2
Intra Hemo	2.18	1.15	1.22
Post Hemo	2.09	1.0	1.09

high as 10% or more by in vitro testing (Kodityal, Manhas, Udden & Rice, 2003). Second, the elimination half-life of the antifactor Xa (Anti-Xa) activity is 24 hours. Third, Anti-Xa assay should be obtained in order to monitor danaparoid sodium. Lastly, there is currently no neutralizing agent available to manage drug overdose of elevated Anti-Xa levels.

The home hemodialysis team drafted a danaparoid sodium administration procedure. In March 2006, the patient was instructed to administer danaparoid sodium via the arterial bloodline immediately prior to the initiation of the hemodialysis treatment. The initial dose of danaparoid sodium prescribed was 1500 units/treatment. Conversion to nocturnal hemodialysis was successful. Post-hemodialysis Anti-Xa levels were relatively stable, with post eight-hour NHD levels being 0.35, 0.05 and 0.14 (range .35-.70). The patient reported that dialysis treatments were uneventful, denied clotting of the extracorporeal blood circuit and hemostasis at puncture sites was 35 minutes.

Two months later, in response to the patient reporting clotting in the venous chamber, the dosage of danaparoid sodium was increased to 2250 units/treatment. Within several weeks of this dose adjustment, he began to complain of increased hemostasis time to 50 minutes per puncture site. At this time, the HIT assay was repeated. It was again positive for HIT and, as it is known that individuals can have cross-reactivity, he was instructed to discontinue the danaparoid sodium and NHD and was converted to conventional HDF hemodialysis.

Not surprisingly, the patient became very sad and despondent and began to drop hints about leaving the NHD program. He was beginning to lose confidence with himself and the HHD team, and showed signs of melancholy and depression. The patient would snap at his partner, was very impatient with her and often verbally aggressive and demanding. He was, however, aware of his own behavioural changes and verbalized to the team that he felt a great deal of guilt. At this time, the HHD team increased the number of home visits in an attempt to support the patient and his partner/caregiver.

Argatroban

The hematologist was consulted once again and this time he recommended the drug argatroban for management of patients diagnosed with HIT. Argatroban is an anticoagulant that is a small molecule direct thrombin inhibitor (Alving, 2003). However, as with danaparoid sodium, little is known about the utilization of argatroban in a home dialysis environment. Argatroban is metabolized in the liver, has a half-life of about 40 to 50 minutes, and can be monitored using partial thromboplastin time (PTT) (Alving, 2003). Due to its hepatic metabolism, it is considered safe to use in patients with renal dysfunction (Alving, 2003). The HHD team wrote a procedure and the patient agreed to trial argatroban in the following dose:

- A 30 mL syringe prepared with 1.1 mL of argatroban and 28.9 mL of normal saline.
  - Line priming dose ➔ 3.7 mg of argatroban or 1 mL.
  - Bolus dose calculated at 0.1 mg/kg = 7mg of argatroban or 1.9ml.
  - Continuous infusion at 0.2 mg/kg = 14 mg/hr of argatroban or 3.8 ml/hr.

The patient was instructed to draw up argatroban and then dilute the medication into the 30 mL syringe containing 28.9 mL normal saline. We noted that if the argatroban was injected quickly into the small volume of normal saline, it would precipitate and the solution would turn cloudy. Thus, the patient was instructed to inject argatroban slowly into the 30 mL syringe and allow time for the drug to dilute to avoid precipitation.

The patient was trialed on argatroban and was successful, as repeated administration of the drug did not produce any adverse complications. PTT levels were monitored pre-dialysis, intra-dialysis and post-dialysis and found to be unremarkable (see Table Six). The patient reported no complications with his dialysis treatments, with no clotting of his circuits, and hemostasis at puncture sites approximately 30 minutes. Most importantly for him, he was able to convert back to nocturnal dialysis and regain his daytime independence and the well-being that NHD offers (see Table Seven).

The patient was happy and the team was ecstatic… until we were told the cost of the drug. A vial of argatroban (100 mg/2.5 mL) cost $633.33. The issue of cost was discussed with hospital administration and it was deemed that the continued utilization of argatroban for this gentleman was not cost-effective. Given the literature-reported cost of dialysis, the use of argatroban will outweigh the sum of all other consumables for a dialysis treatment (see Table Eight). It was also noted that, as the patient had been deemed capable of performing conven-

Table Four. Pros and cons of citrate dialysate

Pro	Con
• Serum calcium not affected by citrate dialysate • Cost $6.75/jug • Treatment session increased to four hours	• Unable to convert to nocturnal hemodialysis • Unable to discontinue the HDF • Unable to measure anticoagulation • Product not yet available in Canada

Note: HDF = Hemodiafiltration

Table Five. Pros and cons of danaparoid sodium

Pro	Con
• Easily converted to NHD • Anti Xa levels stable post hemodialysis	• Cost $18.78/each • Half-life is approximately eight hours • No neutralizing agent • Cross-reactivity with heparin • Re-occurrence of HIT

Note: NHD = Nocturnal hemodialysis
HIT = Heparin-induced thrombocytopenia

Table Six. aPTT levels during NHD with Argatroban

	Treatment 1 aPTT results in seconds	Treatment 2 aPTT results in seconds	Treatment 3 aPTT results in seconds	Treatment 4 aPTT results in seconds
Pre-dialysis	33	33	32	32
Intra-dialysis	71	58	91	47
Post-dialysis	46	45	19	47

Note: aPTT = Activated Partial Thromboplastin Time

tional hemodialysis therapy independently and could continue to do so notwithstanding the issue of HIT, argatroban was discontinued. The patient was instructed to convert to conventional dialysis with HDF.

The decision to withdraw argatroban from the plan of care resulted in a strained relationship between the patient and the health care team. He was anxious, tense and angry. Often, he complained of fatigue and a general unwellness. He expressed an inability to cope with daily tasks. Although medical compliance was not an issue, the patient no longer appeared motivated to perform hemodialysis at home. The illness impact on the patient was now significant. The patient identified that his wife was experiencing caregiver burden and this was stressing their relationship. Furthermore, other members of the family reported that they were also feeling the strain to provide the patient support. The patient voiced his distress, stating that the burden of care had become too much for him and his partner. Eventually, the patient resigned himself to the fact that he could no longer continue to dialyze at home. He opted to withdraw from the home hemodialysis program and was transferred to a total care facility.

The health care team also experienced much frustration and disappointment, particularly with the end result of the patient going to a full care facility. Paperwork, delays in obtaining products and concerns about product costs were ongoing concerns. Furthermore, goals for treatment plan appeared unachievable and creative management with the preparation of new protocols became a necessity.

Table Seven. Pros and cons of Argatroban

Pro	Con
• Convert to nocturnal hemodialysis • No antibody development • aPTT level ranged from 19–91 seconds	• Half-life 40 to 60 minutes • No neutralizing agent • $633.33 per 100 mg/ 2.5 mL vial

Note: aPTT = Activated Partial Thromboplastin Time

Table Eight. Cost of home hemodialysis using various anticoagulants

Cost of a home hemodialysis treatment with anticoagulant. Cost per treatment including staffing and supplies	**Cost**
Nocturnal hemodialysis with heparin	$103.85
Nocturnal hemodialysis with HDF	$120.63
Nocturnal hemodialysis with citrate dialysate and HDF	$127.37
Nocturnal hemodialysis with danaparoid sodium	$141.41
Nocturnal hemodialysis with argatroban	$420.52

Note: HDF = hemodiafiltration

Reassessment

The health care team re-evaluated what could have been done differently in the management of this patient diagnosed with HIT. A care plan was devised for future consideration for individuals with HIT. Initially, danaparoid sodium would be utilized as a first-line option for anticoagulation of the extracorporeal circuit. Blood work would be monitored regularly and, if the patient experiences cross-reactivity with danaparoid sodium, we would then switch anticoagulation to argatroban. In the event that the cost of argatroban is an issue, as it was with this case, the patient would be converted to conventional HHD utilizing HDF to hopefully prevent extracorporeal circuit from clotting. All through the process, the HHD team would discuss with the patient the consequences of the diagnoses and program expectations.

It is likely that the augmented exposure of heparin coupled with the primed autoimmune response might be responsible for the development of HIT in this patient. He was informed and educated in respect to the development of antibodies induced by heparin. The patient was told that HIT increased the risk of thrombosis if exposure to heparin continued, and he was made aware of the alternative agents to be considered for anticoagulation.

In summary, the individual on NHD who develops HIT poses a particularly complex challenge. We have found that the ideal alternative to heparin for those with HIT receiving NHD is argatroban. Although the half-life of argatroban in dialysis patients is extended, the drug can be used successfully to maintain anticoagulation during dialysis, particularly the longer treatments seen in NHD. Unfortunately, the greatest barrier to the use of argatroban is cost. However, if one considers the non-fiscal human costs and the potential costs of long-term care, as in our patient, it truly might have been considered a "bargain." Regrettably, the present alternative anticoagulants are uniformly more expensive compared to unfractionated heparin and a cost-effective alternative is not available.

Management of individuals with HIT requires dedicated patients, dialysis teams and hematologists to think "outside the box" to develop strategies that ultimately lead to success for patients looking to maintain their quality of life with NHD.

Conclusion

NHD patients with HIT pose a specific clinical challenge. We speculate that the augmented exposure of heparin coupled with a primed autoimmune response may be responsible for the development of HIT in our patient. Further research is required to elucidate the appropriate clinical monitoring and treatment strategy for this patient population.

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Weekly energy expenditure and quality of life in hemodialysis patients

By Ingrid Brenner, RN, PhD, and Kayla Brohart, BSc

Abstract

This study examined the relationship between physical activity patterns and quality of life among hemodialysis patients. While undergoing hemodialysis, 19 patients (31-82 years; 60.2 ± 17.4 yrs, mean ± SD) completed a physical activity and the Short-Form 36 (SF-36) questionnaire. Individuals were separated into either a high- or low-energy expenditure group. The high-energy expenditure group had significantly higher total SF-36 scores (58.35 ± 4.49 vs. 42.85 ± 3.86, mean ± SE, p = 0.028) and physical functioning scores (62.22 ± 8.00 vs. 27.14 ± 3.16, mean ± SE, p = 0.002) compared to individuals in the low-energy expenditure group. Members in the high-energy group tended to score higher on social functioning, general health, and role limitations. Increasing weekly energy expenditure, either through physical activity or household tasks, may increase quality of life and overall level of physical functioning in patients with end stage renal disease.

Key words: dialysis, physical activity, energy expenditure, quality of life, nursing

Introduction

As a result of complications associated with their disease, end stage renal disease (ESRD) patients on hemodialysis generally lead a sedentary lifestyle, have a lower exercise capacity (Painter, 2005) and a reduced quality of life (QoL) (Painter et al., 2002). Anecdotal reports have suggested that patients feel tired after dialysis and lack the energy to participate in physical activity. Furthermore, factors such as anemia, uremic muscle dysfunction, diabetes, cardiac disease, vascular disease, edema and the presence of a fistula may also limit involvement in physical activity (Stefanovic & Milojkovic, 2005).

In contrast to their normal, healthy sedentary counterpart, maximal aerobic capacity (or $\dot{V}O_2$ max) is 50% lower in ESRD patients (Sietsema et al., 2002). This lowered aerobic capacity translates into a reduction in functional ability making adherence to any exercise regimen difficult. It also subsequently leads to an increase on the demands placed on nurses and other members of the health care team.

Studies have shown that both aerobic and resistance exercise training (with and without erythropoeitin treatment) can be safely done by ESRD patients on hemodialysis without any adverse effects (Castaneda et al., 2001; Kouidi, 2001; Lennon et al., 1986; Painter et al., 2002). Some of the physiological benefits of endurance training include an increase in $\dot{V}O_2$ max, a reduction in blood pressure, improved lipid profile and enhanced mental health. Moreover, resistance training by ESRD patients can increase muscle size and strength, preventing the muscle wasting known to occur with the disease (Castaneda et al., 2001; Headley et al., 2002). Despite these findings, with adherence levels of 48% (Pianta & Kutner, 1999), most ESRD patients avoid participation in structured exercise programs.

End stage renal disease and its treatments also have a negative impact on the patient's quality of life (QoL) (Drennan & Cleary, 2005). Using the 36-item Short Form Health Survey Questionnaire, Drennan and Cleary (2005) identified several limitations in ESRD patients' QoL including a reduction in vitality and physical functioning, as well as physical role limitations. Several studies have demonstrated that participation in an exercise program either pre-dialysis or during dialysis can increase QoL measures. As little as 12 weeks of low- to moderate-intensity exercise training can have a positive effect on QoL (van Vilsteren, de Greef, & Huisman, 2005). Chronic (five to six months) exercise training (with and without normalization of hematocrit) can also improve QoL (Molsted, Eidemak, Sorensen, & Kristensen, 2004; Painter et al., 2002). However, there are only a few qualitative studies that examine the ways in which participation in physical activity programs can alter the disease experience (Allen & Gappmaier, 2001; Kutner, Zhang, & McClellan, 2000).

In contrast to a regularly scheduled "exercise" program, physical activity refers to any form of muscular activity (Powers & Howley, 2004, p. 321). This term encompasses household, recreational, occupational and exercise-related activities. Hence, it was of interest to design a study to examine the weekly energy expenditure of patients undergoing dialysis to see if participation in regular physical activity had an effect on QoL. The purpose of this study was (1) to determine whether or not physically active dialysis patients had a higher QoL compared to the less-active patients, and (2) to evaluate the types of physical activities that are commonly performed by dialysis patients.

Materials and methods

Subjects

Nineteen hemodialysis patients (7 F, 12 M) ranging in age between 31 and 82 years (60.2 ± 17.4; mean ± SD) were asked by nephrology nurses (working on a hemodialysis unit) to volunteer for the study. Inclusion criteria included age (subjects had to be between 18 and 75 years of age), fluency in English and ability to move independently (i.e., without requiring the

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use of a wheelchair). The study was conducted during the months of February and March of 2004. Written informed consent was obtained prior to participation in the study. Approval for the study was granted by the Research Ethics Committees of Trent University and the local health care facility in accordance with the Canadian Tri-Council Research Ethics Policy.

Experimental design

Nephrology nurses distributed two questionnaires for patient completion during one session of their hemodialysis treatment. A data collection component was included on the activity questionnaire to collect data on gender, date of birth, length of years on hemodialysis and other health information. Questions included on the activity question-

Table One: Data collection sheet and activity questionnaire

Exercise and Quality of Life of Dialysis Patients Data collection sheet/activity questionnaire

Subject ID:_____ Sex: _____ Date of Birth: _____ Age:_____

How many years have you been on dialysis?

Are you diabetic? Yes No

Please circle any activities you perform on a regular basis. Then on a scale of 6 to 20, please circle a corresponding number that best represents your perception of the intensity of activity. **Do this only for the activities that you perform.**

6–10 is very light, 10–11 is light, 12–13 is moderate, 14–16 is heavy, and 16–20 is very heavy.

Walking	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Running	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Swimming	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Skating	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Skiing (downhill)	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Skiing (Nordic)	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Snow shovelling	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Hockey	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Other:	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

(please describe): _____

Approximately how many minutes per week do you spend doing the activity? _____

Please put a check (✔) every line

Number of times you climbed up a flight of stairs every day at home	1–5 times a day	6–10 times a day	11–15 times a day	16–20 times a day	More than 20 times a day
On a Weekday					
On a Weekend					

Approximate number of hours each week	None	Less than 1 hour a week	1–3 hours a week	3–6 hours a week	6–10 hours a week	10–15 hours a week	More than 15 hours a week
Preparing food, cooking and washing up							
Grocery shopping							
Shopping for other items (clothes, toys)							
Cleaning the house							
Doing the laundry							
Caring for pre-school children							

naire assessed the type of activities the dialysis patients participated in, duration of activity and the degree of exertion (Table One). It contained questions about exercise habits, daily household routines and stair usage adapted from the Epic-Norfolk Physical Activity Questionnaire (Wareham et al., 2002). Each subject noted the exercise activities they performed throughout the week and rated perceived exertion using Borg's 6–20 RPE scale (Borg, 1982). Energy expenditure in various physical activities was quantified using a MET table (which expressed energy expenditure as multiples of the resting metabolic rate) (University of South Carolina, 2003). The MET score is a reliable means of assessing energy expenditure, although it may underestimate the actual amount of energy expended (Gunn et al., 2002). MET scores for all activities were totalled and added to the household activity score for the week to give a total MET score. Subjects were divided into two groups based upon their weekly MET scores: top 50% or lower 50% for subsequent data analysis.

Quality of life (QoL) measures were assessed using the Short-Form 36 (SF-36) questionnaire (Ware, Kosinski, & Keller, 1994). The SF-36 determines the QoL by quantifying it on a scale of 0 to 100. It has been shown to be a valid instrument, with a high degree of internal consistency (Cronbach's alpha statistic exceeded 0.8 for each parameter) (Lyons, Perry, & Littlepage, 1994). Studies have also shown that, depending upon the patient subgroups under investigation, reliability coefficients for this instrument can range between 0.65 and 0.94 (median = 0.85) (McHorney, Ware, Lu, & Shernourne, 1994). With the SF-36, the higher the individual score obtained, the higher the quality of life. This survey asks a variety of questions related to the degree of pain the individual experiences, physical functioning, ease of performing activities of daily living and health implications on social functioning.

Statistical analysis

Statistical analyses were performed using JMP IN 5.1 (Thomson) and Sigmaplot (Systat) software programs. Data are presented as means ± standard deviation (SD) or error (SE). Student *t*-tests were performed on the data collected to compare the responses of the high "MET score" group with those of the "low MET" score group. A linear regression analysis was performed on weekly MET scores and total SF-36 scores.

Results

Subject characteristics

Descriptive characteristics of the two groups (high MET scores versus low MET scores) are presented in Table Two. There were no significant differences in the male to female ratio in each group, age of subjects (52 ± 21 versus 67 ± 16, mean ± SD, respectively) or number of years of hemodialysis treatment. In the high MET group, one subject was diabetic, whereas in the low MET group, one subject used a lower limb prosthetic device. The patients who scored high and low on their MET scores were significantly different on weekly energy expenditure in household activity, physical activity and average weekly MET scores.

Activity patterns and quality of life

All subjects performed combinations of household activities (food preparation, grocery shopping, shopping for other items, cleaning, laundry, child care, and/or stair climbing) and walking. Members of the high MET group were more likely to participate in other activities such as hockey, skating, running, cycling, swimming, weight lifting and conditioning exercises. Although the subjects reported participating in a variety of activities, walking was the most common form of activity. As Figure One depicts, total SF-36 scores tended to increase with increasing MET scores. The high MET group scored significantly higher on total SF-36 and physical functioning scores ($p<0.05$) (Figure Two). However, there were no significant differences between the high and low MET groups on measures of fatigue, pain, role limitations due to health or emotional factors and emotional well-being (Figure Three).

Discussion

This is the first study to examine the relationship between weekly energy expenditure (as reflected through the calculated MET scores) and QoL in dialysis patients. Our data coincides with Kutner et al., (2000) who found that hemodialysis patients who had greater physical activity scores had higher total SF-36 scores and an enhanced QoL. However, we examined patients who were already established in the hemodialysis program (versus newly diagnosed hemodialysis patients) and our results are more representative of patients who are living with hemodialysis treatment.

Allen and Gappmaier (2001) reported that pre-dialysis exercise habits (≥ 3x/week), male gender and hematocrit (in the range of 33% to 36%) were predictive of whether or not

Table Two. Subject characteristics and energy expenditure (MET) scores at entry into the study

Subject Characteristics	High MET Scores	Low MET Scores
Number (n) of subjects	9	10
Male–female ratio	7:2	5:5
Age (mean years ± SD)	52 ± 21	67 ± 13
Cumulative years on hemodialysis treatment (mean ± SD)	1.4 ± 1.5	2.2 ±1.9
Household activity MET score (mean ± SE)	56.5 ± 9.9	25.2 ± 3.5*
Diabetic (n)	1	0
Amputation (lower limb) (n)	0	1
Physical activity MET score (mean ± SE)	17.1 ± 3.6	5.2 ± 1.5*
Average weekly total MET score (mean ± SE)	73.6 ± 12.2	30.4 ± 3.4*
Most popular activity	walking	walking

* = $p \leq 0.05$, high MET scores *vs.* low MET scores

subjects would participate in exercise once they were on dialysis. In our study, there were more male subjects in the high MET group. This could explain some of the variability in activity levels and corresponding differences in physical functioning scores that we obtained. Subjects in the high MET score group also had a significantly higher level of physical functioning compared to the lower MET score group. Patients who are more active and familiar with doing activities are less limited in performing them and this was represented by the variety of activities in which the members of the high MET group participated.

Social functioning and general health also tended to be higher in patients in the high MET score group. This may be attributed to differences in age and other underlying co-morbidities. Patients in the high MET group tended to be younger and had not been on dialysis as long as the older patients. However, regular physical activity and/or involvement in household activities did not significantly affect the perception of pain, fatigue, role limitations due to emotions or emotional well-being. This could be attributed to the low intensity of the physical activities that were performed by both groups, or it may be the result of the physiological and psychological implications associated with ESRD.

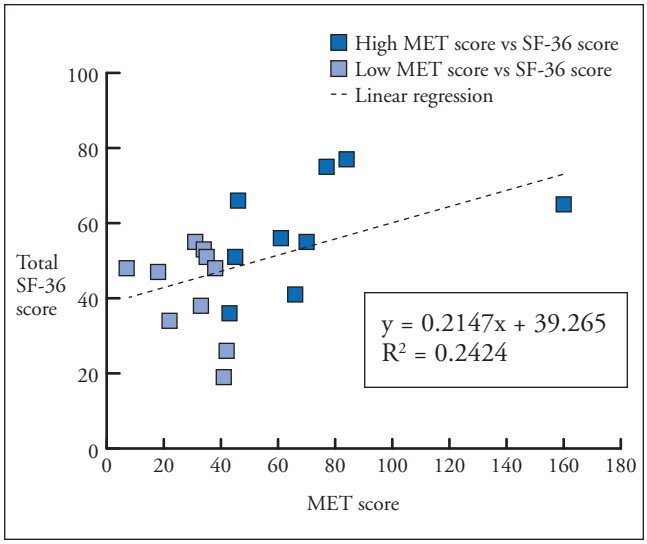

Figure One. Linear regression comparing weekly MET score with total SF-36 score.

Limitations

There are several limitations of this study that should be identified. First, the sample size of the study was small (n = 19), which makes generalizations difficult. Secondly, the study was carried out during the winter months (February and March), which could limit the types of activities in which the patients participated. Due to privacy legislation, we had no access to medical information (other than what was provided by the subjects). Thus, we did not know the patients' hemoglobin or hematocrit levels. The functional ability in anemic patients on dialysis will be low due to low energy levels associated with anemia. Patients in the study may have been anemic and this could have limited participation in physical activity. Overall, differences in age, hemoglobin level, medical condition and length of time on hemodialysis at baseline may have influenced the findings of the study.

Implications for nephrology nursing practice

Nurses should be aware that ESRD and its treatments could negatively affect patients' quality of life and take measures to counteract this. This can be done by (1) encouraging patients to participate in regular physical activity (e.g., recreational pursuits, performing household chores or involvement in regular exercise programs), (2) providing recommendations (regarding frequency, intensity, duration and modality), and (3) making patients aware of opportunities for activity (for example, a supervised outpatient program, a home exercise rehabilitation or participation in exercise during hemodialysis) (Kouidi, 2001; Painter, 2005). Although more research is required to establish appropriate recommendations for activity, Molsted et al. (2004) have indicated that

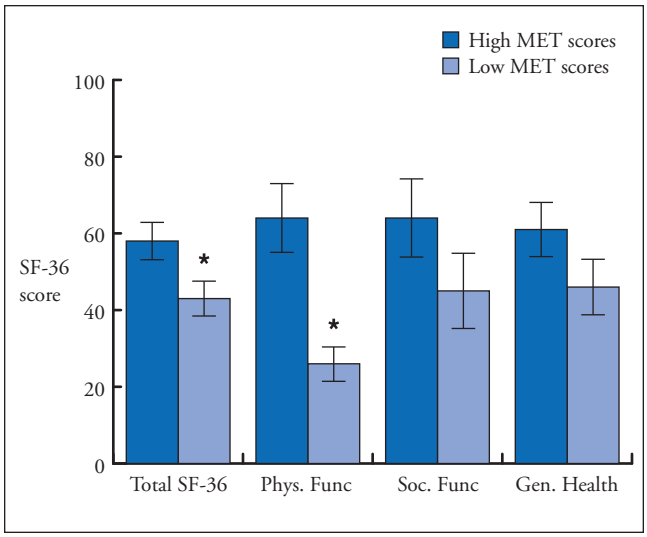

Figure Two. Comparison of high versus low energy expenditure (MET scores) on selected measures of the SF-36 questionnaire (total SF-36 and SF-36 component scores). Mean values (± SE bars) are presented. * = p < 0.05.

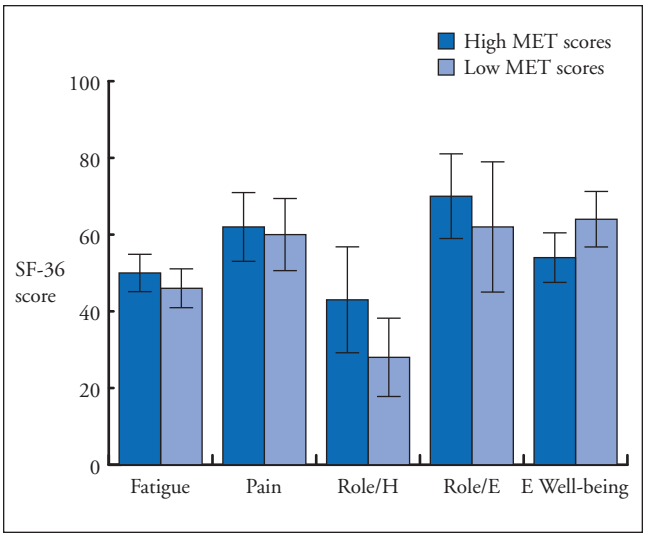

Figure Three. Comparison of high- versus low-energy expenditure (MET scores) on selected measure of the SF-36 questionnaire. Mean values (± SE bars) are presented.

exercise programs offered twice per week encourage exercise adherence in patients undergoing hemodialysis (compliance rate for their study was 74%). Moreover, to facilitate any training-induced adaptations, nurses should also ensure that the patient's hemoglobin levels are at least 11 to 12 g/dL (110 to 120 g/L) (Breiterman-White, 2005) and hematocrit levels are between 33% and 36% (.33 and .36) (Allen & Gappmaier, 2001).

Conclusions

This study demonstrated that ESRD patients on dialysis who participate in regular physical and household activities are more likely to experience a better quality of life and function physically at a higher level compared to patients who do not. Regular physical activity can be safely performed by the dialysis patient without any adverse effects. However, due to the nature of the disorder and associated side effects, these patients may not experience any differences in pain, fatigue, role limitations due to health or emotions or emotional well-being when compared to their sedentary hemodialysis counterparts. Future research in this area should be done using a larger sample size and include multiple sites. It would also be of interest to examine how activity patterns change once a patient is required to undergo hemodialysis (i.e., compared to pre-dialysis conditions) or to compare activity patterns of hemodialysis patients with those of peritoneal dialysis patients.

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Medication reconciliation in hemodialysis patients

By Séadna Ledger, BScPhm, ACPR, and Gail Choma, BScPhm, ACPR

Abstract

Medication reconciliation is an effective process to reduce adverse drug events (ADEs) and harm associated with the loss of medication information as patients transfer between health care settings. Patients with end stage renal disease (ESRD) are at a high risk of experiencing drug-related problems (DRPs) because they take many medications, have multiple comorbidities, and require frequent medication changes. We evaluated the potential impact of medication reconciliation and optimization in the ambulatory care setting at the time of patient transfer from an in-centre dialysis unit to a satellite dialysis unit. Overall, 15 patients (78.8%) had at least one unintended medication variance. The majority of unintended variances (56%) were caused by the physician/nurse practitioner (NP) omitting an order for medication that the patient was taking. In this small study, medication reconciliation was effective at identifying and rectifying medication errors and optimizing pharmacotherapy at the time of transfer from an in-centre hemodialysis to a satellite dialysis unit.

Key words: medication reconciliation, hemodialysis, medication variance

Background

Medication reconciliation is an effective process to reduce adverse drug events (ADEs) and harm associated with the loss of medication information as patients transfer between health care settings. Medication reconciliation is a three-step process that verifies medication use, identifies variances and rectifies medication errors at interfaces of care (Vira, Colquhoun, & Etchells, 2006). It may prevent up to 70% of all potential errors and 15% of all adverse drug events (**www.saferhealthcarenow.ca/**).

A recent Canadian study found that more than one in nine emergency department visits are due to drug-related adverse events (Zed et al., 2008). It is estimated that medication errors cause more than 7,000 deaths per year in the United States. Medication errors and patient harm can result from inaccurate or incomplete medication histories that are used as the basis for medication regimens (Lau, Florax, Porsius, & De Boer, 2000).

Approximately 46% to 56% of all medication errors occur when patients are admitted to hospital, transferred to another unit, or discharged (Barnsteiner, 2005). Studies have shown that pharmacist-acquired medication histories are more efficient, accurate and contain fewer medical errors compared to conventional nurse/physician/delegate medication histories, thereby promoting patient safety (Bond, Raehl, & Franke, 2002; Gleason, Groszek, Sullivan, Rooney, Barnard, & Noskin, 2004; Nester, & Hale, 2002).

Patients with end stage renal disease (ESRD) are at a high risk of experiencing drug-related problems (DRPs) because they take many medications, have multiple comorbidities, and require frequent medication changes. Most medication reconciliation studies have focused on the acute care setting (admission and discharge from hospital). Because ESRD patients are a high-risk population, we decided to evaluate the potential impact of medication reconciliation and optimization in the ambulatory care setting at the time of patient transfer from an in-centre hemodialysis unit to a satellite hemodialysis unit. We determined the number of unintended medication variances and the type of variance, as well as the action taken by the physician or designate to rectify each variance.

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Methods

This prospective study was conducted at London Health Sciences Centre (LHSC), a tertiary care hospital. The LHSC renal program encompasses all patients within southwestern Ontario with end stage renal disease (ESRD), approximately 550 hemodialysis and 110 peritoneal dialysis patients. All hemodialysis patients transferring to a satellite dialysis unit were consecutively recruited over a 12-week period from March 17 to May 23 2007 (n=20). All patients had to be able to give verbal consent. There were no additional inclusion or exclusion criteria.

Patients initiate hemodialysis at an in-centre (between 54 and 150 patients per dialysis unit). A lower nurse-to-patient ratio exists (1:3 versus 1:2) and physicians and/or nurse practitioners are available at all times. This, however, requires patients who do not live in London to drive great distances from their home three times per week for hemodialysis treatments. Once a patient is stabilized on hemodialysis, and a satellite hemodialysis unit exists closer to their home, they can be assessed for transfer to this unit if a spot is available. This assessment involves a minimum of three hemodialysis treatments to be performed at the London Regional Dialysis Centre. Transfer medication orders are written for the patient based on the patient's in-centre dialysis medication record. During this assessment period, the patient is seen by nursing, dietary and pharmacy. The pharmacist performs a comprehensive medication history and ensures that all the transfer orders match what the patient is actually taking. Any discrepancies are corrected and suggestions to optimize pharmacotherapy are made at this time.

The study pharmacist conducted a comprehensive medication history on each study participant as per usual practice. The patients' medication orders were compared with the patients' actual medication use based on medication vials, patient/caregiver interviews and outpatient pharmacy records, and/or family physicians were contacted if necessary. A variance could include: an omission of medication(s), extra medication(s) or discrepancies in dose, frequency or dosage form. Variances in prescription medications, acetylsalicylic acid or any other physician-prescribed non-prescription medications were included. All variances were described as intended or unintended. If a variance could lead to harm (death, permanent or temporary disability,

admission to hospital or the need for additional treatment or monitoring), it was recorded. All variances were reviewed with the attending nephrologist or designate (i.e., nurse practitioner) and any changes made were at the discretion of the nephrologist/designate and new medication orders written if necessary.

The proportion of patients with at least one unintended medication variance was calculated, as well as the mean number of unintended variances per patient. The type of variance was recorded, as well as the action taken by the physician or designate. The number of suggestions to optimize pharmacotherapy and the acceptance rate of these suggestions were recorded.

Ethics approval from the hospital's ethics committee and verbal consent was obtained from all study participants.

Results

Twenty patients were assessed for transfer over the 12-week study period. Nineteen patients were included in the study over the 12-week period as one patient had to be excluded because they were mentally challenged and unable to give verbal consent. Patient characteristics are summarized in Table One. The main findings are summarized in Table Two. Overall, 15 patients (78.8%) had at least one unintended medication variance. The mean number of unintended variances was 3.3 per patient and the median was three variances per patient. The mean number of unintended variances increased to 4.1 per patient when only the patients with unintended variances (n=15) were examined. One unintended variance led to harm.

More than 50% of patients had three or more unintended variances and one patient had 11 unintended variances (see Table Three). The majority of unintended variances (56%) were caused by the physician/NP omitting an order for medication that the patient was taking. The most common response to the unintended variances was to order a medication (55.3%). MD response was lost to follow-up on one patient who had nine unintended variances (total number of unintended variances was 62, but responses were only obtained in 53 cases due to the loss of data regarding the MD response to these nine unintended variances). In addition to performing medication reconciliation, recommendations to optimize pharmacotherapy were made. These results

Table One. Characteristics of study population (n=19)

% women (n)	42.1% (8)
Mean ± SD age (years)	64.58 ± 11.4
Mean ± SD duration on dialysis (years)	1.23 ± 2.1
Mean ± SD # medications on transfer	14.74 ± 4.3
% cause of ESRD (n)	
Diabetes mellitus	31.6% (6)
Hypertension	15.8% (3)
Glomerular nephritis	5.3% (1)
Other	47.4% (9)

Table Two. Summary findings for unintended variances

% of patients with at least one unintended variance (n)	78.9% (15)
Mean # of unintended variances per patient (SD, 95% CI) (n=19)	3.3 (3.36, 1.64 to 4.88)
Mean # of unintended variances in patients with variances (SD, 95% CI) (n=15)	4.1 (3.3, 2.32 to 5.94)
% of variances leading to harm (n)	5.3 (1)

Table Three. Types of unintended medication variances

Omission of medication (n)	56% (35)
Wrong dose/route/frequency (n)	34% (21)
Additional medication unintentionally ordered (n)	9.6% (6)
Total # of unintended variances (n)	62

Table Four. MD or designate response to unintended variances

Order new medication	52.8% (28)
Discontinue/hold medication	18.9% (10)
Change dose/route/frequency	24.5% (13)
Restart medication	1.9% (1)
No changes made	1.9% (1)
Total	53

Table Five. Number of unintended medication variances

# of unintended variances	# of patients (n=19)	%
0	4	21.1
1	3	15.8
2	2	10.5
3	4	21.1
4	2	10.5
5	1	5.3
9	1	5.3
10	1	5.3
11	1	5.3

Table Six. Summary of recommendations for therapy optimization

	Total sample (n=19)
# Recommendations to optimize therapy	38
Mean # of recommendations per patient (SD, 95% CI)	2 (1.5, 1.28 to 2.72)
# Recommendations accepted	30 (79%)
Mean # of recommendations accepted per patient	1.58 (1.3, 0.95 to 2.21)

are summarized in Table Four. In the majority of patients, a recommendation to optimize therapy was made. The mean number of recommendations per patient was two (SD 1.5, 95% CI 1.28 to 2.72). The recommendation acceptance rate was 79%.

Discussion

We found that 78.9% of patients, upon transfer to a satellite dialysis unit, experienced at least one unintended medication variance, including one patient who had 11 unintended variances. The majority of unintended variances (56%) were caused by the physician/NP omitting an order for a medication that the patient was taking. Most patients also had a recommendation to optimize therapy. Examples of optimization include: antiplatelet therapy in diabetics or patients with a high risk of experiencing a cardiovascular event, discontinuation of diuretics in anuric patients, hepatitis B vaccination, alternative phosphate binders for patients experiencing side effects, etc. The mean number of recommendations per patient was two (SD 1.5, 95% CI 1.28 to 2.72) and the recommendation acceptance rate was 79%.

Our results are consistent with previous studies reporting medication errors occurring commonly at points of transfer (Vira, Colquhoun, & Etchells, 2006). In the ambulatory care setting, the Bedell et al. study reported a 76% discrepancy rate. The most common discrepancy was that a patient was taking a medication not recorded in the patient's chart (Bedell et al., 2000). A previous study in hemodialysis patients found that 60% of patients had at least one medication discrepancy when a medication review was completed (Manley, Drayer, McClaran, Bender, & Muther, 2003). This study also cited that patients were at increased risk for experiencing adverse drug events if they had one or more of the following risk factors: more than three concurrent diseases, a drug regimen that is changed four or more times in a year, five or more prescribed medications, 12 or more drug doses/day, history of non-adherence and presence of drugs that require therapeutic monitoring. Impaired renal function is also a risk factor for experiencing adverse drug events (Manley, Drayer, McClaran, Bender, & Muther, 2003). Our dialysis patient population has many of the aforementioned risk factors and, specifically in our study, patients were on an average of 15 medications.

Our study has several limitations, mainly its small sample size. It is a single centre study and there may be a bias in detecting medication errors, as the same study pharmacist performed all the medication histories.

Our dialysis medication lists are thought to be up to date and accurate, and are used to prescribe new medications for patients and to order their admission medications when they are admitted to hospital. When inaccurate lists are used, errors are more likely to occur, possibly resulting in harm to the patient.

Based on these findings, we would like to expand the medication reconciliation services to all hemodialysis patients. Our recommendation would be to perform medication reconciliation every three months. A pharmacist would conduct the process every six months and the patient's primary nurse would perform it at the other six-month intervals. Medication lists are a dynamic, but with increased surveillance by pharmacy and nursing, improved accuracy should result in better patient care and safety. In institutions without dedicated pharmacy resources, nursing can take the lead in designing and implementing systems to record medications and changes in them (Barnsteiner, 2005).

Future research with rigorous methods needs to be performed to establish the clear impact of medication reconciliation on reducing the incidence of medication error and harm to the patient. In a time of scarce health care resources, we do not know who would benefit the most from medication reconciliation and would like to perform this process in areas where it would have the most proven benefit.

In summary, hemodialysis patients are at high risk of experiencing DRPs because they take many medications, have multiple comorbidities and require frequent medication changes. In this small study, medication reconciliation was effective at identifying and rectifying medication errors and optimizing pharmacotherapy at the time of transfer from an in-centre hemodialysis unit to a satellite dialysis unit.

Acknowledgements

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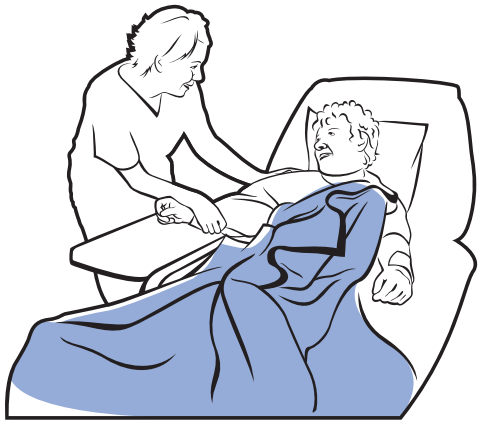
Bedside Matters…

The Northern Alberta Renal Program dialysis bus



The Northern Alberta Renal Program's (NARP) dialysis bus is a new and innovative concept for delivery of dialysis treatment to remote communities in Northern Alberta. The dialysis bus will allow Capital Health to better respond to requests from local communities to serve dialysis patients. Patients would experience less travel time, stay within their own community without an overnight stay in a large urban centre and, as a result, experience better quality of life.

Staffing for the bus is obtained from Edmonton, with the staff travelling with the bus to the dialysis location. The bus can accommodate up to five patients, with dual slide-outs, wheelchair lift and also with the ability to accommodate Alberta winters.

The host hospitals were developed with "shore connections" to accommodate the bus at their site. Oxygen systems on the bus were uniquely designed by renal technologists within the NARP. These units were designed to hold down the oxygen system. The pretreatment water equipment is in the bus bay, but will be moved to each host hospital site to improve the cold weather performance. During the winter of 2008, the pretreatment water equipment was in the belly of the bus. This proved to be quite challenging due to increased difficulty keeping the belly of the bus warm enough to prevent freezing of the lines. Due to the challenges encountered, it was decided to move the pretreatment water system to the host hospital site to improve the cold weather performance. The pretreatment water system consists of filters and carbon tanks, with the main problem being keeping the area and water in the tanks warm. The reverse osmosis units are portable and attached to each dialysis machine. The renal technicians designed the reverse osmosis mounting system, which holds the reverse osmosis to the dialysis machine and both units to the bus. The type of dialysis machines used on the bus is the Bellco Formula dialysis machine and the Gambro RWO 300 reverse osmosis units. Due to the uniqueness of the dialysis bus, the renal technicians need to be flexible and creative when looking at options to solve problems encountered on the bus. The renal technicians also solve problems such as plumbing and electrical on the bus. The renal technicians need to be willing to work nights and on Sundays, when the bus is not operational, as this is the best time to fix any problems.

The daily staff required for the bus is a bus driver, also trained as a service worker to help with the dialysis machines, one registered nurse and one licensed practical nurse. The staff work 12-hour shifts and return on a daily basis to Spruce Grove (where the bus is stored) following the patient dialysis runs. The bus travels to Hinton three times per week, which is approximately 280 km from Edmonton and three times a week to Whitecourt, which is approximately 180 km from Edmonton. The bus is not operational on Sundays, with Sunday being used for staff training and bus maintenance.

by Lorelei Johnstone, RN, Patient Care Manager, Northern Alberta Renal Program.

Department Editor:
Lee Beliveau, RN, CNeph(C), staff nurse, hemodialysis unit, at Surrey Hospital, Surrey, British Columbia

The Northern Alberta Renal Program dialysis bus.

The dialysis bus was chosen over a dialysis unit due to the changing dialysis population. The bus location can be changed, as the dialysis patient population in one area decreases and the patient population increases in another area. The development of shore connections at another host hospital is relatively easy compared to building a new dialysis unit and leaving another dialysis unit vacant.

Successful collaboration with the host hospitals ensured that services such as housekeeping, lab and support to the dialysis bus staff in the event of a patient code were obtained. Challenges were identified as staffing, recruitment and retention, and working with the local unions. Since the dialysis bus requires innovative ideas to be successful, staying within the boundaries of the collective agreements is challenging and has been done with success.

Overall, the NARP dialysis bus has successfully been providing dialysis treatments to patients in Whitecourt and Hinton since January 2008.

About the author

Lorelei Johnstone is a Patient Care Manager with the Northern Alberta Renal Program (NARP) for the past one-and-a-half years. Previous to this position, Lorelei was a PCM with Operative Services at the University of Alberta Hospitals and Clinical Nurse Educator for the Post Anesthetic Recovery Room (PARR). Lorelei has extensive ICU experience as an RN including areas such as neuro ICU, neonatal ICU, GSICU, CVICU and PARR.

Inside the Northern Alberta Renal Program dialysis bus.

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The use of ACE inhibitors and ARBs in severe chronic kidney disease: Point–Counterpoint

As health care providers practising evidence-based medicine, we must continually keep current on new literature in our field. Oftentimes, we are left with the daunting task of deciphering the practical implications of seemingly contradictory messages. In particular, there has been much debate regarding the use of inhibitors of the renin-angiotensin-aldosterone system (RAAS), namely angiotensin-converting enzyme (ACE) inhibitors and angiotensin receptor blockers (ARBs) in the severe chronic kidney disease (CKD) patient population.

ACE inhibitors act within the RAAS by inhibiting the conversion of angiotensin I to angiotensin II and, thereby, opposing its physiologic effects on aldosterone secretion, arteriolar vasoconstriction, and water and salt retention. ARBs act at the receptor level to produce a similar effect (Saseen & Carter, 2005).

For a number of years, caution has been used when prescribing inhibitors of the RAAS in patients with CKD due to their cited potential to decrease glomerular filtration rate (GFR), increase serum creatinine levels and result in hyperkalemia (Morimoto, et al., 2004). Ironically, patients with CKD were initially excluded from many of the clinical trials that led to the discovery of ACE inhibitors' renoprotective effects (Maschio, et al., 1996). Some literature now suggests that these agents remain renoprotective regardless of the patient's stage of kidney disease (Hou, Zhang, & Zhang, 2006; Ruggenenti, Perna, Remuzzi & Gruppo Italiano di Studi Epidemiologici in Nefrologia, 2001). This controversy may result in these medications being withheld from patients who may benefit from their use or cause them to be used when they may not be appropriate.

This article will attempt to address both sides of the controversy on the use of inhibitors of the RAAS in the severe CKD population.

Point

Inhibitors of the RAAS have exhibited adverse events such as hyperkalemia and acute renal failure, particularly in high-risk patient populations. As a result of their side effect profile, health professionals may show hesitancy in prescribing these medications to these patients.

In 2007, a Swedish study of 551 hospitalized patients sought to retrospectively categorize the speed of development of hyperkalemia (defined as serum potassium of ≥ 5.0 mmol/L) in patients with different known risk factors. The authors noted development of hyperkalemia was quickest with the use of potassium supplements (adjusted OR 3.386; 95% CI 2.251 to 5.091, p< 0.001), followed by severe renal impairment (OR 3.119; 95% CI 2.007 to 4.850; p< 0.001), use of ACE inhibitors or ARBs (OR 2.642; 95% CI 1.742 to 4.006; p< 0.001), use of potassium-sparing diuretics (OR 2.065; 95% CI 1.310 to 3.254; p = 0.002), and diabetes mellitus (OR 1.525; 95% CI 1.005 to 2.313; p = 0.047). While potassium supplements and potassium-sparing diuretics demonstrated a dose effect, this was not found with ACE inhibitors and ARBs. Moreover, the authors found that hyperkalemia developed most quickly when patients had two or more of the above risk factors (Indermitte, Burkolter, Drewe, Krähenbühl & Hersberger, 2007).

A 2004 retrospective cohort study evaluating risk factors for adverse drug events associated with ACE inhibitors found factors such as hyperkalemia and renal impairment to be reasons for discontinuation of the medication. In this study, 2,225 outpatients, administered ACE inhibitors, were followed for one year for adverse events. The authors found that 19% of the initial group discontinued ACE inhibitor therapy due to adverse events. Patients with serum creatinine of ≥ 141 mmol/L were more like-

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ly to stop therapy with ACE inhibitors due to renal dysfunction (HR 4.7; 95% CI: 1.5 to 12.7) and hyperkalemia (HR 10.9; 95% CI: 3.1 to 39.0) (Morimoto et al., 2004).

Hsu, Bates, Kuperman & Curhan (2001), in their study, "Blood pressure and angiotensin converting enzyme inhibitor use in hypertensive patients with chronic renal insufficiency," sought to investigate actual clinical management of hypertension in 3,089 ambulatory patients with CKD by using medical record information from a Massachusetts hospital. They found that physicians were less likely to prescribe ACE inhibitors in patients with moderate CKD (defined as a creatinine clearance of 21 to 40 mL/min) than in patients with CrCl > 60 mL/min (Hsu et al., 2001). The authors suggest that the patients in this study were frequently treated by a practitioner other than a nephrologist who may have exercised more caution in prescribing ACE inhibitors in this patient population.

Counterpoint

Literature suggests that RAAS inhibitors offer greater benefits than harm in both nondiabetic and diabetic patients.

In 2001, Ruggenenti et al. sought to determine the risks versus benefits of using ACE inhibitors in patients with severe CKD. In this analysis, 322 patients with nondiabetic chronic kidney disease at varying stages of disease were placed into one of three groups (described as 'tertiles') based upon their initial GFR, or baseline kidney function. Patients' basal GFR progressively increased from lowest, middle to highest tertile. Within each tertile, patients were randomly assigned to either ramipril or conventional treatment. The rate of GFR decline and the incidence of end stage renal disease (ESRD) were compared between the two treatment groups in each tertile. As compared to conventional treatment, ramipril decreased the change in GFR by 22%, 22% and 35%, and the incidence of ESRD by 33% ($p< 0.05$), 37% and 100% ($p< 0.01$) respectively in the lowest, middle and highest tertiles. The authors concluded that the progression of CKD and a patient's response to ACE inhibitors did not depend on the patient's stage of kidney disease. They suggest that the renoprotective effects are maximized when ACE inhibitor therapy is started earlier in the course of the disease (i.e., GFR > 50 ml/min), but that therapy should be offered to all patients with kidney disease, even in those with filtration rates between 10 and 30 ml/min (Ruggenenti et al., 2001).

In 2006, Hou et al. (2006) validated these results. Four hundred and twenty-two patients with nondiabetic severe CKD were placed into one of two groups based upon their baseline serum creatinine levels. Patients in group one (serum creatinine between 133 to 265 mmol/L) received 20 mg of benazepril per day and patients in group two (serum creatinine between 274 and 442 mmol/L) were randomly and equally assigned to receive 20 mg of benazepril per day or placebo and were followed for 3.4 years. The study's primary outcome included a doubling of serum creatinine level, ESRD, or death. Secondary outcomes included changes in urine protein levels and the rate of progression of kidney disease. The authors found a statistical 43% decrease in the risk of the primary outcome in group two, as compared to placebo. They concluded that the ACE inhibitors were renoprotective in nondiabetic patients with advanced kidney disease (Hou et al., 2006).

A 2008 Cochrane Review sought to explore the use of ACE inhibitors and ARBs in preventing the progression of kidney disease in the diabetic patient population. The review included 49 studies with 12,067 diabetic patients at all stages of kidney disease. It included studies that compared ACE inhibitors or ARBs to placebo and studies that directly compared ACE inhibitors and ARBs. The authors found that both ACE inhibitors and ARBs were beneficial in terms of significantly improving renal outcomes (ESKD, doubling of creatinine, prevention of progression of micro- to macroalbuminuria, remission of micro- to normoalbuminuria) (Strippoli, Bonifati, Craig, Navaneethan & Craig, 2006). In fact, when compared to placebo, ACE inhibitors used at maximum tolerable dose prevented death in patients with diabetic kidney disease (RR 0.78; 95% CI 0.61 to 0.98; NNT 28). These mortality data were not found with ARBs. Thus, even though both ACE inhibitors and ARBs prevent the progression of nephropathy, the authors suggest that ACE inhibitors should be employed as first-line therapy since they are less expensive than ARBs and have proven survival benefit when used at their maximum tolerable dose.

Conclusions

It appears that ACE inhibitors and ARBs may be used safely and effectively in both diabetic and nondiabetic patients with moderate to severe CKD when monitored appropriately. Based upon the most current literature, patients who may benefit the most include patients with diabetes, as these patients would be at high risk of kidney and cardiovascular complications, and patients experiencing proteinuria with CKD. This recommendation is also consistent with the clinical practice guidelines of the National Kidney Foundation Disease Outcomes Quality Initiative (2002) and the Canadian Hypertension Education Program (2008). Caution should be exercised when using these therapies in patients with severe CKD concomitantly using one or a combination of the following medications: ARBs, non-steroidal anti-inflammatory agents (NSAIDs), potassium supplements, and potassium-sparing diuretics.

As health care providers, we should be aware of the unlikely possibility of hyperkalemia and/or acute renal failure, especially in high-risk patients, and consider the following measures in effort to avoid these occurrences (Saseen & Carter, 2005).

(1) ACE inhibitors and ARBs may be initiated at the lowest possible dose and titrated up according to the treatment goal. In fact, it may be beneficial to use a short-acting agent initially, followed by conversion to a longer-acting agent with titrations;

(2) Serum concentrations of creatinine and potassium should be obtained at baseline and remeasured about a week following the initiation of therapy with ACE inhibitors or ARBs;

(3) Acute renal failure may be prevented by transiently discontinuing preordered diuretics upon initiating ACE inhibition or ARB therapy. In particular, special caution should be exercised in the use of potassium-sparing diuretics

during concomitant therapy with ACE inhibitors, as this class of diuretics inherently increases serum potassium levels.

(4) In a further effort to prevent hyperkalemia, patients may be counselled on the importance of limiting intake of potassium-rich foods.

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Profiling...

New CANNT board members 2008–2009

Rick Luscombe, President-elect

I would like to take this opportunity to thank the CANNT board of directors for suggesting that I put my name forward for the president-elect position. I believe this is a great opportunity to contribute to the Canadian nephrology community, as well as an invaluable learning opportunity for myself.

At present I am the Vascular Access Clinical Nurse Leader at Providence Health Care in Vancouver, British Columbia. Together with the health care team, I am responsible for ensuring optimal vascular access outcomes in our renal patients. I have worked for 22 years in nephrology nursing with 20 of those years working in hemodialysis and the most recent five as Vascular Access CNL. I helped co-found the Vascular Access Educators Group (VAEG) of B.C. I am also a member of the Provincial Vascular Access Service Team (PVAST) of B.C. It is the PVAST mandate to provide standardized vascular access care to all hemodialysis patients throughout the province no matter where a patient lives.

For the past two-and-a-half years, I have been the Western Vice-President of the Canadian Association of Nephrology Nurses and Technologists (CANNT). I feel being in this position will be of great benefit for my next three-year involvement with CANNT.

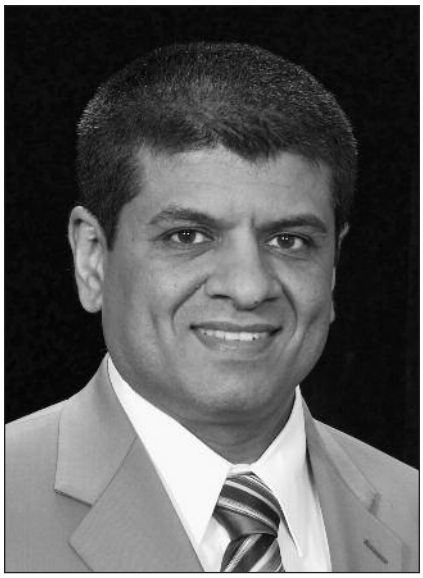
I received my nephrology certification in 1997. I've remained involved with the Canadian Nurses Association (CNA) certification process being on the Nephrology Examination Review Committee, item-writing workshops, and as a mentor.

I obtained my registered nurse diploma in 1985 from George Brown College in Toronto. I started my dialysis career at the Toronto Western Hospital on a nephrology medical ward and from there moved on to hemodialysis. In 1990, I decided to go west, moved to Vancouver and began my new life with St Paul's Hospital. I obtained my Bachelor of Science in nursing degree in 2002 from the University of Victoria.

On a personal note, I've had the privilege of joining a renal dragon boat, O2P. The team is composed of dialysis and transplant patients. They continue to inspire me with their determination and rising above their challenges in life. After eight long years, their determination paid off. They won first place in their division at the San Francisco Dragon Boating Festival this October.

I look forward to representing you for the next three years.

Shripal Parikh, Vice-president of Technologists



Greetings everyone!

Let me take this opportunity to introduce myself to you. I was born in Bombay, India. After graduating from digital and medical electronics technology programs there, I moved to Canada. I completed a postgraduate diploma in biomedical technology from Fanshawe College, London, Ontario.

I began my career as a dialysis technologist with St. Michael's Hospital in Toronto. There, I learned a lot from Andrew Gryka and his wonderful team, who always believed in innova-

tion and excellence. I worked there for seven great years before moving to Calgary for family reasons. I have worked with Calgary Health Region as a home dialysis technician for the past four years.

Currently, I manage technical aspects of the home dialysis program with about 40 home patients.

I have been involved with CANNT as a member of an annual symposium organizing committee, technical liaison for Western Canada, and a member of the dialysis technical standards committee. I am also a member of national dialysis technical certification committee of OACETT.

In the past, I have been involved with the Dialysis Technology Program of Georgian College, Barrie, Ontario, teaching electronics to students.

My hobbies include music and, currently, I am learning to play the piano.

Now, as a Technical VP of CANNT, I look forward to serving our community and strengthening the role of dialysis technologists.

During my term, I would like to see increased participation of dialysis technologists in activities of CANNT, such as membership, journal writing, and presentations.

Gail Barbour, Ontario Region Vice-President

I have been a dialysis nurse for 20 years, and have worked in the satellite setting, as well as the acute care setting and, for the last three years, as Charge Nurse at University Hospital Dialysis Unit, London, Ontario. I have had the opportunity to be part of an external review team developed to facilitate a planned and coordinated approach to future development of a renal program in the southwestern Ontario area. I have also had some experience in research as coordinator of a clinical drug investigation study, working closely with Schein Pharmaceutical as a nephrology consultant.

I obtained my nephrology certification 10 years ago. As a CANNT member, I have acted as a liaison for many years and was part of the planning committee for CANNT 2006 in London, Ontario. I am currently involved in several projects in our unit: developing guidelines for patient missed treatments, developing a communication tool for patients to promote self-management of care, and development of an algorithm and flow sheet for assessment and documentation of patient dry weight. I am also a member of several committees: policy and procedures, CQI, program departmental, as well as facilitator for the renal program representing ambulatory care for Accreditation Canada evaluating our hospital in November of this year.

I believe my 20 years of dialysis experience will allow me to contribute to the CANNT organization. I welcome new experiences and I am looking forward to being part of the worthwhile work that CANNT does to promote renal nursing experiences.

Marilyn Muir, Western Region Vice-President

I am very excited and thankful for the opportunity to sit on the CANNT board this year, as the Western VP. I graduated from the Health Sciences Centre School of Nursing in Winnipeg in 1991, and I have been a nephrology nurse since 1995. I have experience as a bedside nurse, Clinical Resource Nurse and Acting Patient Care Manager. I completed the Manitoba nephrology nursing course in 1995 and the Canadian Nurses Association nephrology certification in 2001.

I am currently employed as a Clinical Resource Nurse at the Health Sciences Centre, where we manage acute and chronic hemodialysis patients. We have a 26-station in-hospital unit and a 23-station satellite unit. I have been a CANNT member since 2005, which is also the time I became a CANNT unit liaison. I had the opportunity to be a co-chair for CANNT 2007, "Diversity is the Key—People, ideas & information," held in Winnipeg last year. This was an amazing experience and really piqued my interest in running for the CANNT board. I recently completed a "peer coaching" program, which is new to our hospital. I volunteer for a number of committees in our renal unit and I was a member of the CANNT Standards Committee.

I am not only committed to my own personal and professional growth, but also in promoting personal development for my colleagues. I look forward to the challenge of sitting on the CANNT board, and I will do my very best to represent the West!

Guidelines for authors

The **CANNT Journal** invites letters to the editor and original manuscripts for publication in its quarterly journal. We are pleased to accept submissions in either official language – English or French.

Which topics are appropriate for letters to the editor?

We welcome letters to the editor concerning recently published manuscripts, association activities, or other matters you think may be of interest to the CANNT membership.

What types of manuscripts are suitable for publication?

We prefer manuscripts that present new clinical information or address issues of special interest to nephrology nurses and technologists. In particular, we are looking for:

- original research papers
- relevant clinical articles
- innovative quality improvement reports
- narratives that describe the nursing experience
- interdisciplinary practice questions and answers
- reviews of current articles, books and videotapes
- continuing education articles.

How should the manuscript be prepared?

Form: The manuscript should be typed, double-spaced, single-sided on 8.5 x 11 inch white paper. One-inch margins should be used throughout, and the pages should be numbered consecutively in the upper right-hand corner. More formal research or clinical articles should be between five and 15 pages. Less formal narratives, question and answer columns, or reviews should be fewer than five pages.

Style: The style of the manuscript should be based on the **Publication Manual of the American Psychological Association** (**APA**), Fifth Edition (2001), available from most college bookstores.

Title page: The title page should contain the manuscript title, each author's name (including full first name), professional qualifications [i.e. RN, BScN, CNeph(C)], position, place of employment, address, telephone and fax numbers, and e-mail address. The preferred address for correspondence should be indicated.

Abstract: On a separate page, formal research or clinical articles should have an abstract of 100 to 150 words. The abstract should summarize the main points in the manuscript.

Text: Abbreviations should be spelled out the first time they are used with the abbreviation following in brackets, for example, the Canadian Association of Nephrology Nurses and Technologists (CANNT). Generic drug names should be used. Measurements are to be in Standards International (SI) units. References should be cited in the text using APA format. A reference list containing the full citation of all references used in the manuscript must follow the text.

Tables/Figures: Manuscripts should only include those tables or figures that serve to clarify details. Authors using previously published tables and figures must include written permission from the original publisher. Such permission must be attached to the submitted manuscript.

How should the manuscript be submitted?

Please forward three copies of your manuscript to: The Editor, CANNT National Office, 336 Yonge St., Ste. 322, Barrie, ON, L4N 4C8. You should retain a personal copy of the manuscript.

How are manuscripts selected for the CANNT Journal?

Each manuscript will be acknowledged following receipt. Research and clinical articles are sent out to two members of the **CANNT Journal** review panel to be reviewed in a double-blind review process. All manuscripts may be returned for revision and resubmission. Those manuscripts accepted for publication are subject to copy editing; however, the author will have an opportunity to approve editorial changes to the manuscript. The criteria for acceptance for all articles include originality of ideas, timeliness of the topic, quality of the material, and appeal to the readership.

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Checklist for authors

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Directives aux auteurs

Le Journal l'ACITN vous invite à faire parvenir aux rédacteurs, lettres et manuscrits originaux, pour publication dans son journal trimestriel. Nous sommes heureux d'accepter vos soumissions dans l'une ou l'autre des langues officielles, anglais ou français.

Quels sujet sont appropriés pour les lettres aux rédacteurs?

Nous acceptons les lettres aux rédacteurs concernant les manuscrits récemment publiés, les activités de l'association, ou toute autre affaire pouvant être d'intérêt aux membres de l'ACITN.

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Nous préférons des manuscrits présentant de nouvelles informations cliniques ou traitant de sujets d'intérêt spécifique aux infirmiers(ères) et technologues de néphrologie. Nous recherchons en particulier:

- des exposés traitant de recherche originale
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Comment les manuscrits doivent-ils être préparés?

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Styles: Le style du manuscrit devrait être basé sur **Le Manuel de Publication de l'Association Américaine de Psychologie** (**AAP**), 5e édition (2001), disponible dans la plupart des librairies universitaires.

Page titre: La page titre devrait inclure le titre du manuscrit, le nom de chacun des auteurs (y compris le prénom au complet) titres professionnels [i.e. I.A., BScN, CNeph(C)], poste, employeur, adresse, numéro de téléphone et de télécopieur et l'adresse courriel. L'adresse préférée pour la correspondance devrait être spécifiée.

Abrégé: Sur une page à part, les articles cliniques ou de recherche formelle, devraient être accompagnés d'un abrégé de 100 à 150 mots. Ce sommaire devrait brièvement résumer les points principaux du manuscrit.

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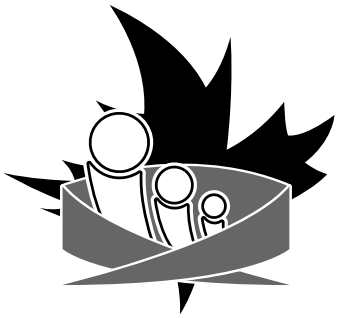

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Pr Renagel® Tablets

(sevelamer hydrochloride)

800 mg tablets

INDICATIONS AND CLINICAL USE

RENAGEL (sevelamer hydrochloride) is indicated for: the control of hyperphosphatemia in patients with end-stage renal disease (ESRD) undergoing dialysis.

CONTRAINDICATIONS

RENAGEL (sevelamer hydrochloride) is contraindicated in the following situations:

- patients with hypophosphatemia
- patients with bowel obstruction
- patients hypersensitive to sevelamer hydrochloride or one of the other ingredients in the product (colloidal silicon dioxide, stearic acid).

WARNINGS AND PRECAUTIONS

General

RENAGEL (sevelamer hydrochloride) tablets should be swallowed intact and should not be crushed, chewed, or broken into pieces.

Patients with renal insufficiency may develop hypocalcemia. As RENAGEL does not contain calcium, serum calcium levels should be monitored and elemental calcium should be supplemented whenever considered necessary. In cases of hypocalcemia, patients should be given an evening calcium supplement. Approximately 1000 mg elemental calcium is recommended.

Caution should be exercised to avoid hypophosphatemia, a serum phosphorus of < 0.8 mmol/L (see DOSAGE AND ADMINISTRATION).

The safety and efficacy of RENAGEL in patients with renal disease who are not undergoing dialysis has not been studied.

Gastrointestinal

The safety and efficacy of RENAGEL in patients with dysphagia, swallowing disorders, severe gastrointestinal (GI) motility disorders, or major GI tract surgery have not been established. Caution should be exercised when RENAGEL is used in patients with these GI disorders.

Special Populations

Pregnant Women: The safety of RENAGEL has not been established in pregnant women. In preclinical studies, there was no evidence that RENAGEL induced embryolethality, fetotoxicity or teratogenicity at the doses tested (up to 1 g/kg/day in rabbits; up to 4.5 g/kg/day in rats). RENAGEL should only be given to pregnant women if the benefits outweigh the risks.

Nursing Women: There have been no adequate, well-controlled studies in lactating, or nursing women.

Pediatrics: The safety and efficacy of RENAGEL has not been established in pediatric patients. The minimum age of patients treated with RENAGEL in clinical trials was 18 years old.

Geriatrics: No special considerations are needed for elderly patients.

Monitoring and Laboratory Tests

Serum phosphorus and serum calcium should be monitored every 1 to 3 weeks until the target phosphorus level is reached. The dose of RENAGEL should be adjusted based on serum phosphorus concentration and titrated
to a target serum phosphorus of ≤ 1.8 mmol/L.

RENAGEL does not contain calcium or alkali supplementation; serum calcium, bicarbonate, and chloride levels should be monitored.

ADVERSE REACTIONS

Clinical Trial Adverse Drug Reactions

Because clinical trials are conducted under very specific conditions the adverse reaction rates observed in the clinical trials may not reflect the rates observed in practice and should not be compared to the rates in the clinical trials of another drug. Adverse drug reaction information from clinical trials is useful for identifying drug-related adverse events and for approximating rates.

In a combined safety database comprised of 483 patients with end-stage renal disease undergoing hemodialysis, adverse events reported at an incidence ≥10% are provided in Table 1. From this database, adverse events are also presented separately from a single long-term randomized clinical study for RENAGEL and calcium. The adverse events presented in the table below are not necessarily attributed to RENAGEL treatment. The incidence of these events was not dose related.

Table 1: Adverse Events in Patients with End-Stage Renal Disease undergoing Hemodialysis

	Total AEs reported.	52 weeks Study of RENAGEL vs. calcium (calcium acetate and calcium carbonate)	
System Organ Class Event	**RENAGEL** **N = 483** %	**RENAGEL** **N = 99** %	**calcium** **N = 101** %
Gastrointestinal Disorders			
Vomiting	24.4	22.2	21.8
Nausea	25.3	20.2	19.8
Diarrhea	21.1	19.2	22.8
Dyspepsia	15.7	16.2	6.9
Constipation	13.3	8.1	11.9
Infections and Infestations			
Nasopharyngitis	13.9	14.1	7.9
Bronchitis	5.4	11.1	12.9
Upper Respiratory Tract Infection	7.0	5.1	10.9
Musculoskeletal, Connective Tissue and Bone Disorders			
Pain in Limb	13.7	13.1	14.9
Arthralgia	11.4	12.1	17.8
Back Pain	6.0	4.0	17.8
Skin Disorders			
Pruritus	10.4	13.1	9.9
Respiratory, Thoracic and Mediastinal Disorders			
Dyspnea	15.7	10.1	16.8
Cough	11.6	7.1	12.9
Vascular Disorders			
Hypertension	9.3	10.1	5.9
Nervous System Disorders			
Headache	18.4	9.1	15.8
General Disorders and Site Administration Disorders			
Dialysis Access Complication	4.3	6.1	10.9
Pyrexia	8.7	5.1	10.9

In one hundred and forty three patients with end-stage renal disease undergoing peritoneal dialysis with treatment duration of 12 weeks, adverse events reported at an incidence ≥10% are provided in Table 2 below. The adverse events presented in the table below are not necessarily attributed to RENAGEL treatment. The incidence of these events was not dose related.

Table 2: Adverse Events in Patients with End-Stage Renal Disease Undergoing Peritoneal Dialysis

System Organ Class Event	**RENAGEL** **(N=97)** %	**calcium** **(N=46)** %
Gastrointestinal disorders		
Dyspepsia	17.5	8.7
Vomiting	11.3	4.3
Peritonitis	11.3	4.3

The most frequently occurring serious adverse event with RENAGEL use was peritonitis at 8.2%, compared to 4.3 % with calcium. Patients receiving dialysis are subject to certain risks for infection specific to the dialysis modality. Peritonitis is a known complication in patients receiving peritoneal dialysis (PD). Therefore, patients on PD should be closely monitored to ensure the reliable use of appropriate aseptic technique with the prompt recognition and management of any signs and symptoms associated with peritonitis.

Less common clinical trial adverse events

The following adverse events have been observed with RENAGEL use with an incidence of <10%, but greater than calcium and without attribution to causality, including: abdominal distension, constipation, diarrhea, nausea, chest pain, fatigue, pyrexia, catheter site infection, anorexia, headache, cough and pruritis.

Some patients experienced adverse events related to hypercalcemia in the calcium group but not in the RENAGEL group.

Post-Market Adverse Drug Reactions

During post-marketing experience with RENAGEL, the following have been reported without attribution to causality: pruritis, rash, and abdominal pain.

OVERDOSAGE

Since RENAGEL (sevelamer hydrochloride) is not absorbed, the risk of systemic toxicity is minimal. RENAGEL has been given to healthy volunteers at doses up to 14 grams per day for 8 days with no adverse effects. The maximum average daily dose of RENAGEL that has been given to hemodialysis patients is 13 grams.

DOSAGE AND ADMINISTRATION

Dosing Considerations

- The tablets should not be bitten, chewed or broken apart prior to dosing.
- RENAGEL (sevelamer hydrochloride) should be taken immediately prior to or with meals, since its action is to bind ingested phosphate (see ACTION AND CLINICAL PHARMACOLOGY, Mechanism of Action)
- When administering any other medication where a reduction in the bioavailability of that medication would have a clinically significant effect on safety or efficacy, the physician should consider monitoring blood levels or dosing that medicine apart from RENAGEL to prevent GI binding (at least one hour before or three hours after RENAGEL).

Recommended Dose and Dosage Adjustment

The recommended dosing to be used when initiating RENAGEL in patients not using another phosphate binder are outlined below:

When switching from calcium-based phosphate binders to RENAGEL,

Starting Dose	
Initial Serum Phosphorus	**RENAGEL Tablets 800mg**
> 1.8 and < 2.4 mmol/L	3 tablets per day (2.4 grams)
≥ 2.4 mmol/L	6 tablets per day (4.8 grams)

an equivalent starting dose on a mg/weight basis of RENAGEL should be prescribed. Dosage adjustments, when necessary should be recommended every 1 to 3 weeks by increasing one tablet per meal (3 per day) until the target serum phosphorus levels are met.

The total daily dose should be divided according to meal portions during the day.

Average Maintenance Dose: Dosage should be adjusted based upon the target serum phosphorus levels. The dose may be increased or decreased by one tablet per meal at two week intervals as necessary. The average final dose in the chronic phase of a 52 week Phase 3 clinical trial designed to lower serum phosphorous to 1.6 mmol/L or less was approximately 7.1 grams, (approximately nine 800 mg tablets per day equivalent to three 800 mg tablets per meal). The maximum average daily RENAGEL dose studied was 13 grams.

Missed Dose

- If a dose is forgotten, it should be skipped. Double dosing is not advisable.

DOSAGE FORMS, COMPOSITION AND PACKAGING

RENAGEL (sevelamer hydrochloride) tablets are film-coated compressed tablets containing 800 mg of sevelamer hydrochloride. RENAGEL contains the following excipients: colloidal silicon dioxide and stearic acid. The RENAGEL tablet coating contains hypromellose and diacetylated monoglyceride. The printing ink contains iron oxide black (E172), propylene glycol, isopropyl alcohol and hypromellose (hydroxypropyl methylcellulose).

RENAGEL 800 mg Tablets are supplied as oval, film-coated tablets, imprinted with "RENAGEL 800," on the crown, single side.

RENAGEL 800 mg Tablets are available in bottles of 180 tablets.

STORAGE AND STABILITY

Store at controlled room temperature 15°C to 30°C. Protect from moisture.

Product monograph available on request.

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Tel. 1-877-220-8918

Venofer® Iron Sucrose Injection, USP
20 mg elemental iron/mL

DIN 02243716

Prescribing Summary

Patient Selection Criteria

THERAPEUTIC CLASSIFICATION: Hematinic

INDICATIONS AND CLINICAL USE

VENOFER (Iron Sucrose Injection, USP) is indicated in the treatment of iron deficiency anemia in the following patients:

- non-dialysis dependent-chronic kidney disease (NDD-CKD) patients receiving an erythropoietin
- non-dialysis dependent-chronic kidney disease (NDD-CKD) patients not receiving an erythropoietin
- hemodialysis dependent-chronic kidney disease (HDD-CKD) patients receiving an erythropoietin
- peritoneal dialysis dependent-chronic kidney disease (PDD-CKD) patients receiving an erythropoietin.

Special Populations

Pregnant Women: Teratology studies performed in rats at IV doses up 13 mg iron/kg/day (more than 9 times the maximum recommended human dose for a 70 kg person) and rabbits at IV doses up to 13 mg/iron/kg on alternate days (approximately 9 times the maximum recommended human dose for a 70 kg person) have not revealed definite evidence of impaired fertility. Fetal growth effects at these doses appeared related to low maternal food consumption and low body weight gain. There are, however, no adequate and well controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, VENOFER should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

When iron sucrose was administered at deliberate overdoses to rabbit dams (up to 215 mg/kg/day) marked fetal/placental iron overload was noted. It is unlikely that significant fetal iron overload would occur in iron deficient pregnant women receiving therapeutic doses of VENOFER to correct iron deficiency (see General).

Nursing Women: VENOFER is excreted in the milk of rats. It is not known whether VENOFER is excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised when VENOFER is administered to nursing women.

Pediatrics: The safety and effectiveness of VENOFER in pediatric patients has not been established. In a country where VENOFER is available for use in children, at a single site, five premature infants (weight less than 1,250 g) developed necrotizing enterocolitis and two of the five expired during or following a period when they received VENOFER, several other medications and erythropoietin. Necrotizing enterocolitis may be a complication of prematurity in very low birth weight infants. No causal relationship to VENOFER or any other drugs could be established.

Geriatrics (> 65 years of age): Clinical studies with VENOFER have not identified differences in unintended responses between elderly and younger patients. Nevertheless, dose selection for an elderly patient should be cautious, usually starting with lower doses, reflecting the greater frequency of decreased hepatic, renal or cardiac function, and of concomitant disease or other drug therapy.

CONTRAINDICATIONS

The use of VENOFER (Iron Sucrose Injection, USP) is contraindicated in patients with evidence of iron overload, patients with known hypersensitivity to VENOFER, and patients with anemia not caused by iron deficiency.

Safety Information

WARNINGS AND PRECAUTIONS

General

Because body iron excretion is limited and excess tissue iron can be hazardous, caution should be exercised in the administration of parenteral iron formulations, and treatment should be withheld when there is evidence of tissue iron overload. Patients receiving VENOFER (Iron Sucrose Injection, USP) require periodic monitoring of hematologic parameters, including hemoglobin, hematocrit, serum ferritin and transferrin saturation. Generally accepted guidelines recommend withholding administration of intravenous iron formulations from patients demonstrating a transferrin saturation > 50% or a serum ferritin > 800 ng/mL (see **DOSAGE AND ADMINISTRATION** and **OVERDOSAGE**). Transferrin saturation values increase rapidly after IV administration of iron sucrose; thus, serum iron values may be reliably obtained 48 hours after IV dosing.

Local Reactions

Care must be taken to avoid paravenous infiltration. If this occurs, the infusion of VENOFER should be discontinued immediately. Ice may be applied to cause local vasoconstriction and decrease fluid absorption. Massage of the area should be avoided.

Carcinogenesis and Mutagenesis

No long-term studies in animals have been performed to evaluate the carcinogenic potential of VENOFER.

The Ames test, with or without metabolic activation, *in vitro* mouse lymphoma forward mutation test, mouse micronucleus test, and *in vitro* human lymphocyte chromosome aberration test were conducted with iron sucrose. No mutagenicity or genotoxicity was demonstrated.

Cardiovascular

Hypotension has been reported frequently in hemodialysis dependent chronic kidney disease patients receiving intravenous iron. Hypotension also has been reported in non-dialysis dependent (NDD-CK) and peritoneal dialysis dependent (PDD-CK) chronic disease kidney patients receiving intravenous iron. Hypotension following administration of VENOFER may be related to the rate of administration and total dose administered. Caution should be taken to administer VENOFER according to recommended guidelines (see **DOSAGE AND ADMINISTRATION**).

Sensitivity/Resistance

Serious hypersensitivity reactions have been rarely reported in patients receiving VENOFER. No life-threatening hypersensitivity reactions were observed in pivotal studies, although there were several cases of mild to moderate hypersensitivity reactions characterized by wheezing, dyspnea, hypotension, rash and/or pruritis in these studies. Anaphylactoid reactions have been reported in worldwide spontaneous post-marketing reports (see **ADVERSE REACTIONS**).

Sexual Function/Reproduction

VENOFER at IV doses up to 15 mg iron/kg/dose [about 10 times the maximum recommended human dose for a 70 kg person] given three times a week was found to have no effect on fertility and reproductive performance of male and female rats.

ADVERSE REACTIONS

Adverse Events observed in all treated populations

The frequency of adverse events associated with the use of VENOFER has been documented in six randomized clinical trials involving 231 hemodialysis dependent, 139 non-dialysis dependent, and 75 peritoneal dialysis dependent patients; and in two post-marketing safety studies involving 1051 hemodialysis dependent patients for a total of 1496 patients. In addition, over 2000 patients treated with VENOFER have been reported in the medical literature.

Adverse Events Observed in Hemodialysis Dependent Chronic Kidney Disease (HDD-CKD) Patients

Adverse reactions, whether or not related to VENOFER administration, reported by >5% of treated patients from a total of 231 patients in HDD-CKD studies were as follows: hypotension (39.4%), muscle cramps (29.4%), nausea (14.7%), headache (12.6%), graft complications (9.5%), vomiting (9.1%), dizziness (6.5%), hypertension (6.5%), chest pain (6.1%), and diarrhea (5.2%).

Adverse Events Observed in Non-Dialysis Dependent Chronic Kidney Disease (NDD-CKD) Patients

Among the 182 treated NDD-CKD patients, 91 were exposed to VENOFER. Adverse events, whether or not related to VENOFER, reported by ≥5% of the VENOFER exposed patients were as follows: dysgeusia (7.7%), peripheral edema (7.7%), diarrhea (5.5%), constipation (5.5%), nausea (5.5%), dizziness (5.5%), and hypertension (5.5%). One serious related adverse reaction was reported (hypotension and shortness of breath not requiring hospitalization in a VENOFER patient). Two patients experienced possible hypersensitivity/allergic reactions (local edema/hypotension) during the study. Of the 5 patients who prematurely discontinued the treatment phase of the study due to adverse events (2 oral iron group and 3 VENOFER group), three VENOFER patients had events that were considered drug-related (hypotension, dyspnea and nausea).

In an additional study of VENOFER with varying erythropoietin doses in 96 treated NDD-CKD patients, adverse events, whether or not related to VENOFER reported by ≥5% of VENOFER exposed patients are as follows: diarrhea (16.5%), edema (16.5%), nausea (13.2%), vomiting (12.1%), arthralgia (7.7%), back pain (7.7%), headache (7.7%), hypertension (7.7%), dysgeusia (7.7%), dizziness (6.6%), extremity pain (5.5%), and injection site burning (5.5%). No patient experienced a hypersensitivity/allergic reaction during the study. Of the patients who prematurely discontinued the treatment phase of the study due to adverse events (2.1% oral iron group and 12.5% VENOFER group), only one patient (VENOFER group) had events that were considered drug-related (anxiety, headache, and nausea). Ninety-one (91) patients in this study were exposed to VENOFER either during the treatment or extended follow-up phase.

Adverse Events Observed in Peritoneal Dialysis Dependent Chronic Kidney Disease (PDD-CKD) Patients

Among the 121 treated PDD-CKD patients, 75 were exposed to VENOFER. Adverse events, whether or not related to VENOFER, reported by ≥5% of these patients were as follows: vomiting (8.0%), diarrhea (8.0%), hypertension (8.0%), peritoneal infection (8.0%), pharyngitis (6.7%), nausea (5.3%) and peripheral edema (5.3%). The only drug related adverse reaction to VENOFER administration reported by ≥2% of patients was diarrhea (2.7%). No serious drug related adverse reactions were reported during the treatment phase of study. Two VENOFER patients experienced a moderate hypersensitivity / allergic reaction (rash or swelling/itching) during the study. Three patients in the VENOFER study group discontinued study treatment due to adverse events (cardiopulmonary arrest, peritonitis, myocardial infarction, hypertension) which were considered to be not drug-related.

Post-Market Adverse Drug Reactions:

Hypersensitivity Reactions: See WARNINGS AND PRECAUTIONS.

From the post-marketing spontaneous reporting system, there were 108 reports of anaphylactoid reactions including patients who experienced serious or life-threatening reactions (anaphylactic shock, loss of consciousness or collapse, bronchospasm with dyspnea, or convulsion) associated with VENOFER administration between 1992 and August, 2005 based on estimated use in more than 4.6 million patients.

Among the 517,736 patients (estimated on the basis of 10,354,715 ampoules sold) who received VENOFER between September 1, 2005 and February 28, 2006 through market exposure, 61 patients were reported to have experienced 104 adverse reactions considered at least "possibly related" to VENOFER. A review of all the symptoms concluded that 90 symptoms are listed, 38 serious and 52 non-serious; 14 symptoms are unlisted, 5 serious and 9 non-serious.

Considering the number of patients exposed to VENOFER, the number of adverse events at least possibly related to the product has been very limited. There was a moderate decrease in the frequency of unlisted symptoms and no changes in the nature of the listed ones. During this period no overdose of misuse have been reported.

Regarding the **serious and listed** cases: no particular change or trend in severity, outcome or involved populations could be observed. A total of 38 adverse reactions were reported in 18 patients. No reaction was considered to be life threatening. The symptoms observed were: dysponea (5), hypotension (4), pyrexia (2), injection site reaction (2), erythema (2), rash (2), arthralgia (2), chills (1), circulatory collapse (1), nausea (1), vomiting (1), tachycardia (1), myalgia (1), malaise (1), abdominal pain (1), exanthema (1), oedema peripheral (1), urticaria (1), loss of consciousness (1), dizziness (1), back pain (1), headache (1).

There was no particular evolution regarding the **non-serious and listed** events. A total of 51 adverse symptoms were reported in 37 different patients. The symptoms observed were: urticaria (5), headache (5), dizziness (4), injection site extravasation (4), exanthem (3), tachycardia (3), chills (3), dyspnoea (3), rash (2), flushing (2), pruritus (2), pyrexia (2), paraesthesia (2), malaise (2), hypotension (1), vomiting (1), injection site pain (1), injection site reaction (1), oedema peripheral (1), arthralgia (1), myalgia (1), asthenia (1), skin discolouration (1), erythema (1).

In total, eight non-serious and anaphylactoid reactions have been reported during 6-month period out of the literature. Cumulatively 116 anaphylactoid reactions have been reported out of the exposure of 5,123,048 patient years/ patient to VENOFER which results in a relative prevalence of 0.0023 %.

There were 5 **serious and unlisted** adverse symptoms, involving 4 different patients. The symptoms observed were: asthma, pulmonary test decreased; abortion; respiratory failure; arthritis.

In addition, 7 patients experienced 10 **non-serious and unlisted** adverse symptoms brought to the attention of the manufacturer during the period between September 1, 2005 and February 28, 2006: oedema (2), burning sensation (2), throat tightness (1), blood iron abnormal (1), arthritis (1), bone pain (1), feeling hot (1), influenza like illness (1).

DRUG INTERACTIONS

Interactions with other drugs, food, herbal products and laboratory tests have not been established.

Oral iron should not be administered concomitantly with parenteral iron preparations. Like other parenteral iron preparations VENOFER may be expected to reduce the absorption of concomitantly administered oral iron preparations.

Administration

DOSAGE AND ADMINISTRATION

The dosage of VENOFER (Iron Sucrose Injection, USP) is expressed in terms of mg of elemental iron. Each 5 mL vial contains 100 mg of elemental iron (20 mg/mL).

Administration: VENOFER must only be administered intravenously by slow injection or infusion.

Dose (mg Fe)	Nominal Concentration per mL	Volume of Venofer® to be Added to Diluent	Volume of Diluent
Hemodialysis Dependent Chronic Kidney Disease Patients (HDD-CKD):			
100 mg	1 mg/mL (when the maximum of 100 mL 0.9% NaCl is used).	5 mL	Maximum 100 mL 0.9% NaCl
Non-Dialysis Dependent Chronic Kidney Disease Patients (NDD-CKD):			
500 mg	2 mg/mL (when the maximum of 250 mL 0.9% NaCl is used).	25 mL	Maximum 250 mL 0.9% NaCl
Peritoneal Dialysis Dependent Chronic Kidney Disease Patients (PDD-CKD):			
300 mg	1.2 mg/mL (when the maximum of 250 mL 0.9% NaCl is used).	15 mL	Maximum 250 mL 0.9% NaCl
400 mg	1.6 mg/mL (when the maximum of 250 mL 0.9% NaCl is used).	20 mL	Maximum 250 mL 0.9% NaCl

When prepared as an infusion, use immediately. Do not store. Infusion rate as outlined in **DOSAGE AND ADMINISTRATION.**

NOTE: Do not mix VENOFER with other medications or add to parenteral nutrient solutions for intravenous infusion. As with all parenteral drug products, intravenous admixtures should be inspected visually for clarity, particulate matter, precipitate, discolouration and leakage prior to administration, whenever solution and container permit. Solutions showing haziness, particulate matter, precipitate, discolouration or leakage should not be used. Discard unused portion.

OVERDOSAGE

Dosages of VENOFER (Iron Sucrose Injection, USP) in excess of iron needs may lead to the accumulation of iron in storage sites, resulting in hemosiderosis. Periodic monitoring of iron parameters such as serum ferritin and transferrin saturation may assist in recognizing iron accumulation. VENOFER should not be administered to patients with iron overload and should be discontinued when serum ferritin levels exceed usual norms (see **WARNING AND PRECAUTIONS – General**). Particular caution should be exercised to avoid iron overload where anemia unresponsive to treatment has been incorrectly diagnosed as iron deficiency anemia.

Symptoms associated with overdosage or infusing VENOFER too rapidly include hypotension, headache, vomiting, nausea, dizziness, joint aches, paresthesia, abdominal and muscle pain, edema, and cardiovascular collapse. Most symptoms have been successfully treated with IV fluids, corticosteroids and/or antihistamines.

STORAGE AND STABILITY

Store at 15-25° C. Do not freeze. Discard unused portion.

DOSAGE FORMS, COMPOSITION AND PACKAGING

VENOFER (Iron Sucrose Injection, USP) is a brown, viscous, sterile, nonpyrogenic, aqueous solution containing 20 mg elemental iron per mL in the form of an iron(III)-hydroxide sucrose complex as the active ingredient, and water for injection. NaOH may be used to adjust the pH to 10.5 – 11.1. The sterile solution has an osmolarity of 1250 mOsmol/L. The product does not contain preservatives or dextran polysaccharides.

VENOFER (Iron Sucrose Injection, USP) is available in 5 mL single dose vials, sold in boxes of 10. Each 5 mL contains 100 mg (20 mg/mL) of elemental iron as an iron(III)-hydroxide sucrose complex in water for injection.

Study References

REFERENCES

Product monograph available upon request.

VERSATILE IV IRON
Venofer®
iron sucrose injection, USP

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One Luitpold Drive, P.O Box 9001
Shirley, New York 11967

Distributed by:
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Canada M8Z 2S6

BS2340C
Rev. 11/06C

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For Effective IV Iron Therapy

Get VERSATILE

Demonstrated Efficacy in Various Patient Types

A versatile IV iron for patients with chronic kidney disease (CKD), Venofer® is indicated in the treatment of iron deficiency anemia for[1]:

- Non-dialysis dependent (NDD) patients receiving or not receiving an erythropoietin
- Hemodialysis dependent (HDD) patients receiving an erythropoietin
- Peritoneal dialysis dependent (PDD) patients receiving an erythropoietin

...With Excellent Convenience

- Flexible dosing regimens (minimum total cumulative dose 1000 mg)
  - —100 to 400 mg dosing as per indication*
  - —slow IV push or infusion
- Available in vials, for expedient administration
- Over 50 years of worldwide clinical experience[2,3]

IMPORTANT SAFETY INFORMATION

Venofer® is contraindicated in patients with evidence of iron overload, patients with know hypersensitivity to Venofer, and patients with anemia not caused by iron deficiency. No life-threatening hypersensitivity reactions were observed in pivotal studies, although there were several cases of mild to moderate hypersensitivity reactions characterized by wheezing, dsypnea, hypotension, rash and/or pruritus in these studies. Anaphylactoid reactions have been reported in worldwide spontaneous post-marketing reports (see ADVERSE REACTIONS).

The most frequent adverse events (≥ 5%) whether or not related to Venofer administration, reported by: *hemodialysis dependent-CKD patients*, hypotension, muscle cramps, nausea, headache, graft complications, vomiting, dizziness, hypertension, chest pain, and diarrhea; *non-dialysis dependent-CKD patients*, dysgeusia, peripheral edema, diarrhea, constipation, nausea, dizziness, and hypertension; *peritoneal dialysis dependent-CKD patients*, vomiting, diarrhea, hypertension, peritoneal infection, pharyngitis, nausea, and peripheral edema. Hypotension has been reported frequently in hemodialysis dependent-CKD patients receiving IV iron, and has also been reported in non-dialysis dependent and peritoneal dialysis dependent-CKD patients receiving IV iron. Hypotension following administration of Venofer may be related to the rate of administration and total dose delivered.

VERSATILE IV IRON

Venofer®

iron sucrose injection, USP

*There is limited experience with administration of an infusion of 500 mg of Venofer® over 3.5–4 hours; hypotension occurred in 2 of 30 patients treated. See product monograph for complete dosing administration recommendations.
†Venofer® is not dialyzable through CA210 (Baxter) High Efficiency or Fresenius F80A High Flux dialysis membranes.

References: 1. Venofer® product monograph, revised November 20, 2006. **2.** Van Wyck DB, Cavallo G, Spinowitz BS, Adhikarla R, Gagnon S, Charytan C, et al. Safety and efficacy of iron sucrose in patients sensitive to iron dextran: North American clinical trial. *Am J Kidney Dis.* 2000;36:88-97. **3.** Charytan C, Levin N, Al-Saloum M, Hafeez T, Gagnon S, Van Wyck DB. Efficacy and safety of iron sucrose for iron deficiency in patients with dialysis-associated anemia: North American Clinical Trial. *Am J Kidney Dis.*. 2001;37:300-7.

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See prescribing summary on adjacent page.

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The fruit of exploration: Dialysis monitoring evolves

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