



# CANNT JOURNAL JOURNAL ACITN

Volume 19, Issue 2

April–June 2009

## IN THIS ISSUE:

- 19** Chronic kidney disease: What's in a name?  
*By Jane Ridley, RN(EC), MScN, CNeph(C), Janet Baker, RN, BN, CNeph(C), Cynthia Mills, RN, BN, CNeph(C), Mary Ann Murray, RN, MScN, PhD(c), CON(C), GNC(C), CHPCN(C), and Elizabeth Ton, RN, BScN*
- 23** Impact of single-needle therapy in new chronic hemodialysis starts for individuals with arteriovenous fistulae  
*By Barbara Wilson, RN, MScN, CNeph(C), Lori Harwood, RN, MSc, CNeph(C), and Bonita Thompson, RN, BA*
- 29** Change management and partnership: Achieving a solution to provide peritoneal dialysis in a long-term care setting  
*By Charlie Yang, BScPT, and Jill Campbell, MHSc, CNeph(C), CHE*
- 34** Hold the salt... please!  
*By Dorothy Allen, RD, Gulnar Damji, RD, and Diane Zianis, RD, Dietitians for the Nephrology Program, Sunnybrook Health Sciences Centre, Toronto, ON*





## Start now and shape the future

Start with Renagel and you're planning for your patients' future. Renagel controls serum phosphorus<sup>1</sup> within K/DOQI target range<sup>2</sup> without any risk of calcium or metal accumulation.<sup>3</sup> Sevelamer is a K/DOQI-recommended first-line treatment option.<sup>2</sup> Renagel has been shown to reduce LDL-cholesterol by up to 31%.<sup>3</sup>

genzyme  
CANADA INC.

**Renagel® Safety Information** Renagel® (sevelamer hydrochloride) is indicated for the control of hyperphosphatemia in patients with ESRD (end stage renal disease) undergoing dialysis. Contraindicated in the following situations: hypophosphatemia, bowel obstruction or hypersensitivity to sevelamer hydrochloride or one of the other ingredients in the product. The most common adverse events reported in a parallel group study of Renagel® (N=99) and calcium acetate and calcium carbonate (N=101) were not dose related and included vomiting (22%), nausea (20%), diarrhea (19%) and dyspepsia (16%). The adverse events reported for Renagel® were similar to those reported for Calcium. In drug interaction studies, Renagel® had no effect on the bioavailability of digoxin, warfarin, enalapril, metoprolol and iron. Coadministering Renagel® with ciprofloxacin decreased the bioavailability of ciprofloxacin by approximately 50%. Consequently, Renagel® should not be taken with ciprofloxacin. When administering any other medication where a reduction in the bioavailability of the medication would have a clinically significant effect on safety or efficacy, the physician should consider monitoring blood levels or dosing the medication at least 1 hour before or 3 hours after Renagel®.

Please see brief summary of Product Monograph following this advertisement.

**References:** 1. Chertow GM, Burke SK, Raggi P. Sevelamer attenuates the progression of coronary and aortic calcification in hemodialysis patients. *Kidney Int.* 2002;62:245-252.  
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.

For more information, call toll-free 1-877-220-8918 • [www.genzyme.ca](http://www.genzyme.ca)

© 2007, Genzyme Corporation. All rights reserved. 10-07-11-E

 **Renagel® Tablets**  
(sevelamer hydrochloride)  
800 mg  
**Right from the start™**

# CANNT JOURNAL JOURNAL ACITN



## CONTENTS

Letter from the Editor: Gillian Brunier	4
Lettre de la rédactrice : Gillian Brunier	6
Message from the president	7
Message de la présidente	8
CANNT contact information	8
Your board in action	9
Notice Board	10
Votre conseil d'administration en action	12
CANNT 2009 highlights	14
Les temps forts de la Conférence 2009 de l'ACITN	15
CANNT Bursaries, Grants & Awards of Excellence	16
Bourses, subventions et prix d'excellence de l'ACITN/CANNT	17
World Kidney Day / la Journée Mondiale du Rein March 12, 2009 / le 12 mars 2009	18
Directives aux auteurs	41

19	Chronic kidney disease: What's in a name? <i>By Jane Ridley, RN(EC), MScN, CNeph(C), Janet Baker, RN, BN, CNeph(C), Cynthia Mills, RN, BN, CNeph(C), Mary Ann Murray, RN, MScN, PhD(c), CON(C), GNC(C), CHPCN(C), and Elizabeth Ton, RN, BScN</i>
23	Impact of single-needle therapy in new chronic hemodialysis starts for individuals with arteriovenous fistulae <i>By Barbara Wilson, RN, MScN, CNeph(C), Lori Harwood, RN, MSc, CNeph(C), and Bonita Thompson, RN, BA</i>
29	Change management and partnership: Achieving a solution to provide peritoneal dialysis in a long-term care setting <i>By Charlie Yang, BScPT, and Jill Campbell, MHS, CNeph(C), CHE</i>
34	Hold the salt... please! <i>By Dorothy Allen, RD, Gulnar Damji, RD, and Diane Zianis, RD, Dietitians for the Nephrology Program, Sunnybrook Health Sciences Centre, Toronto, ON</i>
35	BEDSIDE MATTERS You can just tell...
36	ETHICAL ISSUES Truth telling at the end of life
38	PROFILING... In memoriam Sandra Gail Macleod (August 8, 1948–April 12, 2009)
39	PRACTICE CORNER "Permanent" catheters AREN'T



The CANNT Journal is  
printed on recycled paper.



### The CANNT Journal

is the official publication of the Canadian Association of Nephrology Nurses and Technologists, 336 Yonge St., Ste. 322, Barrie, ON, L4N 4C8, telephone: (705) 720-2819, fax: (705) 720-1451, e-mail: [cannt@cannt.ca](mailto:cannt@cannt.ca). Published quarterly, the journal is received by all members of CANNT. Subscriptions are: Canada \$50.00 (plus GST), US. \$60.00, Outside N. America \$85.00. Back issues, when available, are \$7.50 (+GST) per issue and are available from the editor. Opinions expressed by writers in the CANNT Journal are not necessarily those held by the editor or CANNT. Contrasting views by our readership and membership are welcome. All letters, comments and articles are to be sent to the CANNT office, 336 Yonge St., Ste. 322, Barrie, ON L4N 4C8. Toll-free: 1-877-720-2819 Website: [www.cannt.ca](http://www.cannt.ca)

#### • Deadlines for submission to the CANNT Journal are:

**January–March** – January 15, for publication March 15;

**April–June** – April 15, for publication June 15;

**July–September** – July 15, for publication September 15;

**October–December** – October 15, for publication December 15.

The CANNT Journal is indexed in the Cumulative Index to Nursing and Allied Health Literature (CINAHL), the International Nursing Index (INI), MEDLINE, EBSCO, ProQuest and Thomson Gale.  
ISSN 1498-5136

*The CANNT Journal is produced by Pappin Communications, The Victoria Centre, 84 Isabella St., Pembroke, Ontario K8A 5S5.*

#### Editor-in-Chief

Gillian Brunier, RN(EC), MScN, CNeph(C)  
Toronto, Ontario

#### Editorial Board

Lee Beliveau, RN, CNeph(C)

Surrey, British Columbia

Eleanor Ravenscroft, RN, PhD, CNeph(C)  
Toronto, Ontario

Jennifer Ryan, BScPhm, PharmD, ACPR,

Saint John, New Brunswick

Chantal Saumure, RN, BSN, MBA  
Moncton, New Brunswick

Rosalie Starzomski, RN, PhD

Vancouver, British Columbia  
Colleen Wile, RN, CNeph(C)

Halifax, Nova Scotia

#### Managing Editor

Bruce Pappin, Pembroke, Ontario

#### Layout and Design

Sherri Keller, Pembroke, Ontario

#### Advertising Sales

Heather Coughlin,

Pappin Communications,

84 Isabella Street, Pembroke, ON K8A 5S5

T: (613) 735-0952

F: (613) 735-7983

e-mail: [heather@pappin.com](mailto:heather@pappin.com)

rate card: [www.pappin.com](http://www.pappin.com)

## Letter from the Editor: Gillian Brunier

### Stimulating thoughts and generating ideas



Last month I was fortunate to be able to represent the Canadian Association of Nephrology Nurses and Technologists (CANNT) at the 40th National Symposium of the American Nephrology Nurses Association (ANNA) in San Diego, California. It was a wonderful opportunity to network with colleagues from the past and meet new ones. It was also fascinating to have Past-President of ANNA Betty Preston Oates give a five-minute recollection of her very early days with ANNA before the presentation I was part of started. The theme of the ANNA symposium was “Mentoring generations today for tomorrow’s leaders”—and I felt that Betty Preston Oates was well able to do that. Most of us in Canada, too, are well aware of the need to mentor nurses new to nephrology. We always believe that the **CANNT Journal** plays a strong role in mentoring nephrology nurses across Canada through stimulating thoughts and generating ideas.

In this issue, Jane Ridley, Nurse Practitioner at the London Health Sciences Centre, with colleagues from across Ontario, gives us some new thoughts on “What’s in a name?” Jane has taken common terms such as end stage renal disease and chronic kidney disease to take another look at what these words really mean. Compare the names you have used for your pre-dialysis/nephrology clinic to the names discussed here. Which do you prefer? Let us know your thoughts.

The second article is an excellent research article entitled: “The impact of single-needle therapy in new chronic hemodialysis starts for individuals with arteriovenous fistulae” by Barbara Wilson and her colleagues at London Health Sciences Centre. All of us are concerned with promoting the use of

arteriovenous fistulae as the access of choice for patients new to chronic hemodialysis. Do any other units across Canada routinely use single-needle dialysis for the first few hemodialysis treatments in patients with an arteriovenous fistula? Let us know if you do and what your experiences are.

How we best manage our elderly patients on peritoneal dialysis (PD) is another important topic for discussion. Charlie Yang and Jill Campbell from St. Michael’s Hospital in Toronto have written an insightful review of their experiences. Their article is entitled “Change management and partnership: Achieving a solution to provide peritoneal dialysis in a long-term care setting.” The authors feel that their hospital’s partnership with a long-term care facility has benefited their elderly PD patients and both their organizations. Is your dialysis unit partnered with another nursing home to facilitate dialysis care for the elderly? Let us know how you found your collaborative work.

Have you ever wondered why we consider tunneled hemodialysis catheters to be “permanent” catheters? Read Diane Watson’s article in the Practice Corner column on her experience with removing permanent catheters, and why she would prefer that we use the terms “internal jugulars (IJs)” or “femorals.” Moving on to another timely topic: Do you know what sodium restrictions your dialysis patients should be on, or simple ways to limit dietary salt intake? If you are uncertain, Gulnar Damji and her colleagues from Sunnybrook Health Sciences Centre in Toronto have written an update from which all of us could learn.

We trust you will find this issue of the CANNT Journal stimulates some new thoughts and generates new ideas for you to take back to your nephrology practice in your different work areas across Canada. Contact me by e-mail at [gillianbrunier@sympatico.ca](mailto:gillianbrunier@sympatico.ca) with your comments.

# artis<sup>®</sup>

## Advanced Simplicity.

Introducing the next generation of dialysis systems—the Artis Dialysis System. The Artis System sets new standards for ergonomics, efficiency and functionality. It can be adapted to any treatment strategy and prescription—from conventional high-flux dialysis to advanced therapies, such as hemodiafiltration—providing customized care for your patient.

With a quick start-up process and simple user interface, you'll find a dialysis system that is easy to learn, operate and maintain.

Learn more about the Artis System at [Gambro.com](http://Gambro.com) and experience the benefits of advanced simplicity firsthand.



 **GAMBRO<sup>®</sup>**



## Le Journal ACITN

est la publication officielle de l'Association canadienne des infirmiers/infirmières et technologues en néphrologie, a/s 336 Yonge St., Ste. 322, Barrie, ON, L4N 4C8, téléphone : (705) 720-2819, télécopieur : (705) 720-1451, Courriel : [cannt@cannt.ca](mailto:cannt@cannt.ca). Publié quatre fois par année, ce journal est envoyé à tous les membres de l'Association. L'abonnement annuel est : Canada, 50 \$ (+TPS), E.-U., 60 \$, hors du Canada et E.-U., 85 \$. Les publications antérieures, lorsque disponibles, coûtent 7,50 \$ (+TPS) chacune. Les opinions émises par les auteurs dans ce journal ne sont pas nécessairement partagées par l'Association ni par le rédacteur en chef. Nous invitons les lecteurs à nous faire part de leurs opinions. Toute correspondance devra être envoyée à l'ACITN, 336 Yonge St., Ste. 322, Barrie, ON L4N 4C8.

Site web : [www.cannt.ca](http://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,

pour publication le 15 septembre

Octobre-décembre – le 15 octobre,

pour publication le 15 décembre

Le journal CANNT est maintenant répertorié dans le «Cumulative Index to Nursing and Allied Health Literature (CINAHL)», «International Nursing Index» (INI), «MEDLINE», «EBSCO», «ProQuest», et «Thomson Gale».

ISSN 1498-5136

*Le journal CANNT est préparé par Pappin Communications, The Victoria Centre, 84 rue Isabella, Pembroke, Ontario K8A 5S5.*

### Rédactrice en chef

Gillian Brunier, RN(EC), MScN, CNeph(C)  
Toronto, Ontario

### Conseil de rédaction

Lee Beliveau, RN, CNeph(C)

Surrey, Colombie-Britannique

Eleanor Ravenscroft, RN, PhD, CNeph(C)

Toronto, Ontario

Jennifer Ryan, BScPhm, PharmD, ACPR,

Saint-John, Nouveau Brunswick

Chantal Saumure, RN, BSN, MBA

Moncton, Nouveau Brunswick

Rosalie Starzomski, RN, PhD

Vancouver, Colombie-Britannique

Colleen Wile, RN, CNeph(C)

Halifax, Nouvelle-Écosse

### Éditeur

Bruce Pappin, Pembroke, Ontario

### Conception et design

Sherri Keller, Pembroke, Ontario

### Publicité

Heather Coughlin,

Pappin Communications,

84 rue Isabella, Pembroke, ON K8A 5S5

T : (613) 735-0952, F : (613) 735-7983

courriel : [heather@pappin.com](mailto:heather@pappin.com)

information de publication :

[www.pappin.com](http://www.pappin.com)

## Lettre de la rédactrice en chef : Gillian Brunier

### Inspirer les pensées et éveiller les idées

Le mois dernier, j'ai eu l'honneur de représenter l'Association canadienne des infirmières et infirmiers et des technologues de néphrologie (ACITN) au 40<sup>e</sup> symposium national de l'*American Nephrology Nurses Association* (ANNA) à San Diego, en Californie. Ce fut une occasion extraordinaire de réseauter avec d'anciennes et d'anciens collègues et de faire de nouvelles connaissances. Ce fut également passionnant d'écouter Betty Preston Oates, ex-présidente de l'ANNA, nous raconter pendant cinq minutes ses tout premiers débuts avec l'ANNA en guise d'introduction à la présentation à laquelle j'assistais. Le symposium de l'ANNA avait pour thème : « Jouons le rôle de mentor aujourd'hui pour les leaders de demain »—Betty Preston Oates était la personne toute désignée pour s'acquitter de cette tâche. La plupart d'entre nous au Canada reconnaissent très bien le besoin de guider les nouvelles infirmières et les nouveaux infirmiers en néphrologie. Or, nous sommes toujours convaincues que le **Journal ACITN** joue un rôle de premier plan dans le mentorat des infirmières et infirmiers en néphrologie partout au Canada en inspirant les pensées et en éveillant les idées.

Dans ce numéro, Jane Ridley, infirmière praticienne, du *London Health Sciences Centre*, et ses collègues de l'Ontario nous font réfléchir sur le sens caché des mots. Jane a choisi des termes courants, tels qu'« insuffisance rénale terminale » et « maladie rénale chronique », afin que nous jetions un nouveau regard sur leur véritable sens. Comparez les mots que vous utilisez dans votre unité de pré-dialyse/néphrologie à ceux qui sont abordés dans l'article. Lesquels préférez-vous? Dites-nous ce que vous en pensez.

Dans le deuxième article, nous vous présentons un excellent compte rendu de recherche intitulé « *The impact of single-needle therapy in new chronic hemodialysis starts for individuals with arteriovenous fistulae* » (Les répercussions de la thérapie à aiguille unique dans l'instauration de l'hémodialyse chronique chez des personnes présentant une fistule artérioveineuse) par Barbara Wilson et ses collaboratrices du *London Health Sciences Centre*. Nous sommes toutes et tous concernés lorsqu'il s'agit de faire la promotion de l'utilisation de la fistule artérioveineuse (FAV) comme accès de choix

chez les patients qui entament une thérapie d'hémodialyse chronique. Y a-t-il d'autres unités au Canada qui utilisent de façon courante l'aiguille unique dans les tout premiers traitements d'hémodialyse chez les patients présentant une FAV? Laissez-nous savoir si c'est le cas et quelles sont vos expériences.

La meilleure manière de prendre en charge les patients âgés en dialyse péritonéale (DP) est un autre sujet important de discussion. Charlie Yang et Jill Campbell du *St. Michael's Hospital* à Toronto ont écrit une revue perspicace de leurs expériences. Leur article est intitulé « *Change management and partnership: Achieving a solution to provide peritoneal dialysis in a long-term care setting* » (Gestion du changement et partenariat : atteindre une solution afin d'offrir la dialyse péritonéale dans un centre de soins de longue durée). Les auteurs croient que le partenariat de leur hôpital avec un centre de soins de longue durée a été bénéfique aux patients âgés en DP ainsi qu'à leur organisation. Est-ce que votre unité de dialyse fait équipe avec un centre de soins de longue durée afin d'offrir des soins de dialyse aux aînés? Dites-nous ce que vous pensez de votre travail de collaboration.

Vous êtes-vous déjà demandé pourquoi nous percevons les cathéters tunnelisés d'hémodialyse comme des cathéters « permanents »? Je vous invite à lire l'article de Diane Watson dans la rubrique « Coin pratique » sur son expérience dans le retrait de cathéters permanents, et pourquoi elle préférerait que nous les qualifions de « jugulaires internes (JI) » ou de « fémoraux ». Dans un autre ordre d'idées, connaissez-vous les restrictions sodiques auxquelles doivent se soumettre vos patients en dialyse ou des façons simples de réduire l'apport alimentaire en sel? Dans le doute, n'hésitez pas à lire l'article rédigé par Gulnar Damji et ses collègues du *Sunnybrook Health Sciences Centre*, à Toronto. Dites-vous qu'il n'est jamais trop tard pour apprendre.

Nous sommes persuadées que ce numéro du **Journal ACITN** vous inspirera de nouvelles pensées et éveillera en vous de nouvelles idées que vous pourrez appliquer dans vos différents domaines d'expertise de la pratique en néphrologie où que vous soyez au Canada. Veuillez me faire parvenir vos commentaires par courriel à [gillianbrunier@sympatico.ca](mailto:gillianbrunier@sympatico.ca).

## What's new



Your CANNT board of directors has been busy! We have just had our spring meeting and filled every minute reviewing our strategic plan, budget, our upcoming fall symposium and many other items. Our mandate is to serve our members and part of this is to look at what we can offer to all who are members of CANNT, aside from a yearly symposium and our journal.

Since our new website was launched in the fall, there have been ongoing improvements to make navigation easier and give our members the information they want in the fastest and most easily accessible manner possible. There are two programs that can be found on the website that I think everyone should check out.

One program that has been longstanding is the bursary and grant program, which is available to all members. Education has always been a key focus for CANNT and there are many available grants in the educational arena thanks to the ongoing sponsorship of Fresenius Canada: a technical bursary, a bachelor's level educational bursary, a master's level educational bursary, a research grant and an ISPD bursary. The information is easily accessible on our website—look at the “What's New” area on our home page. By clicking on this item, it will take you right into the CANNT “Bursaries and Grants” page with application documents. You can also access this information by going to the “Resources” section via the home page.

The new Amgen Travel, Research and Preceptorship/Mentorship Program can also be found on our website. These grants have been generously offered by Amgen and cover a variety of practice

areas such as an international nursing conference, a research project grant for nursing, a nurse practitioner grant, a vascular access grant, and a nephrology technical practice grant. Again, all of the information required for applying to any of these grant programs is found on our new CANNT website.

Another area to check out is the journal area. The **CANNT Journal** is a peer-reviewed publication that is published quarterly and received by all members. One of its mandates has been to provide information and education in the nephrology nursing and technology field. From our website homepage you can easily access the **CANNT Journal** section. There you will find all of the published articles, as well as a wealth of information on what types of manuscripts are encouraged, how to prepare your manuscript and how to submit.

For new authors, you can also access “Abstracts 101” under the Educational header for tips on how to develop an abstract, and prepare a poster for presentation, as well as how to develop slides for a presentation. For a new author, a good start might be to work with a co-author; maybe a co-worker who has the same interest as you in your area of specialty.

It truly is a wonderful process to go through, and the results are everlasting.

The planning committee of our Saint John, New Brunswick symposium has been busy planning a wonderful symposium for all of us. The dates for this symposium are October 15–18, 2009, so plan to join us if you can. Go to the website for more information.

I honestly believe that our CANNT symposia are like many fine things in life: they just keep getting better with age. So come join us!

**Jan Baker, RN, BN, CNeph(C)**  
**CANNT President**

## 2008–2009 CANNT Board of Directors

### Conseil d'administration ACITN 2008–2009

**President/Présidente :**  
Jan Baker, RN, BN, CNeph(C)  
T: (905) 845-2571 ext. 6537  
F: (905) 338-4355  
e-mail/courriel :  
[jbaker@haltonhealthcare.on.ca](mailto:jbaker@haltonhealthcare.on.ca)

**President-Elect/Présidente-Élue :**  
Rick Luscombe, RN, BN, CNeph(C)  
T: (604) 682-2344 ext. 62421  
F: (604) 806-8449  
e-mail/courriel: [rickluscombe@live.com](mailto:rickluscombe@live.com)

**Past-President/Présidente sortante :**  
Alison Thomas, RN(EC), MN, CNeph(C)  
T: (416) 864-6060 ext. 6979  
F: (416) 864-5608  
e-mail/courriel :  
[thomasal@smh.toronto.on.ca](mailto:thomasal@smh.toronto.on.ca)

**Website Coordinator/Treasurer  
Trésorière/coordonnatrice  
du site internet :**  
Susan Placko, RN, CNeph(C)  
T: (705) 728-0912  
F: (705) 735-9935  
e-mail/courriel : [plackos@rvh.on.ca](mailto:plackos@rvh.on.ca)

**Vice-President of Technologists/  
Vice Président des Technologues :**  
Shripal Parikh ASCT, cdt  
T: (403) 943-2370  
F: (403) 943-2323  
e-mail/courriel :  
[shripal.parikh@calgaryhealthregion.ca](mailto:shripal.parikh@calgaryhealthregion.ca)

**Atlantic Region Vice-President  
Vice Présidente de l'Atlantique :**  
Colleen Wile, RN, CNeph(C)  
T: (902) 473-5868  
F: (902) 473-4168  
e-mail/courriel :  
[colleend.wile@cdha.nshealth.ca](mailto:colleend.wile@cdha.nshealth.ca)

**Quebec Vice-President/  
Vice Président Québec :**  
Lisette Lafrenière, BSc  
T: (450) 654-7525 ext. 23142  
F: (450) 582-5126  
email/courriel :  
[Lisette.Lafrenière@ssss.gouv.qc.ca](mailto:Lisette.Lafrenière@ssss.gouv.qc.ca)

**Ontario Region Vice-President/  
Vice Présidente de l'Ontario :**  
Gail Barbour, RN, CNeph(C)  
T: (519) 663-3391  
F: (519) 663-3011  
email/courriel :  
[gail.barbour@lhsc.on.ca](mailto:gail.barbour@lhsc.on.ca)

**Western Region Vice-President/  
Vice Président de l'Ouest :**  
Marilyn Muir, RN, CNeph(C)  
T: (204) 787-3316  
F: (204) 787-3402  
e-mail/courriel : [mrmuir@hsc.mb.ca](mailto:mrmuir@hsc.mb.ca)

## CANNT Representatives/Contacts

### Représentants/ contacts ACITN

#### Journal Editor-in-Chief/

Éditrice en chef : Gillian Brunier

T: (416) 480-6100 ext. 3149

F: (416) 495-0513

e-mail/courriel :

[gillianbrunier@sympatico.ca](mailto:gillianbrunier@sympatico.ca)

#### Allied Health Council Committee of the Kidney Foundation of Canada (KFOC)

Représentant Comité Scientifique—

Fondation du rein du Canada :

Heather Beanlands

T: (416) 979-5000 ext. 7972

e-mail/courriel: [hbeanlan@ryerson.ca](mailto:hbeanlan@ryerson.ca)

#### CNA Liaison/Liaison AIIC :

Alison Thomas

T: (416) 864-6060 ext. 6979

F: (416) 864-5608

e-mail/courriel :

[thomasal@smh.toronto.on.ca](mailto:thomasal@smh.toronto.on.ca)

#### Kidney Foundation of Canada—

MAC Representative

Fondation du rein—Comité de médical

consultatif : Jan Baker

T: (905) 845-2571 ext. 6537

F: (905) 338-4355

e-mail/courriel:

[jbaker@haltonhealthcare.on.ca](mailto:jbaker@haltonhealthcare.on.ca)

#### Bursary Committee/Comité de Bourse :

Jan Baker

T: (905) 845-2571 ext. 6537

F: (905) 338-4355

e-mail/courriel:

[jbaker@haltonhealthcare.on.ca](mailto:jbaker@haltonhealthcare.on.ca)

#### 2009 Symposium—October 15–18,

2009, St. John, New Brunswick :

Conference Planner

Heather Reid—Innovative Conferences  
and Communications

T: (519) 652-0364

F: (519) 652-5015

e-mail/courriel: [hreid@innovcc.ca](mailto:hreid@innovcc.ca)

#### Journal advertising contact/Publicité :

Heather Coughlin

Pappin Communications,

84 Isabella Street, Pembroke, ON

K8A 5S5

T: (613) 735-0952

F: (613) 735-7983

e-mail/courriel: [heather@pappin.com](mailto:heather@pappin.com)

Rate card: [www.pappin.com](http://www.pappin.com)

#### CANNT Administration Office/

Bureau National

Administrative Assistant/

Assistante administrative : Debbie Maure

336 Yonge St., Ste. 322,

Barrie, ON, L4N 4C8

T: (705) 720-2819

F: (705) 720-1451

Toll-free: 1-877-720-2819

e-mail/courriel: [cannt@cannt.ca](mailto:cannt@cannt.ca)

website: [www.cannt.ca](http://www.cannt.ca)

## Message de la présidente

### Quoi de neuf

Les membres du Conseil d'administration de l'ACITN travaillent avec entrain ! Nous venons tout juste de tenir notre assemblée semestrielle du printemps au cours de laquelle nous avons passé chaque minute à revoir notre plan stratégique, notre budget, notre prochain congrès annuel qui aura lieu à l'automne 2009 et de nombreux autres points à l'ordre du jour. Notre mandat vise à desservir nos membres et une part de cette responsabilité consiste à examiner ce que nous pouvons offrir à l'ensemble des membres de l'ACITN, en plus de la tenue du congrès annuel et de la publication du Journal.

Depuis le lancement de notre nouveau site Web à l'automne dernier, nous avons apporté des améliorations continues afin de rendre la navigation plus facile et de donner aux membres l'information qu'ils veulent de la manière la plus rapide et la plus conviviale qui soit. Nous avons hébergé sur le site Web deux programmes qui, à mon avis, valent la peine d'être consultés.

Un programme que nous offrons depuis longtemps est celui des bourses et des subventions qui est accessible à tous les membres. L'éducation a toujours été le point de mire de l'ACITN et de nombreuses subventions sont offertes grâce à une commandite soutenue à l'éducation de Fresenius Medical Care Canada : bourse à l'intention d'un(e) technologue, bourse d'études universitaires au baccalauréat, bourse d'études universitaires à la maîtrise, subvention à la recherche et bourse de l'ISPD. L'information relative à ce programme est facilement accessible sur notre site Web, dans la section « Quoi de neuf » au centre de la page d'accueil. Vous pouvez également obtenir cette information en cliquant sur l'onglet « Ressources » à la page d'accueil, puis en cliquant sur « Prix, bourses et subventions ACITN » où vous trouverez les formulaires d'inscription.

Vous trouverez également sur notre site Web l'information sur le nouveau programme d'Amgen Canada portant sur l'octroi de subventions de voyage, de projets recherche et de préceptorat/mentorat. Ces subventions ont été offertes généreusement par Amgen et couvrent une variété de domaines de la pratique en néphrologie, notamment : une subvention de voyage pour assister à une conférence internationale en soins infirmiers ; des subven-

tions de projets de recherche en soins infirmiers ; des subventions pour le préceptorat/mentorat d'infirmières ou infirmiers (pratique avancée, accès vasculaire, sensibilisation) et une subvention pour la pratique technologique en néphrologie. Une fois de plus, vous trouverez sous l'onglet « Ressources » du site Web toute l'information nécessaire pour vous inscrire à ces programmes de subventions.

Nous vous invitons aussi à cliquer sur l'onglet « Journal ACITN ». Le Journal de l'ACITN est une publication révisée par des pairs qui est publiée trimestriellement et envoyée à tous les membres. Un des objectifs du Journal consiste à fournir de l'information et une éducation dans le domaine de la pratique infirmière et de la pratique technologique en néphrologie. Sur le site Web, vous pouvez accéder facilement à la rubrique « Journal ACITN » ; vous y trouverez tous les articles publiés ainsi qu'une mine de renseignements sur le genre de manuscrit que nous recherchons, sur la façon dont vous devez préparer votre manuscrit pour sa publication et comment le soumettre.

Nous invitons les personnes qui désirent collaborer pour la première fois au Journal ACITN à consulter en ligne le matériel d'introduction (« Abstracts 101 ») sous l'onglet « Éducation » pour obtenir des trucs et des conseils pratiques sur la rédaction d'un résumé, la création d'une affiche scientifique et la conception d'un diaporama pour une communication orale. Nous conseillons vivement aux nouveaux auteurs de travailler en étroite collaboration avec un autre auteur, peut-être un collègue de travail qui possède le même champ d'intérêt qu'eux dans le même domaine de spécialité.

Il s'agit d'une expérience vraiment formidable, et les retombées durent longtemps. Le Comité organisateur du Congrès annuel qui se tiendra à Saint John, au Nouveau-Brunswick, est à pied d'œuvre pour nous organiser un congrès extraordinaire. Réservez les dates du 15 au 18 octobre 2009 et joignez-vous à nous, si vous le pouvez. Consultez le site Web pour obtenir de plus amples renseignements. Je crois sincèrement que l'on peut ranger le Congrès annuel de l'ACITN parmi les petits plaisirs de la vie qui s'améliorent avec l'âge. Joignez-vous à nous !

Jan Baker, inf. B.Sc.Inf., CNéph(C)  
Présidente de l'ACITN





# Your board in action



The CANNT spring board of directors' meeting was held March 28–29, 2009, in Toronto. The highlights of the meeting are as follows:

## Membership

- While 2008 was a record membership year, likely due to the conference venue and the 40th anniversary, it is always an ongoing challenge maintaining members when annual renewals are due. This year we anticipate membership to fall due to the economic situation and the smaller conference venue. In order to maintain revenue and the viability of the organization, changes were made to membership fees as follows: Membership fee has been \$65/year since 2001 and has been increased to \$70/year commencing April 2009.

## Finances

- CANNT continues to be in good financial standing. However, given the economic realities, the board of directors has determined it necessary to work collaboratively towards maintaining financial viability. To that end, we will not be sending a board representative to either the ANNA meeting or to the EDTNA meeting this year. In addition, the board executive has elected to share accommodations at the fall board of directors' meeting and annual symposium in October of this year.
- While the annual CANNT symposium continues to be the major revenue generator, the 2008 symposium in Quebec City was costly and did not generate as much revenue as predicted.

- The CANNT board of directors reviewed the 2009–2010 budget very closely to examine areas where cuts to expenditures could be made or revenue increased. The board will continue to evaluate these numbers throughout the year.

## Strategic planning

- The strategic plan was revisited at the spring meeting and the action plan updated to reflect the board's goals for 2009.

## Journal

- The CANNT Journal, a peer-reviewed publication, is published quarterly. This resource is valued by nephrology professionals and is now indexed through MEDLINE, CINAHL, EBSCO, ProQuest, Thomson Gale and OVID databases.

## Website

- The new CANNT website is now operational and has received positive feedback from members. Members have been issued new membership numbers and passwords for access to the members'-only area of the site. Should you encounter any problems logging into the members section of the CANNT website please contact Debbie Maure at [cannt@cannt.ca](mailto:cannt@cannt.ca)
- We are currently looking for volunteers to assist in translating the CANNT website to French—please contact the CANNT National Office if interested.

## Communication

- Communication continues to be facilitated via unit liaisons, regional VPs, the CANNT website and e-mail blasts. Special thanks to the unit

liaisons for the work they do to keep CANNT at the forefront in dialysis units across the country.

- A reminder that the CANNT office can now be accessed via our toll-free number at 1-877-720-2819.

## CANNT office operations

- Debbie Maure, the CANNT Administrative Assistant, has been spending considerable time building the new website in collaboration with our new web provider. Her commitment to and leadership related to this project have been second to none, and the board of directors is grateful for her expertise.

## Standards of practice

- The revised Standards of Practice (nursing and technical) are available on CD via the CANNT office or online at [www.cannt.ca](http://www.cannt.ca)
- The Canadian Standards Association has approached CANNT to provide support for an initiative to develop standards related to home dialysis. CANNT supports this project in theory and has committed to assist them with a small donation towards their efforts of \$1,000.

## Awards of excellence and bursaries

- The application process is now underway for CANNT Awards and the new Amgen Awards program. Deadlines for application and application forms are available at [www.cannt.ca](http://www.cannt.ca)

## Nominations committee

- A call for nominations is currently in place for the positions of President-Elect, VP Quebec, VP Atlantic, and Website Coordinator/Treasurer.

## Krescent Program

- The board agreed to continue to support this initiative this year. The KRESCENT (Kidney Research Scientist Core Education and National Training) Program is a joint initiative of the Kidney Foundation of Canada, the Canadian Society of Nephrology, and Institute of Nutrition, Metabolism and Diabetes of the Canadian Institutes of Health Research.

## Canadian Nurses Association (CNA) Certification

- A pre-symposium workshop on preparing for and writing the CNA exam in nephrology will again be presented at CANNT 2009 in Saint John, N.B. This year, the presentation will be provided in both official languages.

## CANNT Symposium 2009

- Planning for the 2009 symposium to be held at the St. John Trade and Convention Centre, Saint John, N.B., October 15–18 is well underway. The planning committee is looking forward to an informative, high-quality symposium and welcomes everyone to attend.

## Corporate partners

- As a not-for-profit organization, CANNT depends on corporate sponsorship as an adjunct to membership fees, as a means of maintaining our important initiatives. As always, we express our ongoing appreciation to our corporate sponsors for continuing to support our activities, including the annual symposium, our CANNT Journal, and the awards and bursaries programs. Your support makes a difference and contributes greatly to the work that we do in support of our membership and, ultimately, in support of patients with chronic kidney disease.

Respectfully submitted,  
Alison Thomas,  
RN(EC), MN, CNeph(C),  
Past-President

# NOTICE BOARD

- ❖ Ottawa Supper Clubs—Contact Janet Graham, Nephrology Unit, Ottawa Hospital, [jgraham@ottawahospital.on.ca](mailto:jgraham@ottawahospital.on.ca)
- ❖ **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](mailto:cannt@cannt.ca), or visit our website at [www.cannt.ca](http://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, B.C. Website: [www.ispd.org](http://www.ispd.org)
- ❖ **September 2–October 16, 2009.** Registration time for the Nephrology Certification Exam. Contact Canadian Nurses Association Certification Program, e-mail: [certification@cna-aiic.ca](mailto:certification@cna-aiic.ca). Website: [www.cna-aiic.ca](http://www.cna-aiic.ca). Toll-free phone number: 1-800-450-5206
- ❖ **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](http://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](mailto:research@kidney.ca). Website: [www.kidney.ca](http://www.kidney.ca)
- ❖ **October 15–18, 2009.** CANNT 41st National Symposium, Saint John Trade & Convention Centre, Saint John, N.B. Conference Planner: Heather Reid; e-mail: [hreid@innovcc.ca](mailto:hreid@innovcc.ca). Website: [www.cannt.ca](http://www.cannt.ca)
- ❖ **March 7–9, 2010.** 30th Annual Dialysis Conference, Seattle, Washington. Website: [www.som.missouri.edu/Dialysis/](http://www.som.missouri.edu/Dialysis/)
- ❖ **March 15, 2010.** Kidney Foundation of Canada. Deadline for Allied Health Fellowships and Scholarships. Contact: Coordinator, Research Grants and Awards, 1-800-361-7494, ext. 232, e-mail: [research@kidney.ca](mailto:research@kidney.ca). Website: [www.kidney.ca](http://www.kidney.ca)
- ❖ **April 17, 2010.** Exam date for CNeph(C) certification exam. Contact Canadian Nurses Association Certification Program, e-mail: [certification@cna-aiic.ca](mailto:certification@cna-aiic.ca). Website: [www.cna-aiic.ca](http://www.cna-aiic.ca). Toll-free phone number: 1-800-450-5206
- ❖ **May 2–5, 2010.** The American Nephrology Nurses Association (ANNA) 41st National Symposium, Grand Hyatt San Antonio & Henry B. Gonzalez Convention Center, San Antonio, TX. Website: [www.annanurse.org](http://www.annanurse.org)

***Please send all submissions,  
questions or comments to:***

Gillian Brunier, Editor, CANNT Journal

Fax: (416) 495-0513

e-mail: [gillianbrunier@sympatico.ca](mailto:gillianbrunier@sympatico.ca)



Now Available  
From Canada's Leading Dialysis Supplier

# Mar Cor Purification

Compliant Water Systems, Services  
and Products for Hemodialysis



**Millenium™**  
Portable Reverse Osmosis System

**actril®**  
Surface Disinfectant



Mar Cor Purification would like to announce the availability of the Millenium portable reverse osmosis system (above left), in Canada. With over 6,000 world wide installed, this unit will produce up to 1970 ml/min and is ideal for small

acute settings and for home hemodialysis programs. Mar Cor also announces the availability of Actril Cold Sterilant, which can be used in demanding disinfecting applications in hospitals, pharmaceutical & other Life Science industries.



Minncare Disinfectants



FiberFlo Filters



Water Treatment Systems



Support Services



**MAR COR®  
PURIFICATION**  
A Cantel Medical Company

**Competent, Consistent, Compliant**

Offices in Ontario and Quebec • ISO 13485:2003 Certified  
Mar Cor Purification • 800-268-5035 • [www.mcpur.com](http://www.mcpur.com)



# Votre conseil d'administration en action



L'assemblée semestrielle du printemps du Conseil d'administration (CA) de l'ACITN s'est déroulée du 28 au 29 mars 2009, à Toronto. Voici les faits saillants de cette réunion :

## Membres

- Bien que 2008 fut une année record en terme d'abonnements, principalement en raison du site choisi du dernier congrès (ville de Québec célébrant son 400<sup>e</sup>) et des célébrations entourant le 40<sup>e</sup> anniversaire de fondation de notre Association, c'est toujours un défi perpétuel de maintenir le nombre de membres quand vient le temps de renouveler la cotisation. Cette année, nous anticipons une baisse de l'effectif en raison de la situation économique et du plus petit site choisi pour notre prochain congrès. Afin de maintenir les revenus et la viabilité de l'Association, nous avons augmenté les frais de cotisation comme suit : la cotisation s'élevait à 65 \$/année depuis 2001 et a été augmentée à 70 \$/année en avril 2009.

## Finances

- L'ACITN continue d'être en bonne position financière. Toutefois, étant donné la conjoncture économique, le CA a statué que chacun doit contribuer afin d'assurer la viabilité financière de l'Association. À cette fin, nous n'enversons pas de représentant au congrès de l'ANNA ni à celui de l'EDTNA cette année. De plus, les membres du CA ont opté de partager leurs chambres d'hôtel à l'assemblée semestrielle de l'automne du CA et au Congrès annuel qui aura lieu en octobre prochain.
- Bien que le congrès annuel de l'ACITN constitue toujours notre principale source de revenus, le Congrès de 2008 qui a eu lieu à Québec a coûté cher et n'a pas généré les revenus attendus.

- Le CA de l'ACITN a examiné de près le budget de 2009–2010 afin de déterminer des endroits où sabrer les dépenses, ce qui aurait pour effet d'augmenter les gains. Le CA continuera d'évaluer ses finances tout au long de l'exercice financier.

## Planification stratégique

- Le plan stratégique a été passé en revue au cours de l'assemblée printanière et le plan d'action a été mis à jour afin de refléter les objectifs du CA pour 2009.

## Journal

- Le Journal ACITN, publication révisée par des pairs, est publié trimestriellement. Cette ressource est prise en compte par les professionnels en néphrologie et est maintenant indexée dans les bases de données MEDLINE, CINAHL, EBSCO, ProQuest, Thomson Gale et OVID.

## Site Web

- Le nouveau site Web de l'ACITN est maintenant fonctionnel. Nous avons reçu une rétroaction constructive de la part des membres. Nous avons émis de nouveaux numéros de membre et de nouveaux mots de passe pour accéder à l'Extranet, qui est réservé à l'usage des membres inscrits. Si vous éprouvez des difficultés à vous connecter à l'Extranet du site Web de l'ACITN, veuillez communiquer avec Debbie Maure, à [cannt@cannt.ca](mailto:cannt@cannt.ca).
- Nous sommes actuellement à la recherche de bénévoles pour nous aider à traduire le site Web en français—veuillez communiquer avec le bureau administratif de l'ACITN, si ce défi vous intéresse.

## Communication

- La communication est assurée en continu par les agent(e)s de liaison, les v.-p. régionaux, le site Web et la messagerie électronique. Nous désirons

remercier tout spécialement les agent(e)s de liaison pour le travail qu'ils ou elles accomplissent pour maintenir à l'avant-plan l'ACITN dans les unités de dialyse d'un bout à l'autre du pays.

- Nous tenons à vous rappeler qu'il est maintenant possible d'appeler sans frais le bureau de l'ACITN : 1-877-720-2819.

## Administration

- Debbie Maure, adjointe administrative de l'ACITN, a consacré beaucoup de temps à la création du nouveau site Web en collaboration avec le nouveau gestionnaire du site. L'engagement et le leadership de Debbie dans le cadre de ce projet ont été sans pareil, et le CA tient à lui exprimer sa vive reconnaissance pour sa précieuse expertise.

## Normes de pratique

- Vous pouvez obtenir les nouvelles Normes de pratique (pratique infirmière et pratique technologique) sur CD auprès du bureau de l'ACITN ou en ligne à [www.cannt.ca](http://www.cannt.ca).
- L'Association canadienne de normalisation (CSA) a approché l'ACITN pour obtenir son soutien dans la rédaction de normes portant sur la dialyse à domicile. L'ACITN a décidé d'appuyer en théorie ce projet et s'est engagée à verser une subvention de 1 000 \$ en appui à leurs efforts.

## Prix d'excellence et bourses

- Le processus de mises en candidature est en cours pour les Prix de l'ACITN et les bourses décernées par Amgen. Les différentes dates limites pour remettre les formulaires d'inscription sont indiquées sur le site Web à [www.cannt.ca](http://www.cannt.ca).

## Comité des mises en candidature

- Nous avons lancé un appel de mises en candidature afin de pourvoir les postes de président(e) élu(e), de v.-p.



du Québec, de v.-p. de l'Atlantique et de trésorier(ère)/coordonnateur(trice) du site Web.

### **Programme KRESCENT**

- Les membres du CA ont accepté de renouveler leur appui à cette initiative. Le programme KRESCENT (*Kidney Research Scientist Core Education and National Training*) est une initiative conjointe avec la Fondation canadienne du rein, la Société canadienne de néphrologie et l'Institut de la nutrition, du métabolisme et du diabète (INMD) des Instituts de recherche en santé du Canada (IRSC).

### **Agrément de l'Association des infirmières et infirmiers du Canada (AIIC)**

- Un atelier sur la préparation à l'examen d'agrément en néphrologie

de l'AIIC sera également offert avant le Congrès annuel de 2009 à Saint John, au N.-B. Cette année, cet atelier se déroulera dans les deux langues officielles.

### **Congrès annuel de 2009 de l'ACITN**

- Les préparatifs entourant l'organisation du Congrès de 2009, qui aura lieu du 15 au 18 octobre, au Centre des congrès de Saint John, au N.-B., battent leur plein. Le Comité organisateur prépare un congrès instructif de qualité supérieure et vous y attend en grand nombre.

### **Commanditaires et partenaires commerciaux**

- En qualité d'organisation à but non lucratif, l'ACITN dépend de ses commanditaires commerciaux

comme source de revenus complémentaire aux frais de cotisation pour maintenir la viabilité de ses projets importants. Nous profitons de l'occasion pour exprimer notre reconnaissance à nos commanditaires et partenaires commerciaux pour leur soutien continu à nos activités, incluant le Congrès annuel, le Journal ACITN et les programmes de prix et de bourses. Leur soutien fait toute la différence et contribue grandement à appuyer le travail que nous accomplissons à l'égard de nos membres et, au bout du compte, des patients atteints de maladie rénale chronique.

Respectueusement soumis par  
Alison Thomas,  
inf. (EC), M.Sc.Inf., CNéph(C),  
Présidente sortante

## **DID YOU KNOW...?**



### **Now it's even easier for you to get hold of the CANNT/ACITN National Office**

- 1) Call TOLL-FREE from anywhere in Canada/US: 1-877-720-2819 or local dial 705-720-2819
- 2) E-mail: [cannt@cannt.ca](mailto:cannt@cannt.ca)
- 3) Fax: 705-720-1451
- 4) Mail: 336 Yonge Street, Suite 322, Barrie, ON L4N 4C8

**STAY CONNECTED—WE'RE HERE TO HELP**





The CANNT 2009 Planning Committee invites you to attend the 41<sup>st</sup> annual CANNT conference being held in the beautiful coastal city of Saint John, New Brunswick.

In addition to education sessions boasting new and leading-edge topics, state-of-the-art exhibits, and fact-filled poster presentations.....

CANNT 2009 promises to provide you with an opportunity to learn from nursing, medical and motivational experts, as well as socialize with colleagues and corporate representatives.

**A few of the highlights of CANNT 2009 are:**

#### BILL CARR



Bill Carr, a well known east coast personality, is an actor, humorist, writer and motivational speaker. Bill's career as a motivational speaker has taken him across North America where he addresses major corporations, small business groups, educators, health care workers and all levels of government. His focus is on creativity and communication. Bill helps his audience to see "ordinary things in extraordinary ways" and inspires them to recreate their reality and work effectively in changing times. Bill believes passionately in the potential of his audiences. Through right thought, right action and the right of every individual to responsible freedom and justice, Bill believes anything is possible.

#### EVENING OF ENTERTAINMENT

One of the highlights of any CANNT conference is the Saturday "Evening of Entertainment". This year's 2009 event promises to be no exception. Following a delicious dinner, The Jimmy Flynn Show will entertain you with a high-energy blend of side-splitting comedy and popular music. For more than 30 years, Jimmy Flynn has been Canada's "Ambassador of Good Cheer." Dressed in his trademark red checkered shirt, yellow sou'wester and rubber boots, Jimmy takes the stage and erupts into volcanic comedy that melts the audience!



Tickets must be pre-ordered  
\$60 / person

#### LORI HARTWELL



Lori Hartwell has made a difference in the lives of thousands of people with chronic kidney disease. She is the model of living a fulfilling life despite chronic illness. In 1993, Lori - a 3 time kidney transplant recipient, founded the patient-run RENAL SUPPORT NETWORK

to instill "health, happiness and hope" into the lives of fellow patients. As author of "Chronically Happy - Joyful Living in Spite of Chronic Illness", Lori is a frequent guest speaker across North America. Lori's presentations provide motivation and education to healthcare professionals, patients and industry representatives and at CANNT 2009 will be speaking on the importance of organ donation and the factors of how transplantation saves people's lives.

#### **NEW!** DESSERTS, POSTERS & PATIENT PERSPECTIVE

CANNT 2009 is trying something new! Before heading out to enjoy Saint John's night life, delegates are encouraged to gather on Friday evening for a brief time of delectable desserts, interactive questions & answers with the poster presenters, and share in a message of hope delivered by a dialysis patient.

#### THE SIGHTS & SOUNDS of SAINT JOHN, NEW BRUNSWICK

There just aren't enough hours in your visit to experience all of the extraordinary features that make up Saint John, New Brunswick! From the exhilarating heights of the Bay of Fundy tides to the world famous Reversing Falls... Saint John is home to a host of natural wonders. Also in Saint John... journey through 350 million years of natural history in the New Brunswick Museum; explore the amazing Bay of Fundy ecosystem in the Irving Nature Park; take an invigorating walking tour of the oldest incorporated city in Canada; and shop at the historic Old City Market.



**SAINT JOHN**  
New Brunswick  
2009

Join CANNT 2009 delegates and experience the  
**"Greatest Little City in the East" - Saint John, New Brunswick!**  
[www.tourismsaintjohn.com](http://www.tourismsaintjohn.com) [www.tourismnewbrunswick.ca](http://www.tourismnewbrunswick.ca)

#### CANNT 2009 BROCHURE and ON-LINE REGISTRATION

are now available at

**[www.cannt.ca](http://www.cannt.ca).**

Hard copy brochures will be mailed to any member if specifically requested.

Please e-mail your name & address to:

**[hreid@innovcc.ca](mailto:hreid@innovcc.ca).**

We appreciate  
your assistance with this  
eco-friendly change!



15 au 18 OCTOBRE 2009 ~ SAINT-JEAN, NOUVEAU-BRUNSWICK



LORI HARTWELL



Lori Hartwell a fait la différence dans la vie de milliers de gens aux prises avec une néphropathie chronique. Elle est le modèle pour vivre une vie pleinement satisfaisante malgré une maladie chronique. En 1993, Lori – récipiendaire à trois reprises d'une transplantation de rein – a fondé le RENAL SUPPORT NETWORK administré par les patients pour inculquer « la santé, le bonheur et l'espoir » dans les vies de ses compagnons patients. Auteur de *Chronically Happy – Joyful Living in Spite of Chronic Illness*, Lori agit souvent comme conférencière à travers l'Amérique du Nord. Les présentations de Lori fournissent une motivation et une éducation aux professionnels des soins de santé, aux patients et aux représentants de l'industrie – et à la Conférence 2009 de l'ACITN, elle parlera de l'importance du don d'organe et des facteurs expliquant comment la transplantation sauve des vies.

**Nouveau!**

## DESSERTS, AFFICHES ET POINTS DE VUE DU PATIENT

La Conférence 2009 de l'ACITN propose de nouvelles activités! Avant de sortir pour profiter de la vie nocturne de Saint-Jean, les délégués sont invités à se rassembler vendredi soir pendant un court moment afin de goûter à des desserts délicieux, à participer à des questions et réponses interactives en compagnie des responsables des présentations par affiches et à échanger sur le message d'espoir présenté par un patient en dialyse.

## LES SONS ET LUMIÈRES DE SAINT-JEAN, NOUVEAU-BRUNSWICK

Au cours de votre visite, vous n'aurez tout simplement pas assez d'heures pour faire l'expérience extraordinaire de tout ce qui se passe à Saint-Jean, Nouveau-Brunswick! De la hauteur grisante des vagues de la baie de Fundy aux chutes réversibles reconnues mondialement -- Saint-Jean possède tout un éventail de merveilles naturelles. Aussi à Saint-Jean... un voyage à travers 350 millions d'années d'histoire naturelle au Musée du Nouveau-Brunswick; explorez l'écosystème incroyable de la baie de Fundy aux Réserves naturelles Irving; participez à la tournée à pied vivifiante de la plus ancienne cité constituée au Canada; et magasinez au Marché de la vieille ville.



**SAINT-JEAN**  
Nouveau-Brunswick  
2009

En somme... joignez-vous aux délégués de la Conférence 2009 de l'ACITN et découvrez la « **plus grande petite ville dans l'Est** » – **Saint-Jean, Nouveau-Brunswick!**  
[www.tourismsaintjohn.com](http://www.tourismsaintjohn.com) [www.tourismnewbrunswick.ca](http://www.tourismnewbrunswick.ca)

Le comité de planification vous invite à assister à la 41<sup>e</sup> Conférence de l'ACITN qui aura lieu dans la magnifique ville côtière de Saint-Jean au Nouveau-Brunswick.

En plus des séances d'éducation sur des sujets nouveaux et de pointe, il y aura des expositions d'avant-garde et des présentations sur affiches remplies de faits....

La Conférence 2009 de l'ACITN promet de vous fournir la possibilité d'apprendre des experts des soins infirmiers, de la médecine et des conférenciers motivationnels, ainsi que de socialiser avec des collègues et des représentants d'entreprises.

## Voici les temps forts de la Conférence 2009 de l'ACITN:

### BILL CARR



Personnalité bien connue de la Côte Est, Bill Carr est acteur, humoriste, écrivain et conférencier motivationnel. La carrière de Bill comme conférencier motivationnel l'a emmené partout en Amérique du Nord où il présente des conférences pour des employés de grandes entreprises, des groupes de petites entreprises, des éducateurs, des travailleurs des soins de santé et de tous les niveaux de gouvernement. Il place l'accent sur la créativité et la communication. Bill aide son public à voir « les choses ordinaires de façons extraordinaires » et inspire les gens à recréer cette réalité et à travailler efficacement en époque d'évolution. Bill croit passionnément au potentiel de ses publics. Grâce à la bonne pensée, à la bonne action et au droit de chaque personne d'être responsable de la liberté et de la justice, Bill croit que tout est possible.

### SOIRÉE DE DIVERTISSEMENT

Une des activités spéciales de toutes les conférences de l'ACITN est la « Soirée de divertissement » le samedi soir. L'événement de cette année ne fera pas exception à la règle. À la suite d'un délicieux souper, le Spectacle de Jimmy Flynn vous divertira en vous proposant à un éventail très énergique de cocasseries délirantes et de musique populaire. Depuis plus de 30 ans, Jimmy Flynn est « l'ambassadeur du bon temps » au Canada. Vêtu de sa chemise rouge à carreaux caractéristique, de son surbit et de ses bottes en caoutchouc, dès son entrée sur scène, Jimmy présente un spectacle de comédie volcanique qui fait fondre le public!



Les billets doivent être commandés à l'avance  
60 \$ / personne.

### L'INSCRIPTION EN LIGNE

sera possible à [www.cannt.ca](http://www.cannt.ca) à compter du 1<sup>er</sup> juin.

Les dépliants seront envoyés par la poste à tous les membres actuels de l'ACITN et distribués aux unités de dialyse à travers le pays.

Veuillez communiquer avec [hreid@innovcc.ca](mailto:hreid@innovcc.ca) si vous ne recevez pas de dépliant ou si vous voulez des copies supplémentaires!



# CANNT Bursaries, Grants & Awards of Excellence

New for 2009!

Amgen Canada Travel, Research & Preceptorship/Mentorship Grants

---



## **Deadlines:**

**June 1, 2009: Amgen Grants**

**June 15, 2009: CANNT Awards of Excellence, Bursaries & Grant**

This year, additional opportunities in awards, bursaries and grants are available to CANNT members.

Also, take the opportunity to recognize a colleague or two for their excellent and outstanding work in the field of nephrology nursing or technology. Nominate a fellow nephrology professional who makes a difference in your workplace. If selected they will receive verbal recognition at the CANNT Annual General Meeting in St. John, New Brunswick, a plaque to commemorate the award, and a monetary reward.

Go to [www.cannt.ca](http://www.cannt.ca) for more detailed information about the opportunities available.



# Bourses, subventions et prix d'excellence de l'ACITN/CANNT

## Du nouveau pour 2009 !

### Subventions d'Amgen Canada pour le déplacement, la recherche et le préceptorat/mentorat

---



Cette année, l'ACTIN/CANNT offre de nouveaux programmes de bourses, de subventions et de prix d'excellence à ses membres.

**Dates limites  
des mises en candidature :**

**Le 1<sup>er</sup> juin 2009 :**  
Subventions d'Amgen

**Le 15 juin 2009 :** Bourses, subven-  
tions et prix d'excellence  
de l'ACITN/CANNT

Nous vous invitons également à profiter de l'occasion pour reconnaître un ou deux collègues pour leur excellent travail et leur contribution exceptionnelle au domaine des soins infirmiers ou de la technologie en néphrologie. N'hésitez pas à soumettre la candidature de professionnels œuvrant en néphrologie qui font la différence dans votre milieu de travail—les lauréats recevront une reconnaissance verbale à l'Assemblée générale annuelle de l'ACITN/CANNT, qui aura lieu à Saint John, au Nouveau-Brunswick, ainsi qu'une plaque commémorative et une récompense en argent.

Allez à [www.cannt.ca](http://www.cannt.ca) pour obtenir de plus amples renseignements sur les programmes offerts.

# World Kidney Day / la Journée Mondiale du Rein

## March 12, 2009 / le 12 mars 2009

On March 12, 2009, World Kidney Day, the renal program staff at Providence Health Care's St. Paul's Hospital Site, Vancouver, B.C., joined together to celebrate the day by painting "Kidney Art", an artistic multidisciplinary team collaboration. The artwork will hang in the patient waiting areas in the outpatient nephrology clinics and hemodialysis unit. Refreshments and cake helped sweeten the occasion. The British Columbia Renal Agency generously supplied World Kidney Day t-shirts, pens and post-it notes. Hemodialysis nurses Diane Lum and Leo Vergara graciously posed with the resulting artwork. Lots of laughter and a good time were had by all participants.

Submitted by Maureen Donnelly, RN, CNeph(C),  
Coordinator, Renal Program St. Paul's Hospital,  
Providence Healthcare, Vancouver, B.C.



Leo Vergara (left) and Diane Lum hold the "Kidney Art" created by the multidisciplinary nephrology team at Providence Health Care, St. Paul's Hospital Site, Vancouver, B.C.

The Dr. G.L. Dumont Regional Hospital in Moncton, N.B., with the generous help of Ms. Jackie Victor from Genzyme, celebrated World Kidney Day by offering hemodialysis patients a light, low-phosphorus snack and having a display showcasing low-phosphorus items. This activity was well received and we plan to continue the next year.

L'Hôpital régionale Dr. G.L. Dumont de Moncton, N.-B., avec l'aide généreuse de Madame Jackie Victor de Genzyme a célébré la Journée Mondiale du Rein en offrant aux patients d'hémodialyse un léger goûter en faible teneur en phosphore. De plus, un kiosque d'information alimentaire sur les produits en faible teneur en phosphore a aussi été rendu visible. Les patients ont beaucoup apprécié cette activité et l'équipe souhaite répéter celle-ci l'année prochaine.



From left to right: Denise Gaudet, Administrative Program Director/Directrice Administrative, Gina McGraw, Dietitian/Diététiste, Melissa Couture, Dietitian/Diététiste, Jackie Victor, Genzyme, Nadine Lewis, Dietitian/Diététiste, Chantal Saumure, Nurse Manager Hemodialysis/Infirmière gestionnaire hémodialyse.

### Kellogg's Crispix Krispies Original Mix

6 cups (1.5 L)	Kellogg's Crispix Krispies cereal
1 cup (250 ml)	Unsalted pretzels
4 cups (1000 ml)	Unsalted popped popcorn
2 tbsp (30 ml)	Butter or margarine
¼ tsp (1 ml)	Garlic powder
¼ tsp (1ml)	Onion powder
2 tsp (10 ml)	Lemon juice
1 tbsp (15 ml)	Worcestershire sauce

### Mélange Crispix Krispies original de Kellogg

6 tasses (1.5 L)	Céréales Crispix Krispies de Kellogg
1 tasse (250 ml)	Pretzels non-salés
4 tasses (1000 ml)	Maïs soufflé non-salé
2 c.à soupe (30 ml)	Beurre ou margarine
¼ c. à thé (1 ml)	Poudre d'ail
¼ c. à thé (1ml)	Poudre d'oignon
2 c. à thé (10 ml)	Jus de citron
1 c. à table (15 ml)	Sauce Worcestershire

*Recipe courtesy of the Hemodialysis Unit, the Dr. G.L. Dumont Regional Hospital in Moncton, N.B.*



# Chronic kidney disease: What's in a name?

By Jane Ridley, RN(EC), MScN, CNeph(C), Janet Baker, RN, BN, CNeph(C), Cynthia Mills, RN, BN, CNeph(C), Mary Ann Murray, RN, MScN, PhD(c), CON(C), GNC(C), CHPCN(C), and Elizabeth Ton, RN, BScN

## Abstract

*There is a lack of precision and clarity in the terms used to describe chronic kidney disease (CKD). Inconsistent terminology is confusing for both practitioners and patients. The purpose of this article is to review and examine various terms used to label CKD and to propose an evidence-based recommendation to support the use of a standard terminology for CKD.*

**Key terms:** chronic kidney disease, chronic renal insufficiency, progressive renal insufficiency, end stage renal disease

"What's in a name?" Shakespeare posed this question in reference to a rose; we pose it in reference to chronic kidney disease (CKD). The clinical language of CKD is riddled with imprecision. Inconsistent use of CKD terminology is confusing for both practitioners and patients. Currently, numerous terms are used interchangeably with CKD: chronic renal insufficiency (CRI), progressive renal insufficiency (PRI), and end stage renal disease (ESRD) are among the most common. While these terms are used interchangeably, the intended meanings may not be synonymous with one another. For example, the term ESRD can be applied in several ways. Some people use it interchangeably with CKD when referring to the continuum of renal disease. Others use the term

to describe the fifth and final stage of the disease, as per the National Kidney Foundation-Kidney Disease Outcomes Quality Initiative (NKF-KDOQI) staging system (see Table One). In the United States, the term ESRD is often used to refer to individuals who are on dialysis or have received a transplant, regardless of the "stage" of their kidney disease (Levey et al., 2002). Terms such as pre-ESRD and pre-PRI also appear in the literature. Given the lack of consistency described previously, these labels simply add to the complexity of the problem.

Inconsistent terminology and the lack of a standardized classification system for patients with chronic kidney disease create problems not only in identifying and staging renal disease, but also in interpreting and generalizing research (Levin, 2003). In response, proponents of the NKF-KDOQI Guidelines support the adoption of clear terminology and a consistent staging system, arguing that this is essential for communication, education, and dissemination of research (Levey et al., 2002). Standardized definitions combined with a consistent staging system are needed to foster effective communication between patients, clinicians, researchers, educators and policymakers. Establishment of a commonly accepted CKD taxonomy is an important step in advancing scientific inquiry and identifying research gaps, facilitating the dissemination of more interpretable information and offering opportunities to improve the quality of care delivery and clinical practice (Levey et al., 2002; Levin, 2003).

What *is* in a name? This question can be addressed through close examination of the language associated with chronic kidney disease. This process marks the first stage of concept analysis: A process used to examine, clarify, and define/refine characteristics of a concept with the intent of identifying precise, operational definitions (Walker & Avant, 2005).

Jane Ridley, RN(EC), MScN, CNeph(C), Nurse Practitioner, University Hospital, London Health Sciences Centre, London, ON

Janet Baker, RN, BN, CNeph(C), Nurse Clinician, Kidney Function Clinic, Halton Healthcare Services Corporation, Oakville, ON

Cynthia Mills, RN, BN, CNeph(C), Professional Practice Leader/Clinical Educator, Renal Unit, Hôtel-Dieu Grace Hospital, Windsor, ON

Mary Ann Murray, RN, MScN, PhD(c), CON(C), GNC(C), CHPCN(C), Doctoral Candidate, University of Ottawa, Ottawa, ON

Elizabeth Ton, RN, BN, Staff Nurse ER-OBS, Halton Healthcare Services, Oakville Trafalgar-Memorial Hospital, Oakville, ON

Address correspondence to: Jane Ridley, RN(EC), MScN, CNeph(C), Nurse Practitioner, University Hospital, London Health Sciences Centre, 339 Windermere Road, London, ON N6A 5A5. E-mail [jane.ridley@lhsc.on.ca](mailto:jane.ridley@lhsc.on.ca)

Submitted for publication: February 10, 2009.

Accepted for publication in revised form: May 15, 2009.

**Table One: Stages of chronic kidney disease (Levin, 2003)**

Stage	Description	GFR (ml/min/1.73m <sup>2</sup> )
1	Kidney damage with normal or increased GFR	> 90
2	Kidney damage with mild decrease GFR	60–90
3	Moderate decrease GFR	30–60
4	Severe GFR	15–30
5	Kidney failure	< 15
Note: GFR = glomerular filtration rate		

## Definitions of terms

We examined the definitions of the various labels used to describe chronic kidney disease and their elements from both layperson and health care perspectives. The terms examined were: CKD, CRI, PRI, and ESRD. To identify definitions of these terms, a Google search was undertaken. The search generated 10,200,000 hits for chronic kidney disease, 804,000 for progressive renal insufficiency, 755,000 for end stage kidney disease and 368,000 for chronic renal insufficiency. Review of the first few pages for each item confirmed the difficulty in finding meaningful and consistent definitions despite the considerable interest in the topic of CKD and the growing number of patients living with this clinical situation. An examination of the origins and uses of the components of these terms follows.

### Kidney versus Renal

"The word 'kidney' is of Middle English origin and is easily understood by patients, their families, providers, health care professionals, and the lay public of native English speakers. On the other hand, 'renal' and 'nephrology', derived from Latin and Greek roots, respectively, commonly require interpretation and explanation" (Levey et al., 2002, S19).

### Chronic versus Progressive

The word "chronic" is an adjective defined as "persisting for a long time, usually associated with an illness or a personal or social problem; and having a chronic complaint (Metcalf et al., 2003, p. 152). A chronic illness is defined as being persistent, long-standing and incurable (Hollingworth & Marshall, 2005, p. 123). In medical terms, "chronic" is also defined as persisting for a long time (O'Toole et al., 1992, p. 305; Pugh et al., 2000, p. 348). The term is applied to a drawn-out state—showing little change or extremely slow progression over a long period (O'Toole et al., p. 305). In lay terms, "progressive" is defined as moving forward, as with a progressive motion; proceeding step-by-step; cumulative; and of a disease increasing in severity or extent (Metcalf et al., p. 652). The associated term of "progress" is defined in positive terms—a forward or onward movement, betterment, and improvement (Metcalf et al., p. 652). However, thesauri cite less optimistic definitions. Progress can be considered a movement in time, as with the progress of a disease (Kay et al., 1988, p. 581). "Progression" can have a negative connotation, as with escalation and progressive deterioration (Hollingworth & Marshall, p. 653). In medical terms, "progressive" and "to progress" refer to the advancing course of a disease, particularly with an unqualified or an unfavourable course (Pugh et al., p. 1454).

### Disease, Failure, and Insufficiency

In lay terms, a "disease" is an unhealthy condition of the body or mind; a particular kind of disease with special symptoms or location. Similarly, the term "diseased" refers to being affected with disease; abnormal, or disordered (Metcalf et al., 2003, pp. 233–234).

The thesaurus defines "disease" as a noun denoting "a kind or instance of impairment of a living being that interferes with normal bodily function" (Kay et al., 1988, p. 219). Synonymous terms include affection, ailment, complaint, condition, disorder, ill, infirmity, malady, sickness, and syndrome

(Hollingworth & Marshall, 2005, p. 221; Kay et al., p. 219). Words related to "disease" include: pathological, epidemiology, pathology, therapeutics, and pathophobia. As an adjective, "diseased" is defined as unhealthy, ill, sick, ailing, bad and abnormal (Hollingworth & Marshall, p. 222).

From the medical/health care perspective, "disease" is literally "dis" "ease"—the opposite of ease, as when something is wrong with a bodily function (Pugh et al., 2000, p. 509). A disease is a pathological process with a characteristic set of signs and symptoms affecting either the entire body or any of its parts. Its etiology, pathology, and prognosis may be known or unknown (O'Toole et al., 1992, p. 433). The term is synonymous with illness, disease, and sickness. A disease is usually characterized by at least two of the following criteria: Recognized etiological agent(s), identifiable group of signs and symptoms, or consistent anatomic alterations (Pugh et al., p. 509). The term "syndrome" is sometimes used in conjunction with "disease". A syndrome is "the aggregate of symptoms and signs associated with any morbid process, and constitution together the picture of the disease" (Pugh et al., p. 1746).

The term "failure" has numerous definitions and connotations. The most applicable to this analysis of CKD terminology is that of breaking down or ceasing to function (as in heart failure). Failure has also been defined as lack of success, non-performance, and nonoccurrence (Metcalf et al., 2003, p. 287). Thesauri definitions of "failure" include: failure of performance; a state of inadequacy (Kay et al., 1988, p. 296); a malfunction or breakdown (Hollingworth & Marshall, 2005, p. 293). The term is synonymous with deficiency, deficit, inadequacy, insufficiency, debilitation, and enfeeblement (Kay et al., p. 296).

"To fail" is to become weaker, cease functioning, to be or become insufficient (Metcalf et al., 2003, p. 287). The thesaurus further defines "fail" as losing strength, power, vitality or intensity. The term "to fail" is synonymous with decline, deteriorate, fade, languish, and weaken. Common idioms include: "Going downhill" and "Hitting the skids" (Kay et al., 1988, p. 296). "To fail" is also defined as becoming less than adequate, to wane, deteriorate, dwindle, or waste away (Hollingworth & Marshall, 2005, p. 293; Kay et al., p. 296).

In medicine and health care, "failure" is considered the inability to perform or to function properly (O'Toole et al., 1992, p. 540); the state of insufficiency or non-performance (Pugh et al., 2000, p. 646). Kidney or renal failure is defined as the loss of renal function, either acute or chronic, that results in azotemia and syndrome of uremia (Pugh et al., p. 646).

In lay terms, "insufficiency" or "insufficient" is defined as inadequacy (Metcalf et al., 2003, p. 421), failure, deficiency, deficit, and limited (Hollingworth & Marshall, 2005, p. 447; Kay et al., 1988, p. 421). Medically speaking, "insufficiency" refers to the inability to perform an allotted function properly (O'Toole et al., 1992, p. 776) and a lack of completeness of function or power (Pugh et al., 2000, p. 907). Renal insufficiency is defined as "defective function of the kidneys, with accumulation of waste products (particularly nitrogenous) in the blood" (Pugh et al., p. 908).

The term "end stage" does not appear as such in standard reference texts. It has, therefore, been broken down into its component parts for the purpose of this analysis.



The term “end” is associated with finality—extreme limits; conclusion, the latter or final part; death, destruction, and downfall; a result or outcome; an ultimate state or condition (Metcalf et al., 2003, p. 268). The thesauri cite “end” as a noun denoting the conclusion, termination, culmination, death, demise, and doom (Hollingworth & Marshall, 2005, p. 262); and a verb synonymous with to conclude, finish, terminate, stop, and cease (Hollingworth & Marshall, p. 262; Kay et al., 1988, p. 261).

The *Oxford Dictionary* provides several associated phrases: “*At an end*” and “*To come to an end*” denote exhaustion or completion. “*The end of the road*” is the point at which a hope or endeavour has to be abandoned. “*To end up*” is to reach a specified state, action, or place eventually. And, “*In the End*” indicates finally or after all (Metcalf et al., 2003, p. 268).

In medicine, “end” is defined in more anatomical terms: “an extremity, or the most remote point of an extremity” (Pugh et al., 2000, p. 589). The term “ending” is more applicable to this analysis, indicating “a termination or conclusion” (Pugh et al., p. 590).

In lay terms, “stage” refers to a point or period in a process or development (Metcalf et al., 2003, p. 806); a degree, grade, or notch related to a phase, level, period juncture, or moment (Hollingworth & Marshall, 2005, p. 788; Kay et al., 1988, p. 715). Medically speaking, a “stage” is a definite period or distinct phase; the extent of involvement of a disease process (O’Toole et al., 1992, p. 1407; Pugh et al., 2000, p. 1683). The term “period” is also used in reference to a stage of a disease (Pugh et al., p. 1349). Staging is the determination or classifications of distinct phases or periods in the course of a disease (O’Toole et al., p. 1407; Pugh et al., p. 1683); the determination of the specific extent of a disease process in an individual (Pugh et al., p. 1683).

### The patient perspective

There is little evidence in the literature regarding patients’ perceptions of the language of CKD. Several years

ago, the nurse clinician at one nephrology program in the Greater Toronto Area noticed that patients frequently commented on the name of the clinic in a manner indicating that they did not understand the name or were distressed by it. She was concerned that patients and families did not fully understand either the name or the purpose of the PRI clinic. To identify and clarify the extent of the problem, she conducted a small informal survey of the clinic’s patients and staff (see Table Two).

Patients were invited to participate in the survey when they attended the clinic. Staff members were also asked to complete the survey. A box for responses was placed in a central area in the clinic. Identifying information was not collected, so the differences between staff and patient responses could not be distinguished. A total of 53 individuals were surveyed—48 patients and five staff. The response rate was 94%. Following review of the survey results (see Table Two) the clinic was subsequently renamed the Kidney Function Clinic. It was felt that this title clearly articulated the role of the clinic and was less overwhelming for patients. Interestingly, feedback received in the survey indicated that the term CKD Clinic was viewed negatively by some patients.

Caution must be taken in generalizing these survey results, given the small sample size. However, the combination of lack of patient opinion available in the literature and the findings reported here suggest confusion around the labels that are used and their meaning to lay persons. As well, it would seem that patients assign negative or positive attributes to terms suggesting that social constructions of terms are important to acknowledge.

### The case for “CKD”

The Kidney Foundation of Canada (KFOC), the National Kidney Foundation (NKF), and the Canadian Society of Nephrology (CSN) use the term “CKD” in their communications and correspondence. Use of the term CKD rather than PRI, CRI, or ESRD more closely describes the condition

**Table Two: Survey results re: Potential clinic names. n = 50**

Name	Votes	Comments
Kidney Care Clinic	2	The name was deemed “too cutesy” and patronizing.
Renal Care Clinic	7	It was apparent that the term “renal” was problematic. One respondent asked, “What is ‘renal?’” Despite the professional sounding title, there was concern that adopting this name would not likely enhance patients’ understanding of the nature of either their conditions or the clinic.
Kidney Function Clinic	39	This title provided clarity for the patients with regards to why they were coming to the clinic. The terminology was deemed clear and didn’t “sound scary” to the patients. The staff felt that it clearly stated the function of the clinic.
Progressive Renal Insufficiency	0	No one wished to keep the clinic’s original name.
Chronic Kidney Disease Clinic	2	This term was viewed negatively by some of the patients: “I don’t like to think of this as never going away.” “Chronic has a negative implication.” “Sounds too serious.” “Chronic sounds bad—I already have enough health problems.”

affecting renal function. Particularly CKD refers to a persistent and long-standing pathology that cannot be cured, but can be diagnosed, staged and managed. As well, use of the term CKD avoids some confusion that can result from the use of terms such as ESRD where patients may erroneously believe that this refers to the end of their lives, as opposed to the end of their kidneys' lives. Diagnosis with chronic kidney disease is the beginning of a life-long journey and, therefore, the language used by health care providers must be clear and consistent. Patients have enlightened us with their thoughts

about the use of terminology commonly used by nephrology health care providers. As we strive to provide best practice based on the available evidence, it behooves us to promote the adoption of a standardized taxonomy for chronic kidney disease. We support the use of the term chronic kidney disease as a starting point. This preliminary work provides a sound beginning to undertake a full concept analysis of the term CKD in order to promote a shared understanding of this complex clinical phenomenon.

## References

- Hollingworth, L., & Marshall, D. (2005). In M. Waite (Ed.), **Oxford compact thesaurus**. NY: Oxford University Press.
- Kay, M.W. (Ed). (1988). **Webster's collegiate thesaurus**. Springfield: Merriam-Webster.
- Levey, A.S., Coresh, J., Balk, E., Kausz, A.T., Levin, A., Steffes, M.W., et al. (2002). Clinical practice guidelines for chronic kidney disease: Evaluation, classification, and stratification. **American Journal of Kidney Diseases**, 39(2), S1–S266.
- Levin, A. (2003). The advantage of a uniform terminology and staging system for chronic kidney disease. **Nephrology Dialysis Transplantation**, 18, 1446–1451.
- Metcalf, J. (Ed). (2003). **Illustrated Oxford dictionary**. NY: DK Publishing Inc.
- O'Toole, M. (Ed). (1992). **Miller-Keane encyclopedia and dictionary of medicine, nursing, and allied health** (5th ed.). Toronto: WB Saunders.
- Pugh, M.B. (Ed). (2000). **Stedman's medical dictionary** (27th ed.). NY: Lippincott, Williams, & Wilkins.
- Walker, L.O., & Avant, K.C. (2005). **Strategies for theory construction in nursing** (4th ed.). NJ: Pearson Prentice Hall.

### Appendix A. Clinic Survey

We are evaluating the name of our clinic and need your help. We are now called the Progressive Renal Insufficiency Clinic. It would be much appreciated if you would take a moment and answer a few questions in order to help us. We have included a few new possible names and would like you to vote on your favourite, as well as telling us why you chose the one you did and any thoughts you have on any of the other suggested names. Below are some suggested names, just check the one you think best describes the clinic and what we do, and feel free to tell us why you chose it and not the others.

Suggested Name	Use "X" to mark your choice	Comments, suggestions, thoughts
Kidney Care Clinic		
Renal Care Clinic		
Kidney Function Clinic		
Progressive Renal Insufficiency Clinic		
Chronic Kidney Disease Clinic		



# Impact of single-needle therapy in new chronic hemodialysis starts for individuals with arteriovenous fistulae

By Barbara Wilson, RN, MScN, CNeph(C), Lori Harwood, RN, MSc, CNeph(C), and Bonita Thompson, RN, BA

## Abstract

The native arteriovenous fistula (AVF) is the “gold standard” for hemodialysis (HD) vascular access. Unfortunately, AVFs can develop complications including inadequate maturation, cannulation difficulties and needle infiltration. In an effort to increase successful cannulations, decrease complications and subsequent central venous catheter (CVC) use, our centre introduced single-needle (SN) dialysis in April 2006 for new chronic patients receiving their first six HD treatments. The purpose of this study was to evaluate the impact of implementing SN dialysis on the incidence of CVC placements, investigative procedures required (e.g., arteriography), and missed HD treatments within the first three months of commencing dialysis. A secondary objective was to compare these data with double-needle (DN) dialysis treatments from the previous year. Retrospective chart reviews were conducted for all new chronic HD outpatient starts from April 2005 to 2006 for patients using DN dialysis and from April 2006 to November 2007 for those using SN. Information gathered included demographic data, location and vintage of the AVF, laboratory parameters, frequency of CVC placements, arteriography, and missed HD treatments due to cannulation difficulties. In total, data pertaining to 11 DN and 22 SN patients were collected. Of the 11 DN patients, 2 (18.2%) required a CVC placement in the first three months of treatment as compared to 2 (9.1%) using SN dialysis. Similarly, arteriographic investigations of the AVF were required in 4 (36.4%) DN versus 3 (13.6%) SN patients. There were a total of 19 missed treatments (8 DN; 11 SN). Dialysis blood work results were within safe and acceptable levels for those receiving SN dialysis.

Use of SN dialysis for the first six HD treatments resulted in fewer mean CVC placements and investigations while maintaining adequate laboratory parameters. These results lend support for further research in this area.

**Key words:** arteriovenous fistula, hemodialysis, single needle, double needle, central venous catheter placements

## Introduction

Vascular access is referred to as the “lifeline” for individuals receiving hemodialysis. Clinical practice guidelines in both the U.S. and Canada recommend the native arteriovenous fistula (AVF) as the preferred access for patients requiring chronic hemodialysis (HD) (Jindal et al., 2006; National Kidney Foundation (NKF), 2006). Use of the AVF as initial access for long-term HD therapy is associated with better survival as compared to individuals using central venous catheters (CVCs) at HD initiation (Astor et al., 2005; Polkinghorne, McDonald, Atkins, & Kerr, 2004; Xue, Dahl, Ebben, & Collins, 2003). There is a higher relative risk of bacteremia with CVC catheter use than with the AVF (Hoen, Paul-Dauphin, Hestin, & Kessler, 1998). There is also some suggestion that initiation of HD with an AVF and its continued use early in end stage renal disease (ESRD) may be associated with the perception of improved health status and quality of life as compared to those using CVCs at HD initiation (Wasse, Kutner, Zhang, & Huang, 2007). Despite the existence of guidelines and the evidence to date, AVF use in Canada remains lower than the Canadian Society of Nephrology’s Clinical Practice Guidelines for Vascular Access recommend (Jindal et al., 2006; Mendelssohn, 2006). DOPPS II data reported AVF use in Canada between 2002 and 2004 was 53% in prevalent patients and only 26% in incident patients. Furthermore, a recently published review of data from the Canadian Organ Replacement Registry (CORR) from 2001 to 2004 demonstrated an increase in incident catheter use from 76.8% to 79.1% with a decrease in AVF use from 21.6% to 18.6% over the same time period (Moist, Trpeski, Na, & Lok, 2008).

Unfortunately, despite the long-term benefits of AVF use, complications can occur such as inadequate maturation, cannulation difficulties and subsequent needle infiltration. Substantial clinical consequences can occur as a result of AVF infiltrations. In one study, major AVF infiltrations resulted in an average of 2.4 subsequent diagnostic evaluations, surgical appointments or further interventions on the fistula (Lee, Barker, & Allon, 2006). Furthermore, 26% of the infiltrations in this study were associated with subse-

Barbara Wilson, RN, MScN, CNeph(C), Advanced Practice Nurse, Adam Linton Dialysis Unit, London Health Sciences Centre (LHSC), London, ON.

Lori Harwood, RN, MSc, CNeph(C), Advanced Practice Nurse, London Health Sciences Centre, London, ON.

Bonita Thompson, RN, BA, Former Vascular Access Coordinator, Renal Program, London Health Sciences Centre, London, ON.

Address correspondence to: Barbara Wilson, RN, MScN, CNeph(C), Advanced Practice Nurse, Adam Linton Dialysis Unit, London Health Sciences Centre (LHSC), Room A2-335, 800 Commissioner’s Road East, London, Ontario, N6A 5W9. E-mail: [barb.wilson@lhsc.on.ca](mailto:barb.wilson@lhsc.on.ca)

Submitted for publication: February 22, 2009.

Accepted for publication in revised form: May 13, 2009.

quent fistula thrombosis (Lee et al., 2006). Needle infiltration was more common in older patients and in those with new fistulae.

Clearly, steps aimed at reducing AVF complications and improving the success of cannulation, particularly at the onset of HD, would seem to be worthwhile both from a patient and health care system perspective. In an effort to decrease the frequency of AVF complications at dialysis initiation, our HD centre implemented a program in April 2006, which comprised single-needle (SN) dialysis for new chronic patients receiving their first six HD treatments.

## Literature review

Single-needle HD involves the removal and return of blood during dialysis through the same needle. This technique was first introduced by Kopp, Gutch, & Kolff (1972) as an alternative to the conventional two-needle HD system. In conventional HD, there is uninterrupted flow of blood through the dialysis circuit. In contrast, blood flow during SN dialysis is discontinuous such that there is alternate inflow and outflow of blood through the HD circuit (Blumenthal, Ortiz, Kleinman, & Piering, 1986). While there are a number of systems available, general principles include the use of a single HD needle connected by a Y junction to both the arterial and venous lines. Blood is circulated through the system by alternating the occlusion of these lines (Martin, Harston, Segasby, & Black, 1978).

Single-needle dialysis has been used in a number of countries since the 1970s. Proponents of SN maintain that this method of dialysis has a number of benefits for patients resulting from fewer needle sticks, including less discomfort during cannulation and decreased risk of AVF damage from repeated cannulation (Martin et al., 1978; Vanholder, Hoenich, & Ringoir, 1987). SN can also be advantageous when vascular access complications present temporary and reversible difficulties, for example, in situations where insertion of two needles would be difficult (Vlassopoulos et al., 2004). SN is also commonly used in nocturnal home hemodialysis programs, resulting in adequate dialysis (Harwood & Leitch, 2006). Despite these reported benefits, there is low utilization of SN in many countries including North America. This may be attributed to a number of factors including lack of knowledge regarding the technique, the reluctance to try new techniques among some centres, and a concern that SN dialysis does not provide adequate clearance (Vanholder et al., 1987). Such concerns regarding low dialysis efficiency have been attributed to limited blood flow with SN dialysis, high recirculation rate, and shortened diffusion time due to the alternating of arterial and venous flows (Vlassopoulos et al., 2004).

Another concern that has been attributed to SN HD is the high incidence of symptomatic hemolytic episodes in patients on SN dialysis as indicated by increased levels of post-dialysis lactate dehydrogenase (LDH) and clinical presentation of nausea, abdominal/back pain, and hypotension during the last hour of HD, as reported by Dhaene et al. (1989). Their study included a prospective analysis comparing SN and DN HD treatments after elimination of more common causes of hemolysis. The authors reported that episodes of hemolysis

were more common in those who received SN HD and hypothesized that the high blood flow rates of SN may contribute to higher shear stresses on the red blood cells than in those receiving DN HD. Similar findings have been reported by Hombrouckx et al. (1990), where the authors described a number of atypical symptoms and elevations in LDH experienced by five elderly patients receiving SN HD using an AVF. These symptoms were reported as being strongly suggestive of hemolysis secondary to red cell fragmentation and were markedly reduced once patients were switched to central catheter HD.

Early studies from the 1970s were focused predominantly on the procedure and equipment of SN HD. To date, clinical outcome data specific to the efficacy of SN HD are limited to only a few studies. An early study by Vanholder et al. (1987) reported on a number of outcomes of dialysis adequacy for 76 patients receiving long-term SN HD. The authors reported HD adequacy as calculated by mean  $Kt/V$  to be  $0.98 \pm 0.23$ , which they reported to be comparable to DN studies at that time. Recirculation based on plasma urea was calculated to be  $14.4\% \pm 5.6\%$ . Other clinical parameters including hematocrit and nerve conduction velocity during the two years of follow-up period were also measured. A five-year fistula survival rate was reported as 74% and a five-year cumulative patient survival rate was 64% for the period 1975 to 1985 and 79% from 1980 to 1985. The authors concluded that urea kinetic data and other parameters of HD adequacy were consistent with studies of patients using the standard DN technique, provided there was adequate fistula and dialyzer blood flow during the SN treatments.

Further support for SN dialysis in terms of fistula survival and rates of fistula-related complications is reported in an earlier study of 79 hospital and home-based HD patients (hospital HD  $n=65$ ; home HD  $n=14$ ) receiving three times weekly SN treatments on a long-term basis (De Clippele, Vanholder, De Roose, Derom, & Ringoir, 1983). The average length of follow-up per patient was  $33.5 \pm 3.7$  months for hospital HD and  $70.1 \pm 5.9$  months for the home HD patients studied. The fistula survival rate was 85% after five years and the most frequently reported complication for both groups was thrombosis. The authors concluded that the fistula survival rates observed using long-term SN were comparable to results of studies using DN HD.

A more recent study examined measures of dialysis adequacy ( $Kt/V$ , per cent recirculation) laboratory parameters (calcium, phosphorus, hematocrit, LDH), as well as rates of complications and adverse events in a group of 10 stable patients receiving chronic HD (Trakarnvanich, Chirananthavat, Maneerat, Chabsuwan, & Areeyakulnimit, 2007). The sample consisted of patients who routinely used two or three times weekly DN HD and were switched to SN dialysis for three consecutive dialysis treatment times (4, 4.5, 5 hours, respectively), for three weeks in each phase of the study. Dialysis frequency was unchanged from their conventional DN HD routine. Mean blood flow was maintained at approximately 300 ml/min throughout the study. Outcomes examined were measured at the start and end of each study phase. Results demonstrated that only those patients receiving three times weekly SN dialysis had acceptable mean  $Kt/V > 1.2$  per session. Access



recirculation, while greater in the SN group as compared to DN, was still below 10% in 90% of all cases. Laboratory parameters were comparable between SN and DN HD groups. The authors concluded that three times weekly SN dialysis for four hours per session had the same efficacy as conventional DN HD with no more adverse events.

Vlassopoulos et al. (2004) studied the effects of hemoglobin normalization and higher dialysate flow on HD efficiency, and compared results between DN and SN modalities in a group of 17 patients receiving chronic HD over a period of 48 months. Results indicated that regardless of hemoglobin level or use of high dialysate flow, dialysis dose delivered was significantly lower in those receiving SN and that results obtained were markedly lower than published guidelines for dialysis adequacy (NKF, 1997).

In summary, while long-term use of SN may be fraught with concerns of inadequate dialysis, anecdotal evidence would suggest that there may be benefit to using SN in the short term. However, thorough evaluation of short-term use of SN dialysis, particularly at the initiation of chronic HD, is lacking.

## Purpose

The purpose of this study was to evaluate the impact of implementing SN dialysis for the first six HD treatments on the incidence of CVC placements, investigations required (e.g. arteriography), and missed treatments within the first three months of commencing dialysis with an AVF. A secondary objective was to compare SN data with information obtained from our DN dialysis treatment experience from the previous year.

## Research questions

1. What is the incidence of CVC insertions, investigations required, and missed treatments due to cannulation problems with individuals who initiate HD with an AVF using SN and DN methods?
2. What is the impact of SN dialysis on successful cannulations?
3. How do the HD treatment characteristics for SN and DN compare?

## Methods

### Subjects

Following approval from the local research ethics board, new patients starting chronic HD with an AVF at one academic teaching centre in Canada between April 2005 and November 2007 were eligible for inclusion in the study.

### Design

This was a descriptive study involving retrospective chart reviews of all eligible patients starting chronic HD with an AVF. Specifically, charts were reviewed for those patients started using standard DN cannulation of the AVF from April 2005 to April 2006 and using SN HD for the first six treatments from May 2006 to November 2007. Information pertaining to the following parameters was collected: 1) demographic information—age, gender, weight, etiology of renal disease, location and vintage of the AVF, and co-morbidities at the time of the study; 2) HD treatment characteristics for both SN and DN subjects—interdialytic weight

**Table One: Demographic information (n=33)**

Characteristics	Double Needle	Single Needle
<b>Sample size</b>	n=11	n=22
<b>Age (years)</b> mean range	60.1 37–77	63.1 43–79
<b>Gender n(%)</b> male female	8 (72.7%) 3 (27.3%)	15 (67%) 7 (33%)
<b>Weight (kg)</b> mean	82.7	69
<b>Etiology of Renal Disease n(%)</b> Diabetes Mellitus Renal Vascular PCKD Drug Induced GN/Auto-immune Congenital/Obstructive Unknown Other Data Not Available	3 (27.3%) 3 (27.3%) 0 0 4 (36.4%) 1 (9.1%) 0 0 0	7 (31.8%) 4 (18.2%) 1 (4.5%) 0 4 (18.2%) 3 (13.6%) 0 1 (4.5%) 2 (9.1%)
<b>Fistula Vintage (months)</b> mean range	33.5 4.1–84	25.7 1–144
<b>Location of AVF n(%)</b> Lt Brachial/Cephalic Rt Brachial/Cephalic Lt Radial/Cephalic Rt Radial/Cephalic Lt Unknown Rt Unknown Unknown	4 (36.4%) 3 (27.3%) 2 (18.1%) 1 (9.1%) 1 (9.1%) 0 0	8 (36.4%) 2 (9.1%) 6 (27.3%) 1 (4.5%) 3 (13.6%) 1 (4.5%) 1 (4.5%)
<b>Co-morbidities n(%)</b> CAD/IHD/CHF Diabetes Mellitus Cancer PVD COPD Rheumatologic Dementia GI/Ulcer	11 (100%) 2 (18.2%) 2 (18.2%) 3 (27.3%) 2 (18.2%) 0 0 0 1 (9.1%)	13 (59.1%) 10 (45.5%) 0 1 (4.5%) 0 1 (4.5%) 0 0 2 (9.1%)
<b>CVC Placement in First 3 Months n(%)</b>	2 (18.2%)	2 (9.1%)
<b>Arteriography in First 3 Months n(%)</b>	4 (36.4%)	3 (13.6%)
<b>Missed HD Treatments (n)</b>	8	11
<b>Note:</b> PCKD: Polycystic Kidney Disease; GN: Glomerulonephritis; AVF: Arteriovenous fistula; CAD: Coronary Artery Disease; IHD: Ischemic Heart Disease; CHF: Congestive Heart Failure; PVD: Peripheral Vascular Disease; COPD: Chronic Obstructive Pulmonary Disease; GI: Gastro-intestinal; CVC: Central Venous Catheter; HD: Hemodialysis		

gains, cannulations per treatment, blood flow (Qb), treatment length, heparin regimen used and clotted dialysis circuits (Y/N), and frequency and size of hematoma (if present); 3) frequency of CVC placements due to cannulation difficulties; 4) frequency of investigations (e.g., arteriography) of the AVF required; and 5) the frequency of missed HD treatments due to cannulation difficulties. A number of laboratory parameters including the percent reduction of urea (PRU) and pre-dialysis serum potassium, sodium and creatinine for those using SN for HD treatments 1, 3, and 5 were also collected.

## Analysis

Descriptive statistics were calculated for all clinical and laboratory parameters.

## Results

In total, there were 33 patients who started chronic HD with an AVF during the time period from April 2005 to November 2007. In terms of the type of treatment(s) received, there were 11 DN HD starts during the time period from April 2005 to April 2006 and 22 SN starts from May 2006 to November 2007.

Demographic data are presented in Table One. The mean age of the DN group was 60.1 years while the mean age for the SN group was slightly older at 63.1 years. The DN group had greater male representation (72.7% versus 67%) and was heavier by mean weight (82.7 kg versus 69 kg) than their SN counterparts. Etiology of renal disease appeared consistent between the two groups with diabetes, renal vascular, and GN/auto-immune diseases as the most frequently reported. AVFs were reportedly in-situ an average of 33.5 months for the DN group versus 25.7 months for the SN group. In both groups, the left brachial-cephalic location was used most frequently. In terms of co-morbidities, both groups had a high prevalence of heart disease and diabetes.

**Table Two: Single needle laboratory results for hemodialysis treatments 1, 3 and 5 (n=22)**

Laboratory Result	SN Treatment #1	SN Treatment #3	SN Treatment #5
Percent Reduction Urea (PRU) (%) mean	35.4	34.7	34.7
Pre-Dialysis Serum Potassium (mmol/L) mean range	4.13 2.7–5.4	3.55 2.7–4.7	4.56 3–5.3
Pre-Dialysis Serum Sodium (mmol/L) mean range	137.9 131–140	137.8 129–140	136.6 130–141
Pre-Dialysis Serum Creatinine (mmol/L) mean range	816.6 336–1768	756 302–1448	654 247–1292

Table One also reports the frequency of problems encountered for DN and SN treatments in terms of the need for CVC placements, arteriography, and missed treatments in the first three months of HD. Two individuals in each group required a CVC placement in the first three months of HD while four patients (36.4%) in the DN and three (13.6%) in the SN group required arteriography to evaluate the AVF for structural problems. There were eight missed treatments in the DN group and 11 in the SN group.

Table Two summarizes the laboratory results for SN hemodialysis treatments 1, 3, and 5. Although the PRU is known to be significantly reduced with SN as compared to DN, blood work results for SN and DN treatments were comparable. Table Three provides a summary of HD treatment characteristics for both DN and SN. In general, both groups were similar with respect to interdialytic weight gains and the mean length of treatments (treatment time) and there were no clotted HD circuits in either group. The majority of treatments in both groups were carried out using “routine” heparin (1000u bolus and 1000u/hr). A number of differences were noted between the groups. Specifically, the mean number of cannulations attempted per treatment was 2.49 in the DN group versus 1.18 in the SN group, while mean blood flow (Qb) was 255 mls/min in the DN group and 191.8 mls/min in the SN group. There were 17 episodes of bruising noted in the DN group ranging in size from small to large. Similarly, there were 22 episodes noted in the SN group—more than half of them described as small in size.

**Table Three: Hemodialysis treatment characteristics for single and double needle**

Prescription	Double Needle	Single Needle
Interdialytic Weight Gains (kg) mean	1.22	1.16
Cannulations attempted per treatment (n) mean	2.49	1.18
Blood Flow (Qb) (mls/min) mean	255	191.8
Treatment Time (hrs) mean	3.23	3.05
Heparin Regimen (n)		
No Heparin	0	9
Minimal <sup>a</sup>	5	11
Routine <sup>b</sup>	44	94
Clotted Dialysis Circuits (n)	0	0
Bruising Present (n)		
Small	9	12
Medium	3	5
Large	6	5
<sup>a</sup> 500 units initial bolus and 500 units q hourly		
<sup>b</sup> 1000 units initial bolus and 1000 units q hourly		



## Discussion

This study evaluated the impact of implementing SN dialysis for the first six HD treatments on the incidence of a number of clinical outcomes for a group of patients commencing chronic HD with a functioning AVF at one dialysis centre. While a small number of patients were included in the evaluation, it would appear that use of SN benefited patients by way of a reduction in the mean number of CVC placements (DN 18.2% versus SN 9.1%) and mean number of arteriograms ordered through radiology (DN 36.4% versus 13.6%) in the first three months of dialysis initiation, as compared to patients using DN HD from the previous year. The cost of one tunneled, cuffed, CVC insertion through radiology is close to \$900.00 CAD at our centre. Furthermore, labour, overhead, and supply costs for an arteriogram through radiology is approximately \$1,000.00 CAD per case at our centre. A reduction in costs combined with reduced risks to patients from fewer procedures and/or investigations would appear to make SN HD advantageous in the initial HD period in patients with AVF as vascular access.

In addition to a reduction in investigations and interventions in the SN group, other patient benefits were realized. First, while the number of missed treatments was consistent across the two groups, there were twice as many patients (and therefore double the treatments) in the SN group suggesting that SN dialysis may contribute to a reduction in missed patient treatments due to cannulation difficulties. Furthermore, one would expect that the mean number of cannulations required for DN would be approximately double that of SN dialysis. However, the mean number of cannulations for DN was 2.49 versus SN 1.18 suggesting that SN dialysis may have contributed to more successful cannulations for that group of patients overall.

Despite previous reports in the literature of successful long-term SN use, one would expect that its extended use would result in inadequate dialysis over time. Results from this study would suggest that SN is safe in the short term with respect to serum potassium levels and volume status. It is important to note that all of the patients in this study were new to HD and one would expect that many of them had residual renal function, which may have contributed to the results.

In terms of HD treatment characteristics, many similarities were found between those treated with SN and those that received DN treatments the previous year. Average blood flows in the DN group were higher. However, this would be expected given the alternating occlusion of arterial and venous lines with SN. In terms of bruising present at the site of the fistula, there were a total of 18 episodes in the DN group ( $n=11$ ) and 22 in the SN group ( $n=22$ ). The size of the bruising ranged from small to large in each group, but this assessment was subjective and may have varied according to the nurse assessing the patient. Given there were double the patients and twice the treatments assessed in the SN group, there may, in fact, be less bruising with SN. Overall, these results are encouraging and would support continued use of SN at the outset of chronic dialysis.

The other finding of note was that the majority of patients in both groups were treated with routine heparin (1,000 units bolus and 1,000 units/hr) and some patients received little or no heparin during the dialysis treatments examined.

Furthermore, no clotted dialysis circuits were reported. Lins, Ljungberg, & Söderström (1987) compared heparin requirements between SN and DN dialysis among nine patients receiving chronic HD using a subcutaneous arteriovenous PTFE-graft (Gore-Tex®). They concluded that there was greater activation of the coagulation system and heparin requirement was greater with SN dialysis. While we did not observe this finding clinically, one would wonder whether cannulation of the artificial PTFE-graft instead of the AVF, as was used in our study, may account for their findings.

## Limitations

Several limitations must be considered when interpreting the findings of this study. First, this study was limited by its small, non-randomized convenience sample of patients starting chronic HD with a functioning AVF at one dialysis facility. Thus, the demographics of this population may not reflect those of other dialysis centres and any conclusions and generalizations may only be applicable to this particular sample. The analysis of data was limited to an examination of descriptive statistics for all clinical and laboratory parameters for both SN and DN patients studied. Therefore, any comparison of SN and DN data presented must be carried out with caution. Finally, the clinical data obtained reflect the dialysis experience for a particular patient on a particular day. Given the number of nurses working in our HD unit on any given day, some of the variation seen in the data may reflect the nurse's subjective assessment (e.g., estimating size of bruising) and/or amount of experience in caring for dialysis patients (e.g., novice versus expert).

## Implications for practice and research

This study provides valuable information for the renal care team pertaining to the evaluation of a program of short-term SN therapy for individuals new to chronic HD with a functioning AVF. In terms of implications for practice, SN dialysis has provided our centre with a means to transition to DN dialysis. Use of SN dialysis may benefit patients by way of reducing the need for CVC placements and interventions, and may contribute to less bruising and fewer needles in the first three months of treatment while maintaining acceptable clinical and laboratory parameters. For patients with end stage renal disease, the experience of dialysis itself can be overwhelmingly stressful, so strategies that have the potential to improve the success of cannulation and reduce complications are very important and could contribute to improved patient well-being and reduced stress experienced by the patient and/or family, and may contribute to longevity of the fistula.

From a nursing perspective, one of the challenges to implementing SN HD was the organization and completion of education required for all nursing staff. In our program, a train-the-trainer model was used and at least one nurse travelled across our two-site program to inservice her peers on SN. This appeared to work well. By using SN dialysis for the first six HD treatments for all new AVFs at our centre, we anticipate this will allow nurses to maintain competence and not lose this valued skill through infrequency of use.

From a research standpoint, this study provides some initial descriptive data evaluating outcomes of SN dialysis at the initiation of chronic HD. More research in the area of SN dialy-

sis with a larger samples of patients using a more rigorous research design is critical, as renal teams seek out strategies that may promote successful cannulation in the initial HD period while at the same time reducing fistula complications both in the short and long term. The authors of this study were unable to find any literature from the patients' perspective on SN. Initiation of HD is a stressful event and one could assume that from the patient perspective one needle may generate less stress than two. This is an area of further inquiry.

## Conclusion

In conclusion, use of SN for the first six HD treatments would appear to be an effective treatment for the initial cannulation of new chronic HD patients with an AVF. In this study, patients cannulated using SN had a reduction in mean

CVC placements and investigative procedures and a reduction in the mean number of attempts at cannulation. Laboratory parameters were maintained at acceptable levels with SN dialysis. Further research in this area is warranted.

## Acknowledgement

*The authors greatly acknowledge the assistance provided by the following individuals for this study: Gail Barbour, RN, CNeph(C), Charge Nurse, Dialysis, LHSC, Elaine Liston, RN, CNeph(C), Dialysis Nurse, LHSC, Mike Berta, RN, BScB, BScN, Manager, Dialysis, LHSC, Margaret Robb, RN, CNeph(C), Dialysis Nurse, LHSC, Lisa Hannah, RN, Dialysis Nurse, LHSC, Nola Rowland, RN, CNeph(C), Dialysis Nurse, LHSC, Betty Herman, RN, Dialysis Nurse, LHSC, and Twylla Dawn Wyton, RN, Dialysis Nurse, LHSC.*

## References

- Astor, B.C., Eustace, J.A., Powe, N.R., Klag, M.J., Fink, N.E., & Coresh, J. (2005). Type of vascular access and survival among incident hemodialysis patients: The choices for healthy outcomes in caring for ESRD (CHOICE) study. *Journal of the American Society of Nephrology*, 16(5), 1449–1455.
- Blumenthal, S.S., Ortiz, M.A., Kleinman, J.G., & Piering, W.F. (1986). Inflow time and recirculation in single-needle hemodialysis. *American Journal of Kidney Diseases*, 8(3), 202–206.
- De Clippele, M., Vanholder, R., De Roose, J., Derom, F., & Ringoir, S. (1983). Fistula survival in single needle hemodialysis. *The International Journal of Artificial Organs*, 6(2), 71–73.
- Dhaene, M., Gulbis, B., Lietaer, N., Gammar, N., Thayse, C., Ooms, H.A., et al. (1989). Red blood cell destruction in single-needle dialysis. *Clinical Nephrology*, 31(6), 327–331.
- Harwood, L., & Leitch, R. (2006). Home dialysis therapies. In A. Molzahn (Ed.), *Contemporary nephrology nursing: Principles and practice* (2nd ed., pp. 605–626). Pitman, NJ: American Nephrology Nurses' Association.
- Hoen, B., Paul-Dauphin, A., Hestin, D., & Kessler, M. (1998). EPIBACDIAL: A multicenter prospective study of risk factors for bacteremia in chronic hemodialysis patients. *Journal of the American Society of Nephrology*, 9, 869–876.
- Hombrouckx, R.O., De Vos, J., Larno, L.A., Vercruysse, V.M., Verdonck, P.R., & Verhoeven, R.F. (1990). (A)typical symptoms during single needle dialysis. *ASAIO Transactions*, 36, M335–M337.
- Jindal, K., Chan, C.T., Deziel, C., Hirsch, D., Soroka, S.D., Tonelli, M., & Culleton, B.F. (2006). Vascular access. *Journal of the American Society of Nephrology*, 17(Suppl. 1), S16–S23.
- Kopp, K.F., Gutch, C.F., & Kolff, W.J. (1972). Single needle dialysis. *Transactions—American Society for Artificial Internal Organs*, 18, 75–81.
- Lee, T., Barker, J., & Allon, M. (2006). Needle infiltration or arteriovenous fistulae in hemodialysis: Risk factors and consequences. *American Journal of Kidney Diseases*, 47(6), 1020–1026.
- Lins, L.E., Ljungberg, B., & Söderström, P.O. (1987). Heparin requirement in hemodialysis, a comparison between single-needle and two-needle dialysis. *Clinical Nephrology*, 28(2), 102–103.
- Martin, T.R., Harston, G., Segasby, C.A., & Black, M.M. (1978). Factors affecting blood flow during single needle dialysis. *Journal of Medical Engineering and Technology*, 2(1), 7–11.
- Mendelssohn, D.C., Ethier, J., Elder, S.J., Saran, R., Port, F.K., & Pisoni, R.L. (2006). Haemodialysis vascular access problems in Canada: Results from the Dialysis Outcomes and Practice Patterns Study (DOPPS II). *Nephrology Dialysis Transplantation*, 21, 721–728.
- Moist, L.M., Trpeski, L., Na, Y., & Lok, C. (2008). Increased hemodialysis catheter use in Canada and associated mortality risk: Data from the Canadian Organ Replacement Registry 2001–2004. *Clinical Journal of the American Society of Nephrology*, 3, 1726–1732.
- National Kidney Foundation. (1997). K-DOQI Clinical practice guidelines for hemodialysis adequacy. *American Journal of Kidney Diseases*, 30(Suppl. 2), S15–S66.
- National Kidney Foundation. (2006). K-DOQI clinical practice guidelines for vascular access. *American Journal of Kidney Diseases*, 48(Suppl.), S248–S273.
- Polkinghorne, K.R., McDonald, S.P., Atkins, R.C., & Kerr, P.G. (2004). Vascular access and all-cause mortality: A propensity score analysis. *Journal of the American Society of Nephrology*, 15, 477–486.
- Trakarnvanich, T., Chirananthavath, T., Maneerat, P., Chabsuwan, S., & Areeyakulnimit, S. (2007). Is single-needle hemodialysis still a good treatment in end stage renal disease? *Blood Purification*, 25(5–6), 490–496.
- Vanholder, R., Hoenich, N., Bogaert, A.M., & Ringoir, S. (1986). Long-term experience with routine single-needle dialysis: A review. *Transactions—American Society for Artificial Internal Organs*, 32, 300–304.
- Vanholder, R., Hoenich, N., & Ringoir, S. (1987). Adequacy studies of fistula single-needle dialysis. *American Journal of Kidney Diseases*, 10(6), 417–426.
- Vlassopoulos, D.A., Hadjiyannakos, D.K., Koutala, K.G., Iliopoulos, A.N., Diamantopoulou, N.V., & Marioli, S.I. (2004). Hemoglobin normalization results in lower dialysis dose, despite high dialysate flow. Single needle offers inadequate dialysis. *The International Journal of Artificial Organs*, 27(6), 467–472.
- Wasse, H., Kutner, N., Zhang, R., & Huang, Y. (2007). Association of initial hemodialysis vascular access with patient-reported health status and quality of life. *Clinical Journal of the American Society of Nephrology*, 2, 708–714.
- Xue, J.L., Dahl, D., Ebben, J.P., & Collins, A.J. (2003). The association of initial hemodialysis access type with mortality outcomes in elderly Medicare ESRD patients. *American Journal of Kidney Diseases*, 42(5), 1013–1019.



# Change management and partnership: Achieving a solution to provide peritoneal dialysis in a long-term care setting

By Charlie Yang, BScPT, and Jill Campbell, MHSc, CNeph(C), CHE

## Abstract

*Health care organizations must respond quickly to today's volatile and changing environment. This article describes how St. Michael's Hospital (acute care hospital) and the Drs. Paul and John Rekaï Centre (long-term care facility) collaborated to use an innovative approach to address pressures of change affecting peritoneal dialysis (PD) care delivery for the elderly. The collaborative applied Galpin's (1996) nine-stage Change Management Model to implement the organizational change. Both organizations generated a shared vision to improve timely access to nursing homes for patients requiring both placement and ongoing peritoneal dialysis. They analyzed their current status and committed resources for the collaboration. Both organizations generated general and detailed recommendations for PD care delivery processes. A pilot was implemented and refinement of the collaboration occurred prior to formal roll out. This application of a change management model to establish organizational partnership may be of interest to those seeking to establish similar collaborations.*

**Key words:** peritoneal dialysis, elderly, Change Management Model, long-term care

## Background and purpose

Today's health care environment is volatile and uncertain (Begun & Kaissi, 2004). Health care organizations must respond quickly to both internal and external changes (Decter, 2000). These changes include shifts in government

funding policy, political cycles, restructuring and medical practice changes (Chan & Lynn, 1998; Coile, 1999). Many health care facilities in Ontario have adopted various innovative change management approaches to restructuring. One approach is transforming into learning organizations that use team or organizational learning to influence organizational performance (Chan & Lynn; Coile). Fully leveraging staff knowledge and skills through education can be key to continuous organizational development and provision of quality service to an expanding customer base (Coile; Pascale, 1999; Senge, Kleiner, Roberts, Ross, Roth & Smith, 1999). As well, increased knowledge and skills empower staff to make decisions about patient care, and encourage them to take ownership of organizational changes (Coile; Gill, 2003). These new approaches are necessary for efficient, technologically adept, high-performing organizations to readily respond to change (Begun & Kaissi; Chan & Lynn; Coile).

To remain viable within the turbulent health care environment, members of the St. Michael's Hospital (SMH) peritoneal dialysis (PD) team and administration from the Drs. Paul and John Rekaï Centre (Rekaï Centre) developed a partnership. The objective was to use an innovative approach to address common patient care pressures shared by acute care and long-term care (LTC). These pressures include the need to improve accessibility of PD patients to LTC placement, efficiencies in PD care delivery, and resource utilization. The collaboration also addressed financial and patient flow concerns. This article describes how the partnership developed using theoretical underpinnings of Galpin's (1996) *Change Management Model*. In addition, this change model readily applies to other health care restructuring and partnership efforts, especially within the context of chronic kidney disease (CKD) management. Current leadership theories contend that high-performing health care organizations must be able to respond appropriately to varying levels of environmental uncertainty and ambiguity (Ellis, Almor, & Shenkar, 2002; Shortell, Gillies, Anderson, Erickson, & Mitchell, 2000). A detailed literature review revealed a paucity of articles on the topic of PD-related partnership and change in Canadian health care settings (Jindal, 2007; Oreopoulos, Coleman & Doyle, 2007; Wang, Izatt, Dalglish, Bargman, Jassal, Vas et al., 2003). Therefore, evidence to demonstrate successful application of change management theory in response to complex environmental pressures is timely.

*Charlie Yang, BScPT, Case Manager, Inpatient Ward, Diabetes Comprehensive Care Program, St. Michael's Hospital, Toronto, ON*

*Jill Campbell, MHSc., CNeph(C), CHE, Program Director, Diabetes Comprehensive Care Program, St. Michael's Hospital, Toronto, ON*

*Address correspondence to: Charlie Yang, BScPT, Diabetes Comprehensive Care Program, St. Michael's Hospital, 30 Bond Street, Toronto, ON M5B 1W8 E-mail: yangc@smh.toronto.on.ca*

*Submitted for publication: March 25, 2009.*

*Accepted for publication in revised form: May 15, 2009.*

### **Galpin's Change Management Process Model**

Galpin (1996) developed the nine-stage *Change Management Process Model*. This model is consistent with current assumptions of the non-linearity and complexity of change (Higgs & Rowland, 2005). This framework bridges the gap between theory and practice to sequentially guide leaders through the pitfalls of change. The first five stages focus on the generation of strategies needed by senior leaders to establish change impetus. These include showing the need to change, developing and spreading a vision, analyzing the current state, and creating both general and specific change recommendations. Stages six to nine outline the changes needed to continue change efforts. These include frontline participation of pilot testing, recommendations of pilot results, implementation, and continuous evaluation and refinement. Each stage of Galpin's model is interrelated, and explains how successful partnerships evolve with effective change management.

### **Establish the need to change**

As of the end of 2006, most patients (82.1%) receive life-sustaining hemodialysis as hospital outpatients (Canadian Institute for Health Information, 2008). Nurse-operated dialysis machines cleanse their blood of toxins three times per week during four-hour treatments (The Toronto District Health Council, 2003). Centre-based dialysis remains the most expensive treatment of all dialysis modalities (Lee, Manns, Tubb, Ghali, Dean, Johnson et al., 2002).

Changes in policies in the early 1980s, increases in life expectancy, and advances in medical technology led to increased accessibility for chronic dialysis (Krishnan, Lok, & Jassal, 2002; Rotellar, Lubelza, Rotellar, Martinez-Cumps, Alea & Vallis, 1985). As the number of elderly CKD patients increases and the demand for hemodialysis continues to rise, continued funding becomes less available in Ontario (Oreopoulos, Coleman & Doyle, 2007). PD can be performed at home using the patient's own body to cleanse toxins in their blood. This treatment has demonstrated equal efficacy and is more cost effective than HD (Collins, Hao, Xia, Ebben, Everson & Ma, 1999; Harris, Lamping, Brown, & Constantinovici, 2002). For frail, elderly CKD patients, quality of life improves through reduction in travelling from their residences to the hemodialysis centre (Forrest, Masato, Anjum, & Rishi, 2005; Kutner & Jassal, 2002). Elderly patients have also demonstrated superior tolerance to PD than hemodialysis (Rubin, Fink, Plantinga, Sadler, Kliger & Powe, 2004).

LTC placement becomes a need with increasing loss of independence (Forrest, 2004; Forrest, Masato, Anjum & Rishi, 2005; Kutner & Jassal, 2002). LTC facilities that offer PD support would seem most logical for this population. The current situation in Ontario reveals a limited number of LTC homes funded to care for PD residents. In 2008, only 10 of 60 LTC facilities offered PD as an alternative for residents (The Provincial Peritoneal Dialysis Strategy [PPDS], 2008).

Without adequate funding for PD in LTC facilities, patients are required to wait approximately four times longer (241 days median wait time) for a LTC placement (Provincial Peritoneal Dialysis Initiative, n.d.). Therefore, acute care centres such as SMH keep patients who no longer need acute care

interventions and increased costs and inefficiencies result (The Toronto District Health Council, 2003). During negotiation of this proposed partnership, expansion of LTC facilities in Ontario resulted in an immediate oversupply of beds. This forced LTC facilities to seek care options for specialty populations where a gap in service existed (Ontario Long Term Care Association, 2004). A partnership between LTC and acute care provided solutions for both institutions.

Internal review of both organizations demonstrated evidence that change was required and became the main driver for the SMH and Re kai Centre partnership. Other partnership priorities included provision of client-centred care, competitive pressures, cost savings, decreasing wait time, improved bed utilization, and improved clinical efficiency (Ahn, Adamson, & Dornbusch, 2004; Galpin, 1996; Kotter, 1995; PPDS, 2008). Status quo was no longer acceptable for either organization.

### **Develop and disseminate a vision of the change**

The second phase in the change strategy involved establishing and spreading a vision of success (Galpin, 1996). Development and dissemination of a clear vision statement allows people to understand and see their roles within the vision's achievement (Daft, 2005; Gill, 2003; Kotter, 1995). When sharing strategic goals and vision (Langton & Robbins, 2007), showing a clear vision of change becomes even more important since partners may have different core businesses. If partnership organizations have competing agendas, the collaboration fails (Coley & Scheinberg, 2000; Senge, Kleiner, Roberts, Ross, Roth & Smith, 1999). Through a shared culture of compassionate care and commitment to health education, SMH and the Re kai Centre aligned vision with shared mission and values. The shared vision of the partnership draws from the SMH vision statement (St. Michael's Hospital, 2004) that through use of evidence, innovative solutions and technology SMH would support the Re kai Centre to become Canada's most desirable LTC facility in providing PD therapy.

Spread of the change vision occurs in various ways. In the SMH-Re kai partnership, an interactive approach developed, allowing frontline staff to have direct access to the senior leadership team (Ahn, John & Dornbusch, 2004). Geographical closeness supported easy access between partners. This provided many opportunities for face-to-face meetings and on-site planning.

### **Diagnose/analyze the current situation**

Diagnosis and analysis of an organization's current practice decides if existing practice will support future goals (Daft, 2005; Glover, Friedman, & Jones, 2002; Weick, 1995). Applying various tools such as surveys, focus groups or needs assessments organizes and improves data quality for decision-making (Glover, Friedman & Jones). Before setting up the partnership, administrators from both SMH and the Re kai Centre performed a needs assessment to demonstrate demand. Understanding demand of PD patient volumes within the regional CKD centres affects supply needs in



LTC. Early discussions between organizations verified if the current sources would support a joint training program. Shortly after the partnership began, the Ontario Ministry of Health and Long-Term Care (MoHLTC) developed the Joint PD Initiative (Oreopoulos, Coleman & Doyle, 2007). As the partnership already met the MoHLTC definition of PD partnerships, a letter of understanding approved by executive leaders was submitted to the MoHLTC. The letter of understanding outlined accountabilities and responsibilities of each organization in the PD partnership.

Proximity of the LTC home to the regional CKD program ensured that patients and staff had access to training programs and clinical PD support of the CKD program. Other important considerations included whether the LTC homes would agree to adapt existing space to house residents, equipment and supplies. LTC facilities must have rooms equipped with electrical outlets and tables to support the automated PD machine. Adequate drainage and waste disposal of medical supplies were also major requirements of the LTC.

Sustained engagement of frontline staff occurs with successful change management (Galpin, 1996). According to Galpin, a sustainability plan ensures maintenance of frontline staff participation. Knowing how many PD patients would apply to the LTC influenced the space and supplies needed, as well as requirements for human capital, staffing patterns, competencies, and workload. These are all key considerations when planning for sustainability. Therefore, an accurate analysis of an organization's current state is critical in deciding its capacity for change and sustained improvement (Coile, 1999; Glover, Friedman & Jones, 2002).

### **Generate recommendations**

Accurate recognition of existing inefficiencies allows for the generation of change recommendations that address needed improvements (Galpin, 1996; Weick, 1995). These recommendations include removing or streamlining existing practices, and developing and adopting new procedures (Coile, 1999). A steering committee was developed to produce recommendations that included the needs of stakeholders without compromising quality of care delivery. Membership included staff from the planning team of both organizations. This group initially met quarterly to advise in developing policies and procedures, the initiation of PD provision within the LTC facility, and to survey predetermined outcome indicators. Key recommendations generated by the steering committee included, for example, initiation of a partnership using existing resources to create PD-designated beds at the Reikai Centre. This occurred before the submission of a joint proposal to the MoHLTC for additional funding. SMH trained Reikai Centre nursing staff to perform PD for CKD patients residing at the Reikai Centre. The SMH home dialysis team provided PD-related medical care for residents. The Baxter Twin Bag® manual system and Home Choice® cyclor system were adopted by the Reikai Centre to remain consistent with practices at SMH. Identical standards ensured the promotion of proven best practices and benchmarking standards in PD delivery at the LTC facility.

### **Detail recommendations and pilot**

Details relating to costs, equipment, maintenance, technology and training required to facilitate changes were evaluated. The literature suggests pilot trials to fine tune recommendations prior to formalizing practices (Coile, 1999; Galpin, 1996; Weick, 1995). Piloting change offers many other advantages such as early starts to change initiatives, comparison of alternative change recommendations, and finding "quick wins" (Kotter, 1995; Senge, Kleiner, Roberts, Ross, Roth & Smith, 1999). Involvement of frontline participation in the pilot also empowers staff to introduce grass-roots change and encourages them to take ownership of the organizational changes that they helped to create (Gill, 2003; Glover, Friedman & Jones, 2002; Kotter).

The medical directors from both sites collaborated to develop practices ensuring continuity of medical care for PD patients at Reikai Centre. SMH nephrologists managed all nephrology-related care issues, while the internist at Reikai Centre managed day-to-day medical needs. PD patients returned to the hospital clinic every two months for a full assessment by the interdisciplinary renal team. The Reikai Centre paid transportation costs for residents to and from the clinic, via Wheel-Trans®, a branch of the Toronto Transit Commission that provides door-to-door accessible transit service for persons with physical disabilities (Toronto Transit Commission, 2009). Both SMH and the Reikai Centre agreed that once a critical mass of patients developed, the clinical team from SMH would provide clinical assessment on-site at Reikai Centre.

Food Services at the Reikai Centre was consulted to provide dietitian services and special dietary needs for the renal patients within existing funding. The hospital dietitian and the LTC food supervisor also communicated regularly to discuss residents' dietary needs. Existing lab services at Reikai Centre provided routine lab services. Private insurance covered medications for some of the residents. Pharmacists between the two organizations also collaborated, as needed. Planning details occurred about the use of supplies, equipments, storage facilities, and purchasing contracts. Supplies and equipment were standardized across the two sites. Reikai Centre provided storage space for a maximum of six patients for two-week periods and agreed on a six-patient workload to define critical mass. Further collaboration guaranteed that storage space met the specification needed for the safe storage of PD solutions. A repatriation agreement was established for patients who required transfer back to acute care.

Ensuring the staff at the Reikai Centre gained competencies to provide excellent PD care was fundamental to the partnership (Ahn, John & Dornbusch, 2004). SMH and its PD equipment supplier, Baxter Corporation, provided basic background knowledge of renal disease and PD procedures to all registered staff. New nursing staff received a two-day PD orientation, and all nursing staff receives annual competency recertification. In addition, staff received education and training manuals and handouts. Once the staff received this initial education, they worked one-on-one with a SMH PD nurse until PD competency was achieved. Newly admitted patients received a "home visit" from the SMH PD nurse on admission to the Reikai Centre. In addition, the Reikai

Centre nursing and medical staff were invited and encouraged to attend educational rounds at SMH, as well as become members of the Citywide Peritoneal Dialysis Interest Group. The Citywide Peritoneal Dialysis Interest Group provides education and networking opportunities for health care workers in the Greater Toronto Area, caring for patients on PD. SMH and Baxter Corporation committed to provide LTC staff with educational opportunities such as conference attendance or poster presentations.

Even before the Reikai Centre accepted its first PD resident, the joint steering committee and working group worked tirelessly to prepare for that eventual reality. Admission standards included appropriateness of clients and decreasing risk to both staff and clients. The partners complied with MoHLTC funding guidelines (PPDS, 2008), which included a minimum age limit of 18 years old for clients, Ontario Health Insurance Plan, and care needs that could be met by LTC. A draft admission pathway mapped patient movement from one facility to another. This allowed staff from both organizations to understand the entire admission process and smooth patient transition from home or hospital to the LTC.

SMH and Reikai Centre committed to regular communication between organizations to foster mutual trust, motivation to carry out changes, and alignment to the partnership vision (Gill, 2003; Kotter, 1995). The steering committees of health care professionals, senior managers, medical directors and coordinators met on a bi-monthly basis. The committee discussed common issues and would meet more frequently if needed. Day-to-day informal communications occurred via telephone and e-mail. At SMH, the clinical leader/manager communicated about the partnership and related changes to the home dialysis team. The medical director of the home dialysis program communicated changes to the division of nephrology at the monthly divisional meeting (Langton & Robbins, 2007).

External marketing brochures were developed after the program matured and met the objectives of the partnership. Information brochures provided internal communications about the program. In 2009, as part of the PPDS, the MoHLTC officially recognized the SMH-Reikai Centre partnership in Toronto through an electronic memo (S. McMackin, personal communication, January 30, 2009).

### **Rollout changes**

The Community Care Access Centre coordinates referrals to LTC facilities in Toronto. SMH and Reikai Centre collaborated with Community Care Access Centre to place PD clients from both SMH and other facilities in the Reikai Centre. The Reikai Centre became the preferred LTC facility for SMH patients needing PD support. For consistency in care, CKD patients from other referring CKD centres would automatically become clients of the SMH renal program. Reikai Centre provided PD residents with access to slow-stream rehabilitation and the programming offered to other residents. Respite care relieved the burden of family caregivers and was available for a maximum 30-day period. These additional supports ensured the potential for appropriate patients to eventually be discharged back to their homes.

The program model included an evaluation. During the planning stage, both teams developed evaluation and data collection needs. Program evaluation occurred three months after the first client admission. The purpose of the review was to survey if the program worked and if staff followed the standards. This provided an opportunity to take corrective actions, as needed, ensuring the program goals and objectives were met (Patton, 1997; Rossi, Freeman, & Lipsey, 2004). Indicators included infection rates for peritonitis and exit site, resource costs, admission wait times, occupancy rates, use of respite beds and geographical area of referrals. Additional metrics included referral patterns, quality of life, continuing skills competency, length of stay, dialysis adequacy, and various electrolyte and nutritional outcomes. General outcomes suggested that the partnership is effective in meeting the needs of SMH and the Reikai Centre but, most importantly, that clients of both organizations receive optimal service. A more detailed discussion is beyond the scope of this article and, therefore, will not be discussed at this time.

### **Conclusions**

Major changes such as building affiliations are required for health care organizations to respond to Ontario's volatile health care environment (Chan & Lynn, 1998; Coile, 1999; Higgs & Rowland, 2005). SMH and Reikai Centre's successful application of Galpin's (1996) Change Management Model to implement a partnership demonstrates that other organizations contemplating a partnership could consider using a similar model. Enduring commitment by both organizations to invest ongoing resources to build learning organizations helped all staff to develop the competencies for successful change. Leadership vision and agility in responding to rapid change also contributed to this partnership's success.

Health care leaders today must be willing to renew their organizations constantly with the development of new competencies in order to stay ahead of the competition (Coile, 1999). They must also continually question the status quo, and remain vigilant in seeking better methods of quality care delivery. The SMH and Reikai Centre partnership was not the result of a provincial government mandate. Rather, it was an innovative approach adopted by two organizations to meet the unique needs of frail PD patients, despite challenges imposed by the broader environment. When the MoHLTC officially launched the PPDS in November 2005, the SMH-Reikai partnership was already well positioned to care for PD patients who required admission to a LTC facility. The partnership also helped to inform the MoHLTC with creation of the provincial mandate for all regional CKD centres to partner with a LTC facility.

New rules of competition are rewritten constantly for health care institutions such as hospitals and LTC facilities. Organizations can choose to remain with the status quo and follow established rules, or can help to define the new paradigm. For organizations wishing to pursue the latter, the evidence presented by the SMH and Reikai Centre partnership offers a good starting point to consider.



# References

- Ahn, M.J., John, S.A., & Dornbusch, D. (2004). From leaders to leadership: Managing change. *The Journal of Leadership and Organizational Studies*, 10(4), 112–123.
- Begun, J.W., & Kaissi, A.A. (2004). Uncertainty in health care environment: Myth or reality? *Health Care Management Review*, 29(1), 31–39.
- Canadian Institute for Health Information. (2008). *2008 Annual Report—Treatment of end-stage organ failure in Canada, 1997 to 2006*. Retrieved from [http://secure.cihi.ca/cihiweb/dispPage.jsp?cw\\_page=PG\\_1514\\_E&cw\\_topic=1514&cw\\_rel=AR\\_5\\_E](http://secure.cihi.ca/cihiweb/dispPage.jsp?cw_page=PG_1514_E&cw_topic=1514&cw_rel=AR_5_E)
- Chan, Y.L., & Lynn, B.E. (1998). Operating in turbulent times: How Ontario's hospitals are meeting the current funding crisis. *Health Care Management Review*, 23(3), 7–18.
- Coile, R.C. (1999). Millennium management: New rules for 21st century healthcare organizations. *Healthcare Executive*, 14(1), 6–12.
- Coley, S.M., & Scheinberg, C.A. (2000). *Proposal Writing* (2nd ed.). Thousand Oaks, CA: Sage Publications, Inc.
- Collins, A.J., Hao, W., Xia, H., Ebben, J.P., Everson, S.E., & Ma, J.Z. (1999). Mortality risks of peritoneal dialysis and hemodialysis. *American Journal of Kidney Diseases*, 34, 1065–1074.
- Daft, R. (2005). *The Leadership experience* (3rd ed.). Mason, OH: South-Western, Thomson Corporation.
- Decter, M.B. (2000). *Four strong winds—understanding the growing challenges to health care*. Toronto, ON: Stoddart Publishing Co. Limited.
- Ellis, S., Almor, T., & Shenkar, O. (2002). Structural contingency revisited: Toward a dynamic system model. *Emergence*, 4(4), 51–85.
- Forrest, G.P. (2004). Inpatient rehabilitation of patients requiring hemodialysis. *Archive of Physical Medicine and Rehabilitation*, 85(1), 51–53.
- Forrest, G.P., Masato, N., Anjum, I., & Rishi, K. (2005). Inpatient rehabilitation of patients requiring hemodialysis: Improving efficiency of care. *Archive of Physical Medicine and Rehabilitation*, 86(10), 1949–1952.
- Galpin, T.J. (1996). *The Human side of change: A practical guide to organization redesign*. San Francisco: Jossey-Bass, Inc.
- Gill, R. (2003). Change management – or change leadership? *Journal of Change Management*, 3(4), 307–318.
- Glover, J., Friedman, H., & Jones, G. (2002). Adaptive leadership: When change is not enough (Part One). *Organization Development Journal*, 20(2), 15–32.
- Harris, S.A., Lamping, D.L., Brown, E.A., & Constantinovici, N. (2002). Clinical outcomes and quality of life in elderly patients on peritoneal dialysis versus hemodialysis. *Peritoneal Dialysis International*, 22(4), 463–470.
- Higgs, M., & Rowland, D. (2005). All changes great and small: Exploring approaches to change and its leadership. *Journal of Change Management*, 5(2), 121–151.
- Jindal, K. (2007). Revitalizing peritoneal dialysis: The Ontario approach. *Peritoneal Dialysis International*, 27(5), 526–528.
- Kotter, J.P. (1995). Leading change: Why transformation efforts fail. *Harvard Business Review*, 73(2), 59–68.
- Krishnan, M., Lok, C.E., & Jassal, S.V. (2002). Epidemiology and demographic aspects of treated end-stage renal disease in the elderly. *Seminars in Dialysis*, 15(2), 79–83.
- Kutner, N.G. & Jassal, S.V. (2002). Quality of life and rehabilitation of elderly dialysis patients. *Seminars in Dialysis*, 15(2), 107–112.
- Langton, N., & Robbins, S. (2007). *Organizational behaviour: Concepts, controversies, applications* (4th ed.). Toronto, ON: Pearson Canada Inc.
- Lee, H., Manns, B., Taub, K., Ghali, W.A., Dean, S., Johnson, D., et al. (2002). Cost analysis of ongoing care of patients with end-stage renal disease: The impact of dialysis modality and dialysis impact. *American Journal of Kidney Diseases*, 40(3), 611–622.
- Ontario Long Term Care Association. (2004). *Specialty populations road map: A basic planning guideline for OLTCA members on specialty program development and diversification of services*. Toronto, ON: Specialty Population Interest Group.
- Oreopoulos, D.G., Coleman, S., & Doyle, E. (2007). Reversing the decreasing peritoneal dialysis (PD) trend in Ontario: A government initiative to increase PD use in Ontario to 30% by 2010. *Peritoneal Dialysis International*, 27(5), 489–495.
- Pascale, R. (1999). *Managing on the edge: How successful companies use conflict to stay ahead*. London: Viking.
- Patton, M.Q. (1997). *Utilization focused evaluation: The New Century Text* (3rd ed.). Thousand Oaks, CA: Sage Publications, Inc.
- Provincial Peritoneal Dialysis Initiative. (n.d.). *CKD provincial strategies—in progress*. Toronto, ON: Ontario Ministry of Health & Long-Term Care. Retrieved from [http://www.lhins.on.ca/uploadedFiles/Public\\_Community/PRIVATE\\_PAGES/CDPM\\_LHIN\\_Leads/3%20-%20PD%20Initiative.pdf](http://www.lhins.on.ca/uploadedFiles/Public_Community/PRIVATE_PAGES/CDPM_LHIN_Leads/3%20-%20PD%20Initiative.pdf)
- Rossi, P.H., Freeman, H.E., & Lipsey, M.W. (2004). *Evaluation: A systematic approach* (7th ed.). Thousand Oaks, CA: Sage Publications, Inc.
- Rotellar, E., Lubelza, R.A., Rotellar, C., Martinez-Cumps, E., Alea, M.V., & Vallis, R. (1985). Must patients over 65 be dialyzed? *Nephron*, 41, 152–156.
- Rubin, H., Fink, N., Plantinga, L., Sadler, J., Kliger, A., & Powe, N. (2004). Patient ratings of dialysis care with Peritoneal Dialysis vs. Hemodialysis. *Journal of the American Medical Association*, 291, 697–703.
- Senge, P., Kleiner, A., Roberts, C., Ross, R., Roth, G., & Smith, B. (1999). *The dance of change: The challenges to sustaining momentum in learning organizations*. New York: Doubleday.
- Shortell, S.M., Gillies, D., Anderson, K., Erickson, K., & Mitchell, J. (2000). *Remaking health care in America: The evolution of organized delivery systems* (2nd ed.). San Francisco: Jossey-Bass.
- St. Michael's Hospital. (2004). *2004 Strategic Plan—Reaching New Heights*. Toronto, ON. Retrieved from <http://smhinet/Intranet/pdf/corporate/StrategicPlan2004.pdf>
- The Provincial Peritoneal Dialysis Strategy. (2008). *Peritoneal Dialysis in long-term care (LTC) homes: Process and guidelines for approval of LTC homes to provide PD care*. Toronto, ON: Ontario Ministry of Health and Long-Term Care.
- The Toronto District Health Council. (2003). *The rising tide of end-stage renal disease in Toronto: Action plan 2003-2008*. Toronto, ON: The Toronto District Health Council.
- Toronto Transit Commission. (2009). *Wheel-Trans: Wheel-Trans Door-to-Door Paratransit Service*. Toronto, ON: Toronto Transit Commission. Retrieved from <http://www3.ttc.ca/WheelTrans/index.jsp>
- Wang, T., Izatt, S., Dalglish, C., Bargman, J., Jassal, S., Vas, S., et al. (2003). Peritoneal dialysis in a nursing home: Limited survival expectations. *Clinical Nephrology*, 60(5), 373–4.
- Weick, K.E. (1995). *Sense-making in organizations*. Thousand Oaks, CA: Sage Publications, Inc.

# Hold the salt... please!

By Dorothy Allen, RD, Gulnar Damji, RD, and Diane Zianis, RD, Dietitians for the Nephrology Program, Sunnybrook Health Sciences Centre, Toronto, ON

## Background

Busy and hectic schedules have prompted Canadians to seek out quick and convenient meal options. As a result, most Canadians consume more sodium than may be good for their health. Sodium is needed to control blood volume and maintain water and mineral balances. Research has shown that excessive salt intake can lead to hypertension, which increases the risk of heart disease, stroke and kidney disease (Canadian Stroke Network, 2008).

Recommendations for the general population ages four and older are 1,200 mg of sodium daily with a Tolerable Upper Intake Level (UL) of 2,300 mg/day (Lawes, 2006). Sodium guidelines for chronic kidney disease (CKD) and dialysis patients are similar to the general population, with the National Kidney Foundation Kidney Disease Outcomes Quality Initiative (NKF KDOQI™) and the Canadian Hypertension Education Program (CHEP) recommending 2,300 mg/day while the American Dietetic Association (ADA) best practice guidelines suggest 2,000mg/day to 3,000 mg/day (Vennegoor, 2009). Current sodium consumption in industrialized countries averages between 3,100 milligrams/day and 3,500 milligrams/day, with processed foods contributing 75% of total intake (Garriguet, 2007; Mattes & Donnelly, 1991). Unfortunately, a diet high in sodium affects Canadians of all ages, which may lead one to believe sodium is deeply embedded in the Canadian diet. According to the 2004 Canadian Community Health Survey (CCHS 2.2), approximately 90% of men and 66% of women over the age of 19 had intakes above the UL for sodium (Health Canada, 2009). Also, 97% of adolescent boys and ~80% of adolescent girls exceed the UL of sodium (Health Canada, 2009).

The World Health Organization (WHO) estimates hypertension as the leading risk factor for death in the world. A number of organizations (Canadian Hypertension Society, Canadian Cardiovascular Society, Canadian Stroke Network, Canadian Council of Cardiovascular Nurses, Canadian Society of Nephrology, Dietitians of Canada, Heart and Stroke Foundation of Canada, Blood Pressure Canada) have formed a **Coalition on Sodium** to develop strategies to reduce the sodium intake of Canadians. Health Canada has also formed a working group to develop strategies to lower the sodium content in Canadian diets. Stakeholders represented in the working group include the scientific and health professional community, health-focused and consumer non-governmental organizations, food manufacturing, and food service industries, as well as government agencies.

The U.S. National Institute of Health developed the DASH diet, which recommends a sodium intake of 2,300 mg/day to help lower blood pressure (Vennegoor, 2009). It's important to note that the DASH diet was developed for the general population. This diet provides more than just a low-sodium plan to help lower blood pressure—it is based on a meal plan rich in high-potassium fruits, vegetables, whole grains and low-fat dairy. As such, this diet is not suitable for clients with CKD or those on dialysis. Although adhering to a low-sodium diet can be challenging, it can be incorporated into a balanced diet with some guidance and planning.

## Practical ways to limit sodium intake

- Choose unprocessed, fresh foods that are naturally low in sodium
- Use spices and herbs to enhance the flavour of food
- Use less salt in cooking and avoid salt substitutes such as Nu-Salt™, Half Salt™, No Salt™
- Limit processed foods, deli meats, cheese, canned soups
- Limit baking powder and self-raising flour, as they are sources of sodium
- Cut the salty snacks such as potato chips, pretzels, nachos, popcorn, nuts and crackers
- Choose unsalted popcorn, crackers and plain cookies
- When dining out, limit sauces, gravies, soups, salad dressing and condiments
- Some restaurants have nutritional information on their websites—check the menu and plan your meal ahead of time

## Reading labels: Sodium food claims explained

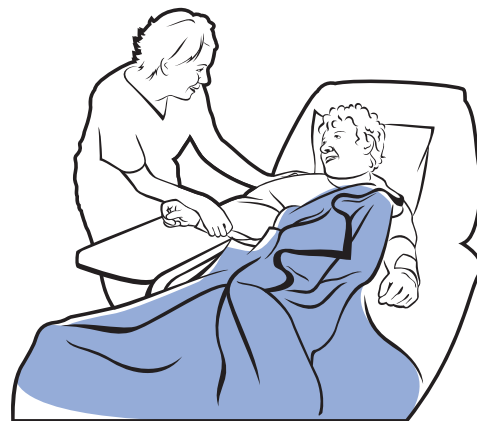
- Sodium-free, no sodium or zero salt means *less than 5 mg* of sodium per serving
- Low sodium or low salt means *140 mg or less* per serving
- Reduced sodium, lower sodium or lower in salt means *25% less sodium* than the original product and may still be high in sodium
- No added sodium, unsalted or no salt added means that no salt was added during processing, but items may still contain sodium
- Lightly salted means product contains *at least 50% less* sodium than comparable products and may still be high in sodium
- When choosing packaged foods, look for items that are sodium-free (<5 mg per serving) and low in sodium (140 mg per serving).
- Avoid products with more than 400 mg of sodium per serving.

## References

- Canadian Stroke Network. (2008, June). News release: **Dietary sodium contributes to 17,000 cases a year of stroke and heart disease in Canada, study says**. Retrieved April 14, 2009, from [www.canadianstrokenetwork.ca](http://www.canadianstrokenetwork.ca)
- Garriguet, D. (2007, May). Sodium consumption at all ages. *Health Reports/Statistics Canada*, 18, 47–52.
- Health Canada. (2009). It's your health: Healthy living – Sodium. Retrieved April 14, 2009, from [www.hc-sc.gc.ca/h1-vs/iyh-vsv/0000-aliment/sodium-eng.php](http://www.hc-sc.gc.ca/h1-vs/iyh-vsv/0000-aliment/sodium-eng.php)
- Lawes, C.M.M., Vander Hoorn, S., Law, M.R., Elliott, P., MacMahon, S., & Rodgers, A. (2006). Blood pressure and the global burden of disease 2000. Part II: Estimates of attributable burden. *Journal of Hypertension*, 24, 423–430.
- Mattes, R.D., & Donnelly, D. (1991). Relative contributions of dietary sodium sources. *Journal of the American College of Nutrition*, 10(4), 383–393.
- Vennegoor, M.A. (2009). Salt restriction and practical aspects to improve compliance. *Journal of Renal Nutrition*, 19(1), 63–68.

## Bedside Matters...

# You can just tell...



His nurse is like a good neighbour.

She greets anyone who steps up to his cubicle in the intensive care unit. She smiles at me, a dialysis nurse, who is coming into her neighbourhood for a few hours to treat him.

That's a clue to her level of caring for patients. She is welcoming to me, as a colleague.

She introduces herself and offers me a report on his condition. Concise and relevant.

I approach him. Although he needs assistance from the ventilator to help him breathe, he surprises me by being awake. His eyes are open. He is not sedated, like many people need to be, in order for him to stay still and let the machines do their life-saving work. He cannot speak because of the tube in his throat.

I introduce myself and the reason I am here. He looks at me keenly. I com-

ment on his big blue eyes and I see a sparkle of response to the personalized compliment.

I begin the procedure, set the machine prescription and document his vital signs and computer readings.

All is beginning well. A good start is a good predictor of what is to follow.

She offers me a chair, catches up with her charting.

One hour into the filtering and fluid removal of dialysis, his visitor comes. Her name is Helen. His nurse comes to stand beside her, tells her he has been awake all morning and will be glad she is here.

Helen asks if the results of the CT scan are back. She touches Helen's arm and says, "You have a visit and I'll go check."

Helen gives him a kiss on the lips and whispers into his ear.

Within a few minutes, Helen has him smiling and she pulls a photograph out of her purse.

"This is Jim with his beard. He's had a beard for the 17 years we've been together."

She draws me into the circle.

When his nurse comes back, we all chat together about his love of motorcycles and cooking.

Helen makes sure we understand Jim as a person. Makes us see how much she loves him. How much they love life.

So when she goes home, she can trust we'll do our best for him.

This morning she can do that. Helen responds to our suggestion to go home, put her feet up... she says, "I'll have a cup of tea and watch our birds in the garden. I know he'll be well looked after... I can just tell."

*Please share a meaningful moment of learning from your professional life. Send me your idea and I'll help you publish it. Send to Lee at [lee.beliveau@fraserhealth.ca](mailto:lee.beliveau@fraserhealth.ca)*

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

• Are you moving? Let us know. In order to ensure undelayed delivery of your CANNT Journal and other communications, please indicate corrections or a change of address as soon as possible and mail to: Debbie Maure, CANNT, Suite 322, 336 Yonge St., Barrie, Ontario, L4N 4C8.

• Déménagez-vous? Avertissez nous. Afin d'assurer la livraison ininterrompue de votre journal de l'ACITN ainsi qu'autre correspondance, veuillez indiquer toute correction ou changement d'adresse à l'association aussitôt que possible en complétant ce formulaire et le poster à: Debbie Maure, ACITN, Suite 322, 336 Yonge St., Barrie, Ontario, L4N 4C8

Name/Nom: \_\_\_\_\_ Moving Date/Date de déménagement: \_\_\_\_\_

Address/Adresse: \_\_\_\_\_

Street No./No.

Street/Rue

Apt./App

City/Ville

Province

Postal Code Postal



## Truth telling at the end of life

The impetus for this commentary comes from questions raised by a dialysis nurse during a discussion about end-of-life care. She spoke about two patients receiving dialysis who were dying from cancer. In the two cases, the families did not want the physicians or other health care team members to discuss the details of the very poor prognosis with the patients. The reasons the families gave for withholding the information was that they did not want to burden the patient and increase concern, fear and anxiety. Also, they wanted to ensure that hope was not taken away, so that the patients still had the will to “fight” their diseases. The situation led health care team members to ask whether they should avoid telling the truth to the patients at the request of the family members. Not telling the truth caused moral distress for many of the health care providers (HCPs) who believed they were being asked to lie to the patients—an action they considered to be unacceptable and unethical. The scenarios led to this complex question: Is it acceptable for health care providers not to tell dying patients the truth about prognosis and clinical treatment?

There are many important aspects and facts of the cases mentioned above that are missing and would be required to engage in a detailed case discussion. The clinical context of the case is extremely important in all situations where an ethical concern is raised. Rather than attempt to further analyze the cases, I consider them as a springboard for what follows, where I use a relational ethics lens to examine the question about truth telling raised above.

According to Bergum and Dossetor (2005), health care ethics is grounded in relationship—relationships between health care providers and patients, between patients and their families, and between researchers, theorists and practitioners. Although the context of these

relationships varies, they are nurtured and sustained by their reliance on dialogue and mutual concern. It is the relationship itself that supports and informs ethical reflection and decision-making. People are relational, and without truthfulness, relationships are impossible.

Questions about telling the truth and not telling the truth are critical in all areas of our lives. For many of us, from an early age, we are taught by our parents, teachers, clergy, etc., about how important it is to tell the truth and that lying is wrong. We are also taught that not telling the truth could negatively impact relationships and lead to many dire consequences. It follows, then, that honesty, mutual trust and respect are essential to all relationships.

In health care relationships, patients believe that HCPs will treat them with honesty and respect and always act in their best interest ensuring that they have the information to make appropriate decisions about their health care. In most health care situations, not telling the truth may mean that patients, who are often vulnerable in asymmetrical health care relationships, experience serious harms when their autonomy is undermined. Patients who are not told the truth about their prognosis or treatment experience a loss of trust—an essential component of health care provision (Storch, Rodney, & Starzomski, 2004).

Relationships in health care settings are complex, and we interact with people from diverse backgrounds with a variety of values, attitudes and beliefs. Most often, people do want to know the truth about their condition and what they can expect with their treatment plan. It is presumptuous of health care providers to think otherwise. How people go about asking for health care information and who they wish to be present or involved in the decision-making process varies. In some cases, even when people have decision-making capacity, and are compe-



tent to make their own decisions, they want others to be involved with them, as they process the complex health care information that they receive. Informed consent and decision-making do not always happen in a linear fashion. Patients need time to process information and reflect on what they are told. This is also true for family members. In many instances, family members may not have come to terms with the diagnosis and prognosis of the patient, as presented. In addition, family members may not know that the patient might be fearful about discussing the future because he/she knows it might be difficult for other family members to accept the impending death of a loved one.

Interestingly, in clinical situations where I have been involved with family members who have not wanted patients to know that they were dying, the patients were already aware of their poor prognosis because they were able to read the body language and stilted comments of their family members and health care professionals. Not discussing the prognosis in these cases was harmful for the patients, as they used precious energy trying to hide what they knew in order to protect family members who they worried were not strong enough to accept the diagnosis. In these cases, hiding the diagnosis, an action that was meant to protect the patient from the truth, actually diminished patient autonomy. If patients are not informed of their diagnoses, then they are not informed of the appropriate treatment options and any side effects or risks and benefits that may occur. Moreover, withholding the truth from patients does not allow them to engage in goodbyes, reflect on their lives and personal joys, carry out personal wishes and dreams, and to take care of issues such as wills, or future guardians for their children.

*Rosalie Starzomski, RN, BN, MN, PhD, Professor at UVic School of Nursing, Clinical Ethicist at Vancouver Coastal Health Authority, and Faculty Associate at W. Maurice Young Centre for Applied Ethics at University of British Columbia*

Truth telling is an ethical obligation and includes delivering information to enable patients to make informed choices about their health care and, also, to inform them about their situations. Helping patients understand about clinical uncertainties and the different options available affords them an opportunity to ask questions and to make informed decisions based on their own values and beliefs. In the 2008 Canadian Nurses Association (CNA) **Code of Ethics for Registered Nurses**, one of the nursing values is to recognize, respect and promote a person's right to be informed and make decisions. Under this value statement are several responsibilities including actions such as providing as much information as possible to patients while at that same time respecting the patients' right to defer to others if that is their choice. This requires considerable clinical judgment and expertise. In considering these issues, Elisabeth Kubler Ross, one of the foremost leaders in caring for the dying, was asked whether there was any justification for not being honest with a patient about the fact that they were dying. She said:

*...You have to answer their questions, but don't volunteer information for which they have not asked, because that means they're not ready for it yet. If somebody thinks you're a good guy if you tell them the whole truth, that there's nothing else we can do, this is baloney. Without miracles, there are many, many ways of helping somebody, without a cure. So you have to be very careful how you word it. And you never, ever, ever take hope away from a dying patient. Without hope nobody can live. You are not God. You don't know what else is in store for them, what else can help them, or how meaningful, maybe, the last six months of a person's life are. Totally changed around. So you don't just go and drown them in "truth." My golden rule has been to answer all the questions as honestly as I can. If they ask me statistically what are their chances ...I had a wonderful teacher, who once said that of his patients 50 per cent live one year, another 35 per cent live two years, and another so-and-so many per cent live two-and-a-half years, and so on. If you were very smart and added all the percentages up, there was always one per cent left. And the real shrewd ones said, "Hey, you forgot, what about that last one per cent?" And he*

*always said, "The last per cent is for hope." I like that. He never gave it to them with 100%. He was fantastic.*

Patients and families from diverse communities have different beliefs about autonomy and may not envision disclosure of information in the same way as their health care providers. In these cases, it is imperative that HCPs understand that, as noted in the **CNA Code of Ethics** (2008), capable persons might place different weight on individualism and may choose to defer to family or community values when making decisions. This is an area that needs to be carefully explored with patients to ensure their wishes are respected and they are included in the information process in the way that they wish to be. It is essential that on an ongoing basis, they be offered the opportunity to be told about important information. Great sensitivity, expertise and excellent clinical judgment are required in these situations. It is helpful to document preferences regarding the involvement of family members and substitute decision-makers in the decision-making process for patients. Information about death and dying, cross-cultural ethics and communicating bad news should be part of all HCPs' education to make certain that the ability to engage with patients and families around these important areas is a competency that HCPs can achieve.

In summary, a lack of honesty in health care provider/patient relationships undermines trust, and the consequences of not telling the truth are detrimental not only to patients and health care providers, but also to the health care professions, and society as a whole since we depend upon a health care system where people can trust health care providers to provide compassionate health care. In closing, I suggest a few important considerations when disclosing information to patients and families:

- Ensure the person has the capacity to understand and make reasonable decisions about the risks and benefits of a treatment plan.
- Determine what a person wants to know—in some cases disclosing too much information at a time may be harmful to patients. Patients should be told all relevant aspects of their illness, including the nature of the illness itself, expected outcomes with a reasonable range of treatment alternatives, risks and benefits of treatment,

and other information deemed relevant to their personal values and needs. This may require a number of different meetings with the patient and family members.

- Balance honesty and compassion with respect for patient autonomy.
- Recognize that telling the truth requires empathy, sensitivity and skill.
- Recognize that there are many benefits to being told the truth, for example, optimal pain control and symptom management.

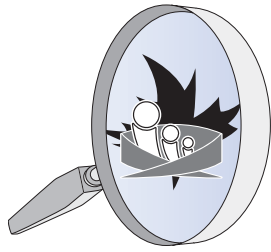
There is not one "right formula" for truth telling at the end of life, but attention to the patient and health care provider relationship can provide the framework for providing sensitive, compassionate care. In closing, I pose some questions for readers to ponder as they consider truth telling at the end of life:

- Do you think you are a trustworthy health care provider? How might you determine this?
- Do your co-workers trust you? Do you trust them? How do you know if this is the case?
- Do you trust your own health care providers? If so, why, if not, why not?
- In the past, how have you felt when you have determined that a person has not been truthful with you?
- What skills might you need to acquire in order to engage fully in trustworthy relationships with patients and their families?

*If you have any comments about this article and/or suggestions for future ethical issues/situations/questions to be addressed in the CANNT Journal, please forward them to Rosalie Starzomski. Thank you. E-mail address: rosestar@uvic.ca*

## References

- Bergum, V., & Dossetor, J. (2005). **Relational ethics: The full meaning of respect**. Hagerstown, MD: University Publishing Group.
- Canadian Nurses Association. (2008). **Code of ethics for nurses**. Ottawa: Canadian Nurses Association.
- Redwood, D. (n.d.). **On death and dying: Interview with Elisabeth Kubler-Ross M.D.** Retrieved April 26, 2009, from <http://www.healthy.net/scr/interview.asp?id=205>
- Storch, J., Rodney, P., & Starzomski, R. (Eds.). (2004). **Toward a moral horizon: Nursing ethics for leadership and practice**. Don Mills, ON: Pearson Education Canada.



## Profiling...

# In memoriam Sandra Gail Macleod (August 8, 1948–April 12, 2009)

By Marilyn Muir, RN, CNeph(C), CANNT Western Region VP,  
and Cindy Boughen, RN, BScN, MA, CNeph(C), CANNT President 2000–2001

Sandy MacLeod passed away on April 12, 2009, at the Grace Hospital in Winnipeg, just three weeks after being diagnosed with cancer. Everyone who knew Sandra loved her, both patients and colleagues, and we all feel the incredible loss of her passing.

Sandra realized her lifelong dream of becoming a registered nurse in 1982, working first at the Misericordia Hospital in general surgery and then in labour and delivery. In 1991, she joined the Winnipeg Health Sciences Centre Dialysis Unit, retiring from there in September 2007 as a Clinical Resource Nurse.

CANNT activities were very important to Sandra, and she was a CANNT member for many years. She was on the CANNT board of directors as secretary/treasurer in 2001–2002, and she coordinated the original CANNT website at that time. Sandra was part of the

CANNT planning committee when the conference was held in Winnipeg in 1999, and loved the camaraderie she felt when attending CANNT conferences. CANNT 2005 in Halifax was the last conference she attended. She had many wonderful memories from that conference and was part of many wonderful memories for her colleagues in Halifax with her.

Sandra was an exceptional wife, mother, grandmother, sister, friend, and mentor. She is mourned by a large circle of friends and colleagues who loved her deeply. Her calming personality, sense of humour, and authenticity will be missed by her family and her friends. Sandra was a wonderful nurse, and mentor for nurses new to the dialysis unit at the Health Sciences Centre. She had a kind, compassionate, caring demeanor, and was a strong patient advocate. Wise and caring, with innate common sense and

diplomacy, she was a person who inspired trust and love in others, with a gift for dealing with people and bringing order out of chaos.

Her leadership within the Winnipeg Health Sciences Centre dialysis unit supported all of the staff through many changes during her 16 years. These leadership skills were based on her personal values, “You can’t do what you say if you don’t know what you believe. And you can’t do what you say if you don’t believe in what you’re saying” (Kouzes & Posner, 2008, p. 42). This statement defined Sandra. Her spirit will live on through those who knew and loved her.

## Reference

Kouzes, J.M., & Posner, B.Z. (2008). *The student leadership challenge. Five practices for exemplary leaders*. San Francisco: Jossey-Bass.



April 5, 2009, Sandra’s work friends outside her window at the Grace Hospital, Winnipeg, show their love to Sandra with a “human card.”



2002 CANNT conference “Wit and Whimsy” in Toronto: Left, Sandra Macleod, then VP Western Ontario, and Mukesh Gajaria, then VP of Technologists.



# “Permanent” catheters AREN'T

An insidious word has found its way into the nephrology vocabulary, bringing with it an erroneous notion. That word is “perm-cath”. To patients, nurses and doctors alike, the concept of a permanent central venous catheter for hemodialysis is appealing. For patients, these catheters are virtually pain-free after the initial insertion, and for hemodialysis nurses, they are easy to use, often saving time and the inconvenience of needling. We are well aware of the usual complications of external vascular accesses—namely infection, bacteremia, thrombosis (clotting), flow problems (placement), accidental dislodging or cutting, kinking, central venous stenosis, and accidental air emboli, to name a few. Allow me to add a new complication to that list: catheter retention.

In the Division of Nephrology at the University Health Network (UHN) in Toronto, Ontario, we have developed a program in which, as the Nephrology Nurse Practitioner (NP), I have been educated by interventional radiologists to remove tunneled, cuffed hemodialysis catheters. I now carry out the majority of removals and am responsible for teaching the skill to nephrology medical trainees. This program has been operating successfully for the past 15 years, and has allowed for development of expertise in this skill. As UHN is a centre of excellence in renal transplantation and hemodialysis, there is a significant need for access to expedited tunneled line removal. Approximately 100 catheters per year are ordered for removal at UHN. Therefore, it is estimated that I have carried out this procedure more than 1,500 times over the past 15

years—and have, unfortunately, seen many of the complications that can arise during this procedure.

The catheter removal procedure, carried out using sterile technique, involves the instillation of local anesthetic followed by location of the catheter cuff in the subcutaneous tunnel. Blunt dissection of the catheter cuff—via incision or through the exit site—is followed by subsequent removal of the catheter and suturing, if required. Once the catheter is removed, time is needed for hemostasis and dressing application (Watson, 2007). Regardless of the method of cuff dissection (via incision or exit site), once freed, the catheter will slide out easily with the application of gentle steady traction.

Over the past number of years, however, on six separate occasions following blunt dissection, I was unable to pull out the tunneled, cuffed internal jugular (IJ) catheter. The angiography department (angio) is always available as back-up for these procedures—thus, these six individuals were transferred to angiography for further investigation and management. In one instance, the interventional radiologist was able to remove the catheter by making an incision near the IJ insertion site above the clavicle, and pulling the catheter cephalad towards the head rather than downward through the tunnel. In the other five cases, however, the catheters were unable to be removed and had to be ligated at the IJ site above the clavicle, tied off, and buried—leaving the distal portion in the patient. In one patient, under fluoroscopy, we were able to actually visualize that with gentle tugging of the

catheter there was slight mediastinal shifting. This patient concomitantly reported chest discomfort, indicating that the catheter was imbedded within the wall of the right atrium. Removal of this catheter would require cardiovascular surgery. Therefore, we elected to tie it off, ligate, and leave the remnant in situ. This decision was not taken lightly, as all of these individuals were having their catheters removed after successful renal transplant. Residual indwelling foreign material left in an immunosuppressed patient certainly poses an additional infective risk.

A review of the literature yielded other centres that had come across this issue. In 2006, Hassan et al. from London, UK, presented case reports of six individuals with retained central venous catheters, and found that they were directly related to length of time in situ—three to seven years. Thus, they have elected to change any tunneled central venous catheter after two years. In response, Liu et al. (2007) from Kitchener-Waterloo, Ontario, also identified eight cases of catheter retention and noted that these catheters had been in situ for one to 10 years. They are also considering prophylactic catheter changes after one to two years.

Similar to the literature, in the six cases at UHN, the catheters had been in situ between one and five years. Of interest, but questionable significance, all individuals were female, with ages ranging from 37 to 63 years. There were equal numbers of left and right IJ catheters. As all individuals were chronically dialyzed in different hospitals across Ontario and were at UHN because of the renal transplant program, the catheter type, manufacturer, and general care varied amongst patients.

An additional serious, but unrelated complication of a tunneled central catheter seen was that of a catheter tip that had broken away and migrated into a pulmonary artery. This catheter tip was removed in the angio suite by a skilled interventionalist using a snare intro-

*By Diane Watson, RN(EC), MSc, CNeph(C), Nurse Practitioner, Nephrology, University Health Network, Toronto, ON*

*Address correspondence to: Diane Watson, RN(EC), MSc, CNeph(C), Nurse Practitioner, Nephrology, 12ES-404 University Health Network, 200 Elizabeth Street, Toronto, ON M5G 2C4; E-mail: [Diane.Watson@uhn.on.ca](mailto:Diane.Watson@uhn.on.ca)*

*Department Editor: Eleanor Ravenscroft, RN, PhD, CNeph(C)*

duced via the femoral approach. Additionally, on a number of occasions, the cuff separated from the catheter itself and was retained in the subcutaneous tunnel, necessitating an additional incision and meticulous dissection to remove. Although not related to the problem of retained catheters, these cases offer further evidence that there can be serious complications from tunneled dialysis catheters.

Unquestionably, there is a place for a longer-term central venous hemodialysis access, often for those who have "run out" of other vascular access. However, we should treat them with the awareness and respect they deserve. There is certainly a movement to ensure that all patients get, or are considered for internal vascular accesses as best practice. All of our units utilize quality measures such as dressing care and locking techniques to minimize

complications of infections and thrombosis. Given our experience and the evidence in the literature, it might also be advisable to consider adopting a surveillance program of length of time the catheter remains in situ with consideration of prophylactic catheter change after a period of two years.

As for the term "permanent" catheter... I have removed it from my lexicon, and we have completely removed it from our guidebook and discussions and refer instead to tunneled central venous hemodialysis catheters, or "tunneled IJs" and "tunneled femorals." And, in patient education, we are becoming increasingly vigilant in informing patients that these catheters are only temporary, but can be used for longer term, as needed. This helps to dispel the expectation that the catheter should be "permanent," and sensitizes the patient, medical and nursing staff

not only to the desired non-permanent nature of these catheters, but also to the realization that over and above the usual complications, the risk of other more serious complications, which seem to relate directly to the length of time of catheter use, are very real.

## References

- Hassan, A., Khaffa, M., Al-Akira, M., Lord, R., & Davenport, A. (2006). Six cases of retained central venous haemodialysis access catheters. *Nephrology Dialysis Transplantation*, 21, 2005–2008.
- Liu, T., Hanna, N., & Summers, D. (2007). Retained central venous haemodialysis access catheters. Letter, *Nephrology Dialysis Transplantation*, 22, 960–961.
- Watson, D. (Ed.). (2007). UHN Division of Nephrology Housestaff/ACNP Guidebook. Retrieved March 25, 2009, from [http://ukidney.com/images/stories/uhnmanual\\_2007.pdf](http://ukidney.com/images/stories/uhnmanual_2007.pdf)

## CANNT Corporate Sponsors October 2008 to September 2009

### Platinum

**AMGEN®**

Amgen  
Canada Inc.

◆  
**ORTHO BIOTECH**

Ortho Biotech

**Baxter**

Baxter  
Corporation

**Roche**

Roche



BHC Medical

**Shire**

Shire  
BioChem Inc.



Fresenius Medical Care

Fresenius  
Medical Care

### Bronze



**COVIDIEN**

Covidien



**GAMBRO®**

Gambro Inc.

# 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.

## Quels types de manuscrits conviennent à la publication?

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
- des articles pertinents sur la pratique clinique
- des rapports sur des approches innovatrices sur l'amélioration de la qualité des soins
- des narrations nous décrivant vos expériences en soins infirmiers
- des questions et réponses sur la pratique interdisciplinaire
- critiques d'articles, livres et bandes magnétoscopiques récemment parus
- articles sur l'éducation continue.

## Comment les manuscrits doivent-ils être préparés?

**Forme:** Le manuscrit doit être à double interlignes, sur un seul côté, sur du papier blanc de 8.5 x 11". Des marges d'un pouce doivent être utilisées, et les pages numérotées consécutivement dans le coin supérieur droit de la page. Les études de recherche et articles cliniques plus formels, devraient avoir de 5 à 15 pages. Les narrations, questionnaires-réponses ou critiques, devraient avoir moins de 5 pages.

**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.

**Texte:** Les abréviations devraient être épelées la première fois qu'elles sont utilisées, suivies de l'abréviation entre parenthèses. Exemple: Association Canadienne des Infirmiers(ères) et Technologues en Néphrologie (ACITN). Les noms génériques des médicaments devraient être employés. Les mesures doivent être en Unités Standards Internationales (SI). Les références devraient être citées dans

le texte utilisant le format AAP. Une liste de références, comprenant les citations complètes de toutes les références utilisées, devrait suivre le texte.

**Tables/Illustrations:** Les manuscrits ne devraient inclure que les tables et illustrations servant à clarifier certains détails. Les auteurs utilisant des tables et illustrations préalablement publiées, doivent fournir une autorisation écrite obtenue de l'éditeur original.

## Comment soumettre les manuscrits?

S.V.P. Envoyer trois copies de votre manuscrit à: L'éditrice, l'ACITN, 336 Yonge St., Ste. 322, Barrie, ON, L4N 4C8. Vous devriez conserver une copie pour vous-mêmes.

## Comment les manuscrits sont-ils choisis pour le Journal de l'ACITN?

Une lettre confirmant la réception de votre manuscrit vous sera envoyée. Les articles sur la recherche et la pratique clinique sont révisés indépendamment par deux membres du groupe de révision du *Journal de l'ACITN*; auteurs et réviseurs demeurent anonymes. Tous les articles peuvent vous être retournés pour révision et soumission. Les manuscrits acceptés pour publication peuvent subir des changements éditoriaux; cependant, l'auteur aura l'occasion d'approuver ces changements. Le critère d'acceptance pour tous les articles comprend l'originalité des idées, l'actualité du sujet, la qualité du matériel, et l'attrait aux lecteurs.

Les auteurs devraient prendre note que les manuscrits seront considérés pour publication à la condition qu'ils ne soient soumis uniquement qu'au *Journal de l'ACITN*. Aucune reproduction n'est permise sans l'autorisation écrite du *Journal de l'ACITN*. Les déclarations et opinions émises par les auteurs demeurent leur responsabilité. Le rédacteur en chef se réserve le droit d'accepter ou de rejeter les manuscrits.

## Liste de contrôle des auteurs

- ✓ Lettre de présentation
- ✓ Trois copies du manuscrit
  - Page titre incluant ce qui suit:
    - titre de l'article
    - nom de chaque auteur (incluant prénom au complet)
    - titres professionnels
    - poste
    - employeur
    - auteur auquel la correspondance doit être envoyer, comprenant adresse, numéro de téléphone et de télécopieur, et l'adresse courriel
  - texte de l'article, avec abrégé si applicable, double interlignes, pages numérotées
  - références (sur feuille à part)
  - tables (une par page)
  - illustrations (une par page)
  - lettre d'autorisation pour reproduction de matériel préalablement publié.



# 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  $\leq 1.8$  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  $\geq 10\%$  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**

System Organ Class Event	Total AEs reported.	52 weeks Study of RENAGEL vs. calcium (calcium acetate and calcium carbonate)	
	RENAGEL N = 483 %	RENAGEL N = 99 %	calcium N = 101 %
<b>Gastrointestinal Disorders</b>			
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
<b>Infections and Infestations</b>			
Nasopharyngitis	13.9	14.1	7.9
Bronchitis	5.4	11.1	12.9
Upper Respiratory Tract Infection	7.0	5.1	10.9
<b>Musculoskeletal, Connective Tissue and Bone Disorders</b>			
Pain in Limb	13.7	13.1	14.9
Arthralgia	11.4	12.1	17.8
Back Pain	6.0	4.0	17.8
<b>Skin Disorders</b>			
Pruritus	10.4	13.1	9.9
<b>Respiratory, Thoracic and Mediastinal Disorders</b>			
Dyspnea	15.7	10.1	16.8
Cough	11.6	7.1	12.9
<b>Vascular Disorders</b>			
Hypertension	9.3	10.1	5.9
<b>Nervous System Disorders</b>			
Headache	18.4	9.1	15.8

<b>General Disorders and Site Administration Disorders</b>			
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  $\geq 10\%$  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) %
<b>Gastrointestinal disorders</b>		
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)
$\geq 2.4$ 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 phosphorus 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.

**genzyme**  
CANADA INC

Genzyme Canada Inc.  
800 – 2700 Matheson Blvd. East  
West Tower  
Mississauga, Ontario L4W 4V9 CANADA  
www.genzyme.ca  
Tel. 1-877-220-8918  
© Copyright 2006 Genzyme Corporation.  
All rights reserved.



# Island Lake Regional Renal Health Program

[http://www.umanitoba.ca/faculties/medicine/units/northern\\_medical\\_unit](http://www.umanitoba.ca/faculties/medicine/units/northern_medical_unit)



*Photo by David Campion, Photo Courtesy of AstraZeneca Canada's Frontline Health, Permission given by Jack Harper*

**We don't want you for your lifetime  
only to help him stay home for his**



As recently as 2005 if you required haemo dialysis and lived in one of the remote Island Lake Communities in Manitoba; it would have meant being uprooted out of your community and relocated to a large city like Winnipeg; separated from friends and family indefinitely. Many of our current patients spent nearly a decade away from home and family and were not responding well to treatment. With the institution of a local dialysis unit in the Island Lake area in 2005; patients repatriated home began to thrive. Unfortunately patients are again facing involuntary relocation to Winnipeg.

The shortage of health care providers is hitting the remote areas of Manitoba even more so than urban centres; areas

which have the greatest need. Because of this some patients are being sent to Winnipeg for their dialysis treatment; once again separated from community, family, and friends.

We are seeking **Renal Health Nurses** with

THE RENAL HEALTH PROGRAM PROVIDES A MODEL OF CARE AIMED AT REDUCING THE NUMBER OF CASES OF DIABETES AND ITS DEVASTATING EFFECTS ON ENTIRE COMMUNITIES.

recognised dialysis training or we will fund the nine week Manitoba Nephrology Nursing Course in return for a one year service commitment.

We are also seeking a **Renal Program Supervisor** and a **Renal Program Manager**.

The Supervisor, along with the Nurses, will live and work in Garden Hill. The Manager will live and work in Winnipeg with travel to Garden Hill.

See our website now for more information or contact Sylvia Sunstrum, 1-877-789-3711

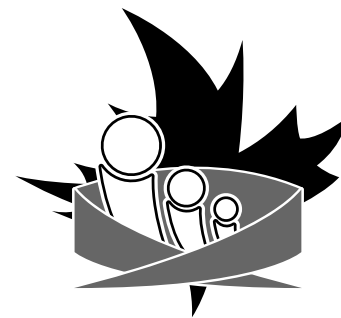


[http://www.umanitoba.ca/faculties/medicine/units/northern\\_medical\\_unit/pages/employment](http://www.umanitoba.ca/faculties/medicine/units/northern_medical_unit/pages/employment)

**BHC MEDICAL**



# CANNT Membership



First Name \_\_\_\_\_

Last Name \_\_\_\_\_

Home Address \_\_\_\_\_

City \_\_\_\_\_

Province \_\_\_\_\_ Postal Code \_\_\_\_\_

Telephone (H) (\_\_\_\_) \_\_\_\_ - \_\_\_\_\_

(W) (\_\_\_\_) \_\_\_\_ - \_\_\_\_\_

Fax (\_\_\_\_) \_\_\_\_ - \_\_\_\_\_

E-mail \_\_\_\_\_

Employer \_\_\_\_\_

Employer Address \_\_\_\_\_

City \_\_\_\_\_

Province \_\_\_\_\_ Postal Code \_\_\_\_\_

Mailing Address Preferred ☐ Home ☐ Work

Do you consent to the use of your name and address on mailing lists that CANNT has considered pertinent and appropriate? ☐ Yes ☐ No

☐ New Member or ☐ Renewal

CANNT # (if renewal) \_\_\_\_\_

Person who recommended  
joining CANNT: \_\_\_\_\_

**Membership Fee (GST #100759869)**

*Membership fee is tax deductible.*

☐ One Year: \$65.00 + 3.25 GST = \$68.25

☐ Two Years: \$120.00 + 6.00 GST = \$126.00

☐ Student Rate: \$32.50 + 1.63 GST = \$34.13\*

*\*Proof of full-time enrolment must accompany application.*

I enclose \$ \_\_\_\_\_  
made payable to Canadian Association  
of Nephrology Nurses and Technologists.

**Method of payment:**

☐ Cheque ☐ Money order ☐ Visa ☐ Mastercard

Cardholder Name: \_\_\_\_\_

Visa Number: \_\_\_\_\_

Expiry Date: \_\_\_\_\_

Signature: \_\_\_\_\_

☐ I have attained CNeph(C)/cdt designation  
Year of designation \_\_\_\_\_

Professional registration # \_\_\_\_\_

Date last renewed: \_\_\_\_\_

☐ I am a member of CNA

**Ontario applicants only**  
Do you belong to RNAO?

☐ Yes ☐ No

**Professional Status**

☐ Registered Nurse

☐ Registered Practical

Nurse/Registered

Nursing Assistant/

Licensed Practical Nurse

☐ Technician

☐ Technologist

☐ Other (Specify) \_\_\_\_\_

Number of Years in Nephrology \_\_\_\_\_

**Area of Responsibility**

☐ Direct Patient Care

☐ Teaching

☐ Administration

☐ Research

☐ Technical

☐ Other (Specify)

**Work Environment**

☐ Acute Care

☐ Independent Health Care

☐ Self-Care Unit

☐ Private Sector

**What is Your Highest Level of Education?**

*Nursing*

*Non-Nursing*

☐ Diploma

☐ Diploma

☐ Baccalaureate

☐ Baccalaureate

☐ Master's

☐ Master's

☐ Doctorate

☐ Doctorate

**I am At Present Studying Toward:**

*Nursing*

*Non-Nursing*

☐ Specialty Certificate

☐ Specialty Certificate

☐ Baccalaureate

☐ Baccalaureate

☐ Master's

☐ Master's

☐ Doctorate

☐ Doctorate

**Primary Area of Practice**

☐ Progressive renal insufficiency (pre-dialysis)

☐ Transplantation

☐ Hemodialysis

☐ Peritoneal

☐ Pediatrics

☐ Other (Specify) \_\_\_\_\_

**Return to CANNT**

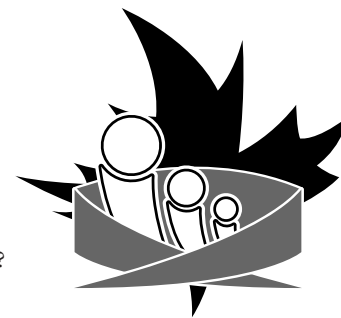
*Mailing Address:*

Debbie Maure, CANNT,

Suite #322, 336 Yonge St., Barrie, Ontario, L4N 4C8

Telephone (705) 720-2819 Fax (705) 720-1451

# Demande d'adhésion



Prénom \_\_\_\_\_

Nom de famille \_\_\_\_\_

Adresse à domicile \_\_\_\_\_

Ville \_\_\_\_\_

Province \_\_\_\_\_ Code postal \_\_\_\_\_

Téléphone (D) (\_\_\_\_) \_\_\_\_ - \_\_\_\_\_

(T) (\_\_\_\_) \_\_\_\_ - \_\_\_\_\_

Télécopieur (\_\_\_\_) \_\_\_\_ - \_\_\_\_\_

Courrier électronique \_\_\_\_\_

Employeur \_\_\_\_\_

Adresse de l'employeur \_\_\_\_\_

Ville \_\_\_\_\_

Province \_\_\_\_\_ Code postal \_\_\_\_\_

Adresse de correspondance ☐ domicile ☐ travail

Acceptez-vous que l'ACITN ajoute votre nom et votre adresse sur des listes d'envois qu'elle juge pertinentes et appropriées? ☐ Oui ☐ Non

☐ Nouveau membre ou ☐ Renouvellement

Numéro de l'ACITN # (si renouvellement) \_\_\_\_\_

Nom de la personne qui vous a recommandé de joindre l'ACITN: \_\_\_\_\_

**Frais d'adhésion** (TPS #100759869)

*Les frais d'adhésion sont déductibles d'impôts.*

☐ Un an: 65,00 \$ + 3,25 TPS = 68,25 \$

☐ Deux ans: 120,00 \$ + 6,00 TPS = 126,00 \$

☐ Tarif étudiant: 32,50 \$ + 1,63 TPS = 34,13 \$\*

\*La demande doit inclure une preuve d'inscription à plein temps

Je joins \$ \_\_\_\_\_

payable à l'ACITN.

**Mode de paiement:**

☐ Chèque ☐ Mandat de poste ou chèque visé

☐ Visa ☐ Mastercard

Nom du titulaire de la carte: \_\_\_\_\_

Numéro de la carte: \_\_\_\_\_

Date d'expiration: \_\_\_\_\_

Signature: \_\_\_\_\_

☐ J'ai obtenu la désignation CNeph(C)/cdt  
Année de désignation \_\_\_\_\_

Numéro d'enregistrement professionnel \_\_\_\_\_

Date du dernier renouvellement: \_\_\_\_\_

☐ Je suis membre de l'ACI

**Demandeurs de l'Ontario seulement**

Faites vous partie de l'AOIA?

☐ Oui ☐ Non

**Statut professionnel**

☐ Infirmière(ier) autorisée(sé)

☐ Infirmière(ier) auxiliaire

autorisée(sé) /

infirmière(ier) auxiliaire

☐ Technicienne / technicien

☐ Technologue

☐ Autre (spécifier) \_\_\_\_\_

Années d'expérience en néphrologie \_\_\_\_\_

**Domaine de responsabilité**

☐ Soins directs

☐ Enseignement

☐ Administration

☐ Recherche

☐ Technologie

☐ Autre (spécifier)

**Milieu de travail**

☐ Soins actifs

☐ Services de santé indépendants

☐ Unité d'autosoins

☐ Secteur privé

**Plus haut niveau d'instruction?**

*Infirmière(ier)*

*Autres*

☐ Diplôme

☐ Diplôme

☐ Baccalauréat

☐ Baccalauréat

☐ Maîtrise

☐ Maîtrise

☐ Doctorat

☐ Doctorat

**Je poursuis présentement des études:**

*Domaine Infirmière(ier)*

*Autre domaine*

☐ Certificat

☐ Certificat

☐ Baccalauréat

☐ Baccalauréat

☐ Maîtrise

☐ Maîtrise

☐ Doctorat

☐ Doctorat

**Secteur de pratique spécialisé**

☐ Insuffisance rénale progressive (pré-dialyse)

☐ Transplantation

☐ Hémodialyse

☐ Péritonéale

☐ Pédiatrie

☐ Autre (spécifier) \_\_\_\_\_

**Poster à ACITN**

*Adresse postale :*

Debbie Maure, ACITN,

336 Yonge St., pièce 322, Barrie (Ontario) L4N 4C8

Téléphone (705) 720-2819 Télécopieur (705) 720-1451