



# CANNT JOURNAL JOURNAL ACITN

Volume 21, Issue 2

April–June 2011

## IN THIS ISSUE:

- 15 CANNT 2011  
Blazing New Trails  
[2011 CONFERENCE ABSTRACTS](#)
- 38 Development of the Self-Care for  
Adults on Dialysis Tool (SCAD)  
*By Lucia Costantini, RN, MN, CNeph(C),  
Heather Beanlands, RN, PhD, and  
Martha Elizabeth Horsburgh, RN, PhD*
- 44 Thinking outside the box: An extraordinary  
woman on home peritoneal hemodialysis  
*By Lisa Harley, RN, BScN, CNeph(C)*
- 47 CONTINUING EDUCATION SERIES  
[Medication adherence in patients  
with chronic kidney disease](#)  
*By Colette B. Raymond, PharmD, MSc,  
Lori D. Wazny, PharmD, and Amy R. Sood, PharmD*





**"OUR PATIENTS' KIDNEYS  
ARE FAILING THEM.  
WE WON'T."**

— Heather Dean and Janice MacKay  
*Kidney Marchers, 2010 and 2011*

### **A BELIEF IN TRIUMPH, 100 KILOMETRES LONG**

**Kidney March Story, #483** No two ways about it: Heather Dean and Janice MacKay are renal royalty! Registered Nurses in the Southern Alberta Renal Program for years and co-chairs of the CANNT Conference, they refuse to succumb to the notion that chronic kidney disease is irreversible. In the belief that the human spirit can strengthen the life force in any patient, they work on tirelessly. And walk on tirelessly, too. This September at the breathtaking, three-day Kidney March, they will be joined by a thousand kindred spirits in what will surely be a peak experience — literally: a heroic trek right through Kananaskis Country!



## **KidneyMarch**

failure is **NOT** an option.

Join Heather and Janice...

**REGISTER TODAY!**

go to [www.KidneyMarch.ca](http://www.KidneyMarch.ca)

or call **(866) 9 KMARCH** (956-2724)



Benefiting the  
Kidney Foundation  
of Canada

**3 DAYS • 100KM • K-COUNTRY TO CALGARY • SEPT 9 - 11, 2011**

# CANNT JOURNAL JOURNAL ACITN



Letter from the Editor: Gillian Brunier	4
Lettre de la rédactrice: Gillian Brunier	5
Message from the President	6
Mot de la présidente	7
CANNT contact information	7
Notice board	12
Guidelines for authors	58
Lignes directrices à l'intention des auteurs	59

## C O N T E N T S

9	ASK THE GREEN TECH Green fundraising
11	CANADIAN INSTITUTE FOR HEALTH INFORMATION Kidney failure in Canada
13	Attending the 42nd annual American Nephrology Nurses Association (ANNA) conference, Boston, Massachusetts, March 27–30, 2011
14	Marching towards hope: By participating in Kidney March (September 9–11, 2011), CANNT nurses are proving they can
15	CANNT 2011 Blazing New Trails <a href="#">2011 CONFERENCE ABSTRACTS</a>
38	Development of the Self-Care for Adults on Dialysis Tool (SCAD) <i>By Lucia Costantini, RN, MN, CNeph(C), Heather Beanlands, RN, PhD, and Martha Elizabeth, Horsburgh, RN, PhD</i>
44	Thinking outside the box: An extraordinary woman on home peritoneal hemodialysis <i>By Lisa Harley, RN, BScN, CNeph(C)</i>
47	CONTINUING EDUCATION SERIES <a href="#">Medication adherence in patients with chronic kidney disease</a> <i>By Colette B. Raymond, PharmD, MSc, Lori D. Wazny, PharmD, and Amy R. Sood, PharmD</i>
53	PRACTICE CORNER Steps to safe swimming for patients on peritoneal dialysis
55	RESEARCH REVIEW Bone and mineral disorder prevention and management: What to do?
57	PROFILING... In memoriam—Maureen Donnelly March 29, 1956–February 17, 2011



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, email: [cannt@cannt.ca](mailto:cannt@cannt.ca). Published quarterly, the journal is received by all members of CANNT. Subscriptions are: Canada \$50.00 (plus HST), US. \$60.00, Outside N. America \$85.00. Back issues, when available, are \$7.50 (+HST) 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

Rejean Quesnelle, ASCT

Oakville, Ontario

Eleanor Ravenscroft, RN, PhD, CNeph(C)

Toronto, Ontario

Colette B. Raymond, PharmD, MSc

Winnipeg, Manitoba

Rosalie Starzomski, RN, PhD

Vancouver, British Columbia

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

Toronto, Ontario

Colleen Wile, RN, CNeph(C)

Halifax, Nova Scotia

### Managing Editor

Heather Coughlin, 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

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

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

## Letter from the Editor: Gillian Brunier

# Experience is the best teacher!



It is, we believe at the *CANNT Journal*, simply amazing to read the quality and the variety of the abstracts submitted by nephrology nurses and technologists from across the country each year to

the annual CANNT symposium—and this year is no exception! If you look from pages 16 to 37, you will see 66 abstracts accepted for the upcoming symposium in Calgary, October 20–22, 2011. They are innovative, detailed, thought-provoking—a true sharing of experiences. The topics include: pediatric hemodialysis, nocturnal hemodialysis, green dialysis, water systems and telehealth. There is truly something for everyone. Congratulations to all of those who had their abstracts accepted!

All of us encourage our patients to become involved in their dialysis treatments, medications and diet. Having a questionnaire to quantify these behaviours and activities could well be useful to nurses. The feature article in this issue is a research article entitled: “Development of the Self-care for Adults on Dialysis Tool (SCAD)L” by Lucy Costantini, Education Coordinator at St. Joseph’s Health Centre, Toronto, and her colleagues. Development of a questionnaire to be used in research can be a time-consuming project, and, if you read Lucy’s detailed study on her development of a questionnaire to measure self-care activities, you will have a greater understanding on what an arduous task it can be.

As well as encouraging patients to be more involved in their own care, we, in turn, are closely involved in patients’ care. Some patients on dialysis present unique challenges and we struggle with them to find new, sometimes unconventional, ways of managing these challenges.

Lisa Harley, staff nurse in the Home Peritoneal Dialysis Unit of the University Health Network, Toronto, has just such a patient and she describes in wonderful detail the specific challenges and how she and her nephrology team, along with a young community nurse, were able to overcome them. This special patient has been able to manage two years on home peritoneal dialysis with the help of her mother and the nephrology team. Lisa’s article is entitled “Thinking outside the box: An extraordinary woman on home peritoneal dialysis.” We would like more of you to share your stories on how you have learned to successfully manage your patients with specific and, at times, seemingly overwhelming challenges.

While not a new issue, swimming for patients on home peritoneal dialysis has always raised concerns because of the risk of exit-site infections and peritonitis. Arlene Cugelman, Charge Nurse/Clinical Educator at the Orillia Soldier’s Memorial Hospital, Orillia, Ontario, searched the literature, such as there is, on this topic. Now she has outlined for all of us how the nurses at her home dialysis unit have helped one patient achieve her goal of swim sessions in a local lake without any episodes of peritonitis. They have developed an education pamphlet so that other patients on PD at their centre can also swim safely. If you have found innovative strategies in your unit to help patients on dialysis enjoy activities safely that others in the past have considered risky, please share these stories with us through the *CANNT Journal*.

Through nephrology nurses and technologists sharing their individual experiences with patients in presentations at the annual CANNT symposia, as well as through writing about these experiences for the *CANNT Journal*, we all benefit. Experience is really the best teacher, but it does need to be shared.

## L'expérience est le meilleur maître!

Au *Journal de l'ACITN*, nous croyons qu'il est tout simplement incroyable de constater la qualité et la variété des résumés soumis par les infirmières et infirmiers et les technologues d'un bout à l'autre du pays chaque année au congrès annuel de l'ACITN—et cette année ne fait pas exception à la règle! Aux pages 16 à 37, vous pourrez passer en revue les 66 résumés qui ont été retenus pour le prochain congrès qui aura lieu à Calgary, du 20 au 22 octobre 2011. Ces résumés sont innovateurs, détaillés et inspirants—un réel forum d'échanges d'expériences. Les sujets vont de l'hémodialyse pédiatrique, de l'hémodialyse nocturne, de la dialyse verte ou à impact environnemental réduit, en passant par les systèmes de traitement d'eau et à la télésanté. Il y en a vraiment pour tous les goûts. Félicitations à ceux et celles dont les résumés ont été acceptés!

Nous encourageons tous et toutes nos patients à jouer un rôle actif dans leurs traitements de dialyse, dans leur pharmacothérapie et dans leur diète. Disposer d'un questionnaire pour quantifier ces comportements et activités pourrait être bien utile aux infirmières et infirmiers. L'article de fond du présent numéro est un article de recherche intitulé : *Development of the Self-care for Adults on Dialysis Tool (SCAD)* [traduction libre : Création de l'outil Autogestion de la santé destiné aux adultes en dialyse (AGAD)] par Lucy Costantini, coordonnatrice à l'éducation au *Joseph's Health Centre*, de Toronto, et ses collègues. L'élaboration d'un tel questionnaire qui sera utilisé en recherche est un projet de longue haleine et, si vous lisez l'étude détaillée de Lucy portant sur la mise au point d'un tel questionnaire pour mesurer ces activités d'autogestion en matière de santé, vous aurez un meilleur aperçu de l'ampleur de la tâche.

En plus du fait d'encourager les patients à prendre de plus en plus part à leurs propres soins, nous, à notre tour, sommes étroitement engagés dans les soins que nous leur prodiguons. Certains patients en dialyse présentent des défis uniques et nous nous démenons avec eux pour trouver des façons nouvelles, parfois non conventionnelles, de relever ces défis. Lisa Harley, infirmière soignante à l'unité de dialyse péritonéale à domicile de la *University Health Network*, de Toronto, travaille avec une telle patiente et raconte dans des détails extraordinaires les défis particuliers à ce cas et comment

son équipe de néphrologie et elle, avec la collaboration d'une jeune infirmière d'un centre de soins communautaire, ont réussi à les surmonter. Dans ce cas bien particulier, la patiente a été en mesure de prendre en charge son traitement de dialyse péritonéale à domicile pendant deux ans avec l'aide de sa mère et de l'équipe de néphrologie. L'article de Lisa s'intitule : *Thinking outside the box: An extraordinary woman on home peritoneal dialysis* [Traduction libre : Sortons des sentiers battus : une femme extraordinaire en dialyse péritonéale à domicile]. Nous aimerions que vous soyez plus nombreux et nombreuses à partager vos expériences, en mettant en scène ce que vous avez appris dans votre prise en charge réussie de patients qui présentaient des défis particuliers qui semblaient insurmontables de prime à bord.

Bien que cela ne soit pas un nouvel enjeu, la pratique de la natation chez les patients en dialyse péritonéale à domicile a toujours soulevé des inquiétudes en raison des risques d'infection du site d'émergence et de péritonite. Arlene Cugelman, infirmière responsable et éducatrice clinique, au *Orillia Soldier's Memorial Hospital*, à Orillia, en Ontario, a examiné en détail la documentation existante sur le sujet. Elle nous livre maintenant comment les infirmières de son unité de dialyse à domicile ont permis à une patiente d'atteindre ses objectifs de séances de natation dans un lac de sa région sans éprouver d'épisodes de péritonite. Ces infirmières ont conçu un dépliant éducatif afin que les autres patients en DP de leur centre puissent également se baigner en toute sécurité. Si vous avez mis au point des stratégies innovatrices dans votre unité pour aider des patients en dialyse à profiter d'activités en toute sécurité que d'autres dans le passé considéraient comme risquées, n'hésitez pas à nous en faire part par l'intermédiaire du *Journal de l'ACITN*.

Nous profitons tous et toutes de ces expériences enrichissantes vécues par les infirmières et infirmiers et les technologues grâce aux communications orales qu'ils nous présentent dans le cadre du congrès annuel de l'ACITN et aussi grâce aux articles sur leurs expériences qu'ils acceptent de rédiger pour le *Journal de l'ACITN*. Comme on peut le constater, l'expérience est le meilleur maître, mais surtout elle gagne à être partagée.

### 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 \$ (+TVH), E.-U., 60 \$, hors du Canada et E.-U., 85 \$. Les publications antérieures, lorsque disponibles, coûtent 7,50 \$ (+TVH) 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  
Rejean Quesnelle, ASCT  
Oakville, Ontario  
Eleanor Ravenscroft, RN, PhD, CNeph(C)  
Toronto, Ontario  
Colette B. Raymond, PharmD, MSc  
Winnipeg, Manitoba  
Rosalie Starzomski, RN, PhD  
Vancouver, Colombie-Britannique  
Alison Thomas, RN(EC), MN, CNeph(C)  
Toronto, Ontario  
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)

**2010–2011 CANNT  
Board of Directors**

**Conseil d'administration  
de l'ACITN 2010–2011**

**President/Président:**

Patty Quinan, RN, MN, CNeph(C)  
T: (416) 249 8111 ext. 4855  
F: (416) 243-4421  
email/courriel: [pquinan@hrrh.on.ca](mailto:pquinan@hrrh.on.ca)

**President-Elect/Présidente-élue:**

Marilyn Muir, RN, CNeph(C)  
T: (204) 787-3611  
F: (204) 787-7038  
email/courriel: [mrmuir@hsc.mb.ca](mailto:mrmuir@hsc.mb.ca)

**Past President/Présidente sortante:**

Rick Luscombe, RN, BN, CNeph(C)  
T: (604) 682-2344 ext. 62421  
F: (604) 806-8449  
email/courriel: [rluscombe@providencehealth.bc.ca](mailto:rluscombe@providencehealth.bc.ca)

**Website Coordinator and Treasurer/  
Trésorière et coordonnatrice  
du site internet:**

Bev Watson, RN(EC), MN, CNeph(C)  
T: (705) 325-2201 ext. 3073  
email/courriel: [bevwatson@sympatico.ca](mailto:bevwatson@sympatico.ca)

**Vice-President of Technologists/  
Vice-Président des Technologues:**

Reg Quesnelle, ASCT  
T: (905) 845-2571 ext. 6857  
email: [regq101@gmail.com](mailto:regq101@gmail.com)

**Atlantic Region Vice-President/  
Vice-Présidente de l'Atlantique:**

Cathy Ehrhardt, RN, CNeph(C)  
T: (506) 648-6010  
F: (506) 648-7796  
email/courriel: [Cathy.Ehrhardt@HorizonNB.ca](mailto:Cathy.Ehrhardt@HorizonNB.ca)

**Quebec Vice-President/  
Vice-Présidente du Québec:**

Amélie Dumont, BScN, CNeph(C)  
T: (514) 934-8039  
F: (514) 934-8514  
email/courriel: [amelie.dumont@muhc.mcgill.ca](mailto:amelie.dumont@muhc.mcgill.ca)

**Ontario Region Vice-President/  
Vice-Présidente de l'Ontario:**

Jocelyn Laing, RN, BScN  
T: (905) 937-0072  
F: (905) 682-0389  
email: [laing.jocelyn@gmail.com](mailto:laing.jocelyn@gmail.com)

**Western Region Vice-President/  
Vice-Présidente de l'Ouest:**

Heather Dean, RN, CNeph(C)  
T: (403) 943-9400  
F: (403) 943-9401  
email/courriel: [Heather.Dean@albertahealthservices.ca](mailto:Heather.Dean@albertahealthservices.ca)

*Message from the President*

# Recognition and celebration!



Whether you are new to nephrology or have been around for a while (like me), your contribution to the specialized area of nephrology and to your profession deserves recognition and celebration.

The word **profession** is Latin for *public promise*, a special sort of devotion and dedication. Freidson (1990) defines professional as the “productive labour by which one makes a living, a full-time occupation that entails the use of some sort of specialized skill.” In the context of nursing, Freidson suggests that our profession represents “caring about the well-being of those one serves.” I feel that these definitions capture the essence of nephrology professionals. They reflect our valuable contribution and the specialization and skill demonstrated by nephrology professionals while caring for patients with kidney disease.

Recognition and celebration can come in many forms; through professional membership, conference attendance and personal and professional rewards. Membership in CANNT provides nephrology professionals with the unique opportunity of belonging to a professional association whose mission is to enhance patient care for individuals with kidney disease. Membership also includes a subscription to quarterly peer-review journals, and offers members an opportunity to receive awards, bursaries and grants. The annual CANNT conference allows nephrology professionals the opportunity to network with their peers, increase knowledge and enhance clinical practice, obtain continuing education hours and recognize, and celebrate the valuable contribution of those in our field. If you are currently not a member or your membership has lapsed, please join now at [www.cannt.ca](http://www.cannt.ca) and become a part of this exciting association.

In order to enhance your personal and professional development, you can start in a small way. Get involved at a unit level in quality improvement projects, give an oral presentation to your colleagues, seek learning opportunities and apply or volunteer for a leadership position as a resource staff or preceptor. You may also engage in discussions with other professionals from coast to coast by participating on the discussion board located on the CANNT website or volunteer as a member of the CANNT board of directors. Consider attending and participating in nephrology conferences, workshops, seminars and journal clubs or apply for the many awards, bursaries and grants available to CANNT members. I would also encourage you to read nephrology-related articles and journals, get involved in research and obtain professional certification. The possibilities are endless and **rewarding!**

One of the ways that CANNT is able to recognize and celebrate its members is through the generous support that we receive from industry sponsors. I would like to thank our industry sponsors for their ongoing support and generosity. Our sponsors continued support, in the form of awards, bursaries and grants, helps to promote educational and research opportunities and further important recognition of all our members. Fresenius Canada provides educational grants, such as a Technical Education bursary, Bachelor's and Master's level Educational bursaries, research grants, and an Award of Excellence. Amgen Canada extends financial support through a travel, research and a preceptorship/mentorship program, which is available for a variety of practice areas, including international nursing conferences, research project grants for nursing, a nurse practitioner grant, a vascular access grant,

*continued on page 7...*



...continued from page 6

and nephrology technical practice grants. In addition, CANNT sponsors the certification and re-certification bursary. Information about the many awards, bursaries and grants is available on the CANNT website under "What's new" on the homepage or under the "Resources" section.

Our industry sponsors also provide additional financial support for our annual symposiums. These symposiums offer nurses and technologists opportunities to network with industry sponsors. You may also learn about all that the association is doing for its members by attending the Annual General Meeting. This year's conference is being held in **Calgary, Alberta, from October 20 to the 22, 2011**, and the theme of the conference is called "Blazing New Trails."

Congratulations to all bursary and award winners and nephrology nurses and technologists who have obtained their professional certification. Professional certification is another incentive that recognizes and celebrates nephrology professionals. Certification is available for registered nurses through the Canadian Nurses Association CNeph(C). Technologists may obtain certification through the Canadian Board of Examiners for Biomedical Engineering and Dialysis Technologists and Technicians (cdt). There are approximately 1,100 certified nephrology nurses and eight certified technologists in Canada.

### Mot de la présidente

## Reconnaissance et célébration!

Que vous soyez une recrue en néphrologie ou dans les parages depuis quelque temps déjà (comme moi), votre contribution au domaine spécialisé de la néphrologie et à votre profession mérite d'être reconnue et célébrée.

L'origine du mot **profession** vient du latin *professio* qui signifie une «déclaration publique», soit un serment de dévotion et de dévouement, d'où l'expression «profession de foi». Freidson (1990)

I would like to take this opportunity to recognize a nephrology professional, Gillian Brunier, for her valuable contribution to nephrology and to CANNT. Gillian Brunier is a Nurse Practitioner and has been the editor of the *CANNT Journal* since 1990. Gillian was recently recognized by the University of Toronto and named on the Notable 90 Honour Roll for her leadership and valuable contribution to the nephrology profession. My professional relationship with Gillian has developed over several years, including my years as a member of CANNT, through publications in the *CANNT Journal*, as a peer-reviewer of the *CANNT Journal*, and now as a member of the board of directors.

I would like to encourage you to take a few minutes to reflect on your nephrology practice and let your association know. Contact us at [www.cannt.ca](http://www.cannt.ca).

In closing, I would like to add that we look forward to hearing from you and seeing you at the annual symposium in Calgary, Alberta, in October 2011. Thank you.

**Patty Quinan, MN, CNS, CNeph(C)**  
CANNT President

### Reference

Freidson, E. (1990). *Professionalism, caring, and nursing*. Paper prepared for The Park Ridge Centre, Park Ridge, Illinois. Retrieved from [www.virtualcurriculum.com/N3225/Freidson\\_Professionalism.htm](http://www.virtualcurriculum.com/N3225/Freidson_Professionalism.htm)

définit le travail professionnel comme «le travail productif par lequel une personne gagne sa vie, une occupation à temps plein qui fait appel à une certaine catégorie de compétences spécialisées». Dans le contexte de la profession infirmière, Freidson suggère que notre profession représente le fait de «veiller au bien-être de ceux que nous desservons».

*suite à la page 8...*

## CANNT Representatives/Contacts

### Représentants/ contacts ACITN

**Journal Editor-in-Chief/  
Éditrice en chef du Journal :**

Gillian Brunier,  
RN(EC), MScN, CNeph(C)  
T: (416) 480-6100 ext. 3149  
F: (416) 495-0513  
email/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, RN, PhD  
T: (416) 979-5000 ext. 7972  
email/courriel: [hbeanlan@ryerson.ca](mailto:hbeanlan@ryerson.ca)

**CNA Liaison/Liaison pour AIIC:**

Rick Luscombe, RN, BN, CNeph(C)  
T: (604) 682-2344 ext. 62421  
F: (604) 806-8449  
email/courriel:

[rluscombe@providencehealth.bc.ca](mailto:rluscombe@providencehealth.bc.ca)

**Kidney Foundation of Canada—MAC**

**Representative/Fondation du rein—  
Comité de médical consultatif**

**President/Président:**

Patty Quinan, RN, MN, CNeph(C)  
T: (416) 249 8111 ext. 4855  
F: (416) 243-4421

email/courriel: [pquinan@hrrh.on.ca](mailto:pquinan@hrrh.on.ca)

**Bursary Committee/Comité des Bourses  
President/Président:**

Patty Quinan, RN, MN, CNeph(C)  
T: (416) 249 8111 ext. 4855  
F: (416) 243-4421

email/courriel: [pquinan@hrrh.on.ca](mailto:pquinan@hrrh.on.ca)

**2011 Symposium: October 20–22, 2011,**

**Calgary, Alberta/Congrès 2011: 20–22**

**Octobre 2011, Calgary, Alberta:**

**Conference Planner/Organisatrice de la**

**conférence: Heather Reid—Innovative**

**Conferences and Communications**

T: (519) 652-0364

F: (519) 652-5015

email/courriel: [hreid@innovcc.ca](mailto:hreid@innovcc.ca)

**Journal advertising contact/Personne**

**contact pour la publicité du Journal:**

Heather Coughlin

Pappin Communications,

84 Isabella Street, Pembroke, ON K8A 5S5

T: (613) 735-0952

F: (613) 735-7983

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

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

**CANNT Administration Office/**

**Bureau National de l'ACITN:**

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

email/courriel: [cannt@cannt.ca](mailto:cannt@cannt.ca)

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

Je crois que ces définitions touchent à l'essence même des professionnels de la néphrologie. Elles reflètent la contribution vitale, la spécialisation et les compétences dont font preuve les professionnels de la néphrologie, tout en prodiguant des soins aux patients atteints de maladie du rein.

La reconnaissance et la célébration peuvent prendre de nombreuses formes, notamment l'adhésion à un ordre professionnel, la participation à une conférence et la gratification de nature personnelle et professionnelle. Devenir membre de l'ACITN procure aux professionnels de la néphrologie l'occasion unique d'appartenir à une association professionnelle dont la mission consiste à améliorer les soins de santé des personnes atteintes de maladie rénale. L'adhésion inclut également un abonnement à des journaux publiés trimestriellement et révisés par des pairs et offre la possibilité de se voir attribuer des prix, des bourses et des subventions. Le congrès annuel de l'ACITN permet aux professionnels de la néphrologie de réseauter avec leurs pairs, d'accroître leurs connaissances, d'améliorer leur pratique clinique, d'obtenir des crédits de formation continue et de reconnaître et de célébrer la précieuse contribution de ceux œuvrant dans notre domaine. Si vous n'êtes pas membre ou que votre adhésion est échue, rendez-vous sur [www.cannt.ca](http://www.cannt.ca) et joignez-vous à cette association passionnante.

Afin d'accroître votre développement personnel et votre perfectionnement professionnel, vous pouvez commencer à petite échelle. Prenez part à des projets d'amélioration de la qualité dans votre unité; donnez une communication orale à vos collègues; saisissez les occasions d'apprentissage et postulez ou soyez volontaire à des postes de leadership comme personnel ressource ou précepteur ou préceptrice. Vous pouvez également engager des discussions avec d'autres professionnels d'un océan à l'autre en clavardant sur le site Web de l'ACITN ou en y publiant des messages sur le babillard électronique ou en vous faisant élire comme administrateur ou administratrice du conseil d'administration de l'ACITN. Envisagez d'assister et de participer aux conférences, ateliers, séminaires et clubs de lecture de l'ACITN ou soumettez votre candidature aux nombreux prix, bourses et subven-

tions offerts aux membres de l'ACITN. Je vous encourage aussi à lire des revues et des articles scientifiques axés sur la néphrologie, à prendre part à la recherche et à obtenir l'agrément professionnel en néphrologie. Les possibilités sont sans fin et **gratifiantes!**

Une des façons dont l'ACITN est en mesure de reconnaître et de célébrer ses membres passe par le généreux soutien qu'elle reçoit de l'industrie. Je tiens à remercier ici nos commanditaires pour leur soutien continu et leur générosité. Cet appui, qui prend la forme de prix, de bourses et de subventions, nous aide à promouvoir des occasions d'éducation et de recherche et, de façon plus importante encore, à favoriser la reconnaissance de l'ensemble de nos membres. Fresenius Medical Care Canada offre des subventions à l'éducation, telles que la bourse d'éducation en technologie, et un Prix d'excellence. Amgen Canada offre son soutien financier par le programme de déplacement, de recherche et de préceptorat/mentorat qui est accessible pour une variété de secteurs de la pratique, incluant l'inscription à des conférences internationales en sciences infirmières, des subventions de recherche en sciences infirmières, une subvention à l'éducation pour une infirmière praticienne, une subvention en accès vasculaire et des subventions pour la pratique technique en néphrologie. De plus, l'ACITN parait la bourse d'agrément et de renouvellement d'agrément. L'information relative aux nombreux prix, bourses et subventions est accessible sur le site Web de l'ACITN à l'onglet «Quoi de neuf» sur la page d'accueil ou dans la section «Ressources».

Nos commanditaires de l'industrie fournissent également le soutien financier additionnel pour la tenue de nos congrès annuels. Ces congrès offrent aux infirmières et infirmiers et aux technologues des occasions de créer des liens avec nos partenaires de l'industrie. Vous pouvez aussi en apprendre davantage sur ce que fait l'association pour ses membres en assistant à l'Assemblée générale annuelle. Cette année, le congrès aura lieu à **Calgary, en Alberta, du 20 au 22 octobre 2011** et le thème sera : *Explorons de nouvelles voies*.

Nous désirons féliciter les récipiendaires de prix et de bourses ainsi que les infirmières et infirmiers et les technologues en néphrologie qui ont obtenu leur

agrément professionnel. L'agrément professionnel est une autre mesure incitative qui reconnaît et célèbre les professionnels en néphrologie. L'agrément en néphrologie, CNéph(C), est offert aux infirmières et infirmiers autorisés par l'intermédiaire de l'Association des infirmières et infirmiers du Canada (AIIC). Les technologues peuvent obtenir l'agrément par le Conseil canadien d'agrément des services de santé (CCASS) pour les technologues et techniciens en génie biomédical et en dialyse. On compte environ 1 100 infirmières et infirmiers agréés en néphrologie et 8 technologues agréés au Canada.

Je profite de l'occasion pour reconnaître une professionnelle de la néphrologie, Gillian Brunier, pour son importante contribution à la néphrologie et à l'ACITN. Gillan est infirmière praticienne et occupe le poste de rédactrice en chef du Journal de l'ACITN (*CANNT Journal*) depuis 1990. Gillian a été honorée récemment par la *University of Toronto* pour son leadership et sa précieuse contribution à la profession infirmière en néphrologie; son nom a été inscrit au Tableau d'honneur des 90 infirmières reconnues pour souligner 90 années d'innovation de la Faculté des sciences infirmières Bloomberg. Ma relation professionnelle avec Gillian s'est développée au fil des années, à mes débuts en tant que membre de l'ACITN, puis par la publication d'articles dans Journal de l'ACITN, en passant par mon rôle de lectrice critique pour le Journal de l'ACITN à celui de membre du Conseil d'administration.

Je vous invite à prendre quelques minutes pour vous pencher sur votre pratique de la néphrologie et à en faire bénéficier votre association. Visitez-nous au [www.cannt.ca](http://www.cannt.ca).

Pour conclure, j'aimerais ajouter que nous attendons avec impatience de recevoir de vos nouvelles et de vous accueillir au congrès annuel de l'ACITN à Calgary, en Alberta, du 20 au 22 octobre 2011. Merci.

**Patty Quinan, M.Sc.Inf., ICS,  
CNéph(C)  
Présidente de l'ACITN**

## Référence

Freidson, E. (1990). *Professionalism, caring, and nursing*. Paper prepared for The Park Ridge Centre, Park Ridge, Illinois. Retrieved from [www.virtualcurriculum.com/N3225/Freidson\\_Professionalism.htm](http://www.virtualcurriculum.com/N3225/Freidson_Professionalism.htm)



# Green fundraising

Copyright © 2011 Canadian Association of Nephrology Nurses and Technologists



Dear Green Tech,

*The weekend of Sept 9–11, 2011, marks the second annual Kidney March in Calgary, which I am looking forward to participating in again. I am, however, looking for some unique and creative ideas for fundraising this year to help me reach my minimum funding goals. It would be fantastic if you are aware of any such ideas and were able to provide me with some insight into “green” fundraising.*

Sincerely,

Kidney Cathy from Calgary

Dear Kidney,

Well, spring has sprung and is nearing its end with summer now on the doorstep. With beautiful blooms and early food crops now here, the excitement for the warm summer weather is infectious. It also marks the mid-way point for those of us training for the annual parade of marathons and sporting events in support of our cherished cause.

There are numerous longstanding events such as the Terry Fox Run, Scotiabank Toronto Waterfront Marathon or the Weekend to End Women's Cancer, all of which hope to raise thousands of dollars to help their cause. But in the world of kidney disease, the 100 km gauntlet we call the Kidney March held in Calgary the weekend following Labour Day is another such feat that helps not only to raise awareness regarding kidney disease, but also plays a pivotal role in supporting The Kidney Foundation of Canada's ongoing campaign.

As with all of these large events, each competitor pledges a strong commitment and dedication by way of both training and monetary contribution, which in some cases is in the thousands of dollars. So with fundraising being a key component of each participant's application, it requires a great

deal of strategy and planning in order to meet his or her funding goals.

You have your traditional fare of fundraisers. The yard sale or sometimes referred to as a white elephant or boot sale. Then there is the candy or bake sale, and finally the 50/50 raffle. There are limitless ideas for fundraising. Cookie dough, scratch cards, plant sales, BBQ, car wash, and the list goes on and on. We also have those marquee events, for example, benefit dinners and concerts, silent auctions, sporting events (golf tournaments, etc.) and charity casino/games night (also includes Bingo).

I should mention here that my band, In Lieu of Riche\$, has done numerous benefit concerts for friends of ours. Two for the Weekend to End Women's Cancer and our upcoming Relay For Life concert, all of which are rockin' good times.

The problem you face with large-scale events is the expense factor. The expense of time—planning the event months in advance and, in many, cases up to a year. The expense of money—upfront costs required to run the event: rent the hall, the caterer, entertainment, which can easily be in the thousands of dollars before a ticket has even been sold. The expense of people—rustling up a large number of volunteers to help organize and staff the event is a challenge all onto itself.

The fact of the matter is that large-scale fundraising is a gamble. You may end up having a smashing event and raise a great deal of money for your charity, but you can also do quite poorly and make very little compared to all the expenses it took to put it all together in the first place.

So then, to answer your question, “Are you aware of any such unique ideas”, the answer would be YES. Well, there are a few unique takes of old ideas I found

while researching. You can do what is called a direct action auction where you play a unique role of both fundraiser and philanthropist. You raffle yourself off to the highest bidder for a better sense. FYI—I make a good manservant, as I know this question was begging to be answered.

Another unique take on an idea I mentioned was the car wash. Why not try a car wash using the reject water from your unit's RO. Now this may or may not be possible, but if it is, what a really green idea to reuse some of this water (a future theme), that would have inevitably been flushed down the drain. What a great way to create some buzz about your unit.

And why not a charity calendar filled with Canada's best. I know of a few techs who could put those firefighters to the test.

So not to digress too much from my “green” train of thought, but here are a few other unique ideas for fundraising: FundScrip and FundTunes. FundScrip is a shopper's dream. How about this idea. Shop with gift cards and, in turn, raise money for a charity. That is unbelievable! Well, ladies, it is true. With over 100 of Canada's leading retailers on board (Canadian Tire, Sobeys, Home Depot, Starbucks), there is no way to hold you back from hitting the mall for a good cause.

Now for “How it works”. The premise is simple: you purchase gift cards from the organization looking to fundraise (and if it is a personal fundraiser, then yourself). You place the order and the cards are then shipped to you, where you hand them out to frantically waiting hands. Purchasing gift cards to pay for gas or your weekly groceries, you will soon see just how quickly you can raise money with very little effort. If you can amass a group of ongoing participants, take for example 10, within a year you

can earn \$3,600. And if you are good at persuading say 50 people, you can look at fundraising in the neighbourhood of \$18,000. So let the shopping begin!

If you like to download music, then why not do so in a way to help your favourite charity. FundTunes is a new fundraising program that began here in Toronto. The premise is that people buy song bundles and a portion goes to the charity of choice. For every 10-song bundle, \$3.00 goes to the non-profit organization. They also have a five-song bundle, with \$1.50 going to the charity. Currently, MADD, Best Buddies, WhiteCrow Village, and Canadian Cancer Society are a few of the organizations already on board. The creators behind FundTunes have teamed with Universal Music Canada to provide the vast music catalogue from which to download (comprising 40% of the music market in Canada). And if you're looking to donate to a specific non-profit organization not currently listed, all you have to do is e-mail FundTunes to get the process started.

Okay, now finally the green ideas. In recent years, green-based fundraising has really picked up momentum. There are numbers of programs to sell green wares and fundraise, such as litterless lunch kits, stainless water bottles, organic coffee, compact fluorescent light (CFL) bulbs, etc. But what makes my pockets really jingle with money is making cash out of junk. With the recent release of the iPad 2, the iPhone 4, and other techie gadgets, our drawers begin to pile up with our now unused or broken electronics. What we consider trash others consider treasure—a business model at the heart of every Dragon. This is the future of fundraising.

Collect used ink-jet and toner cartridges, damaged cell phones and cameras, and return them to one of a number of organizations now running these programs. In return for your efforts, you make money. Think Recycle ([www.thinkrecycle.com/register.asp](http://www.thinkrecycle.com/register.asp)) is the program that we have had set up on behalf of our Green Team here at Halton Healthcare. Since we signed up, we have made more than \$300, which has been used to run our green DIY workshops. These companies take your used projects, like ink cartridges, refill them and resell them. If the products are defective, they can reclaim various precious metals like gold, palladium and silver. Another check in the win category comes via tree planting—that for every 24 qualifying items, a tree is planted.

Keeping on this topic, you can also reach out to your tech room and collect the biomedical trash. Don't throw away anything anymore, as it may have some value. Old wire, broken motors and TVs, can all be recycled through the Ontario Electronic Stewardship ([www.ontarioelectronicstewardship.ca](http://www.ontarioelectronicstewardship.ca)); therefore diverting from landfill. You can arrange your own e-waste fundraiser and see the benefits roll in for both yourself and the environment.

Not a resident of Ontario, no problem, as other provinces (British Columbia, Alberta, Saskatchewan, Nova Scotia and PEI) also have a similar e-waste programs in place. Contact them and register your fundraiser.

The great thing about these programs (Think Recycle, FundScrip, FundTunes) is that they just simply manage themselves and will continue to fundraise indefinitely. There is more than enough junk to collect and so why not consider this as a unit initiative and create a staff fund to fund events like Nephrology Health Care Professional Day, or put the monies raised towards some random acts of kindness for patients during the festive seasons.

Whoosh! Now I know that was a lot of typing and that I have just handed you a great deal of info to take in all at once. Keep in mind that you need to have every angle

covered to generate funds, but also, more importantly, to run a successful campaign.

Finally, raising money is only one of the many components needed for a successful fundraiser. Successful fundraising campaigns depend on a strong promotional and marketing campaign. Make a video and post it on YouTube, update your status on Facebook and Twitter and blog about all of your experiences. Give thanks and credit to all of those who've supported your journey. Be the first one to give, as it will show everyone your true personal commitment to the cause. And always stay committed no matter how hard the journey may seem. We all know that to journey in the other's shoes is much harder.

Needless to say, there are lots of ways of creating a successful and lucrative fundraising campaign. Finally, keep in mind that whatever you end up doing must meet a G-Rating: Good for Us, Others and the Planet. I wish you all the best in your fundraising campaigns.

As always, if ever you want more information or help, feel free to contact me at [regq101@gmail.com](mailto:regq101@gmail.com).

Thanks and remember to Keep it Green, Eh!

Rejean Quesnelle, ASCT  
Renal Technologist, Halton Healthcare Services, Oakville, ON

## CANNT Corporate Sponsors 2010–2011

### Platinum

**AMGEN®**

**Baxter**



Fresenius Medical Care



### Gold

**GAMBRO®**

### Silver

**genzyme**

**JANSSEN-ORTHO**

### Bronze





## Kidney failure in Canada

By Colleen Wile, RN, BScN, CNeph(C), Clinical Educator, Community Dialysis, Halifax, NS

In a new report recently released from the Canadian Institute for Health Information (CIHI), the number of Canadians living with kidney failure has more than tripled over the last 20 years. The Canadian Organ Replacement Registry annual report, *Treatment of End-Stage Organ Failure in Canada, 2000 to 2009*, reveals the rate of Canadians living with kidney disease has risen from 11,000 in 1990 to close to 38,000 living with the disease in 2009 (see Table 1). The largest increase occurred in the older population. Those aged 75 and older account for

approximately 20% of all kidney failure cases in Canada where prevalence rates increased by more than 500% from 1990 to 2009. The CIHI report shows that although the number of Canadians living with kidney failure has more than tripled over the last 20 years that number seems to have levelled off since 2005. This levelling off may be due, in part, to more patients seeing a nephrologist in the early stages of the disease, potentially contributing to delay of kidney failure (see Figure 1).

Diabetes continues to be the leading cause of kidney failure and with rising obe-

sity rates and an aging population, more education must be placed on the prevention of these diseases to help alleviate the heavy burden to our health care system.

CIHI estimates that hemodialysis costs the health care system approximately \$60,000 per patient, per year of treatment. A kidney transplant has a one-time cost of approximately \$23,000 plus \$6,000 annually for medications to maintain the transplant.

Statistics for 2009 showed that of the Canadians living with kidney disease, 59% (22,300) were on dialysis and

**Table 1: Prevalent end-stage renal disease patients by age group, Canada, 1990 to 2009 (number, rate per million population)**  
(Table 11 in the report)

	Age 0–19		Age 20–44		Age 45–64		Age 65–74		Age 75+		Total	
	N	RPMP	N	RPMP	N	RPMP	N	RPMP	N	RPMP	N	RPMP
1990	439	57.2	4,087	352.7	4,184	786.5	1,669	892.5	663	530.1	11,042	398.7
1991	441	57.1	4,387	376.5	4,618	848.3	1,975	1,027.2	797	615.7	12,218	435.9
1992	474	60.8	4,600	394.5	5,071	902.8	2,244	1,141.9	949	713.3	13,338	470.2
1993	483	61.5	4,807	412.0	5,564	960.8	2,541	1,265.4	1,092	801.9	14,487	505.1
1994	475	60.0	5,076	434.7	6,042	1,012.1	2,898	1,417.7	1,269	910.3	15,760	543.5
1995	491	61.7	5,256	449.4	6,493	1,056.9	3,239	1,565.9	1,507	1,045.9	16,986	579.7
1996	486	60.8	5,412	461.9	7,114	1,125.8	3,513	1,682.1	1,772	1,188.9	18,297	617.9
1997	499	62.3	5,638	480.3	7,787	1,196.5	3,897	1,847.9	2,140	1,384.4	19,961	667.4
1998	523	65.3	5,851	499.6	8,436	1,257.2	4,249	1,997.7	2,540	1,590.1	21,599	716.2
1999	535	66.9	6,016	514.6	9,149	1,319.7	4,593	2,150.8	2,992	1,812.1	23,285	765.9
2000	557	69.8	6,133	524.7	9,870	1,376.9	4,939	2,301.3	3,416	2,001.5	24,915	811.9
2001	565	70.9	6,199	529.1	10,527	1,420.4	5,310	2,457.2	3,974	2,255.3	26,575	856.7
2002	564	70.9	6,280	534.4	11,106	1,447.0	5,599	2,574.3	4,522	2,487.0	28,071	894.8
2003	565	71.5	6,307	536.6	11,753	1,481.0	5,968	2,724.6	4,948	2,637.8	29,541	933.1
2004	554	70.5	6,301	535.9	12,480	1,523.3	6,271	2,833.8	5,440	2,821.4	31,046	971.8
2005	560	71.5	6,312	536.1	13,055	1,545.5	6,591	2,947.5	5,935	2,995.0	32,453	1,005.7
2006	557	71.3	6,342	538.3	13,724	1,575.1	6,855	3,015.8	6,369	3,120.3	33,847	1,037.5
2007	554	70.5	6,299	540.6	14,336	1,594.8	7,288	3,125.1	6,725	3,200.4	35,202	1,068.9
2008	544	69.2	6,312	541.0	14,939	1,617.4	7,548	3,141.0	7,086	3,290.0	36,429	1,093.1
2009	548	69.7	6,232	531.8	15,513	1,638.1	7,976	3,205.9	7,475	3,398.4	37,744	1,118.7

Sources: Canadian Organ Replacement Register, 2010, Canadian Institute for Health Information; Statistics Canada.



approximately 3,000 were on the transplant wait list. Compare this to 1990, where 53% (5,900) were on dialysis while close to 1,600 were on the wait list for a kidney transplant.

Louise Moist, Nephrologist and Associate Professor of Medicine at the University of Western Ontario, reports: “While the number of kidney failure patients has been increasing in Canada, the supply of kidneys available for transplant has not kept pace with the growing demand. Dialysis treatments come at great cost not only to the health care system, but also to the patients’ quality of life”.

For more information on the Canadian Organ Replacement Registry annual report, Treatment of End-Stage Organ Failure in Canada, 2000 to 2009, visit: [http://www.cihi.ca/CIHI-ext-portal/internet/en/Document/types+of+care/specialized+services/organ+replacements/RELEASE\\_20JAN11](http://www.cihi.ca/CIHI-ext-portal/internet/en/Document/types+of+care/specialized+services/organ+replacements/RELEASE_20JAN11)

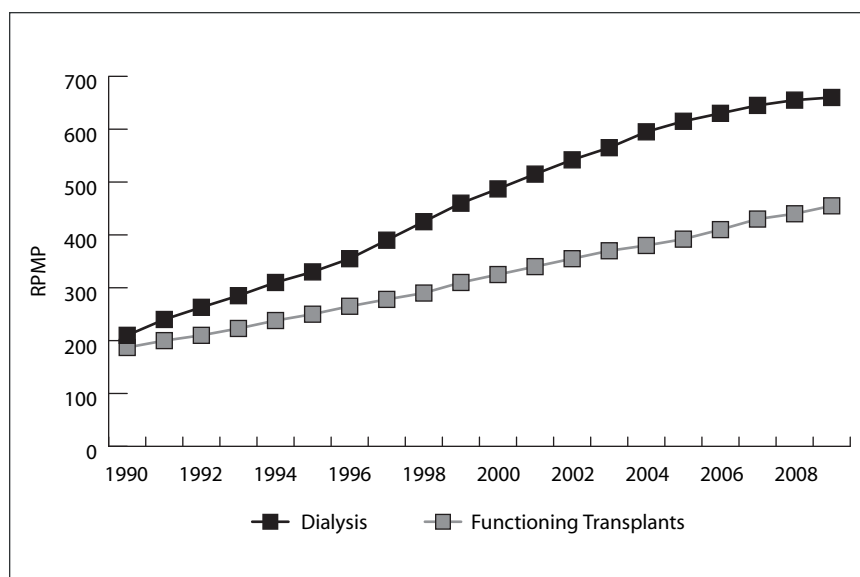


Figure 1: Prevalence rate for patients on dialysis or with a functioning transplant in Canada, 1990 to 2009 (rate per million population) (Figure 2 in the report)  
Sources: Canadian Organ Replacement Register, 2010, Canadian Institute for Health Information; Statistics Canada.

## NOTICE BOARD

- ❖ Ottawa Supper Clubs—Contact Janet Graham, Nephrology Unit, Ottawa Hospital, [jgraham@ottawahospital.on.ca](mailto:jgraham@ottawahospital.on.ca)
- ❖ May 1, 2011. 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)
- ❖ June 17–18, 2011. Fourth North American Chapter meeting of the International Society of Peritoneal Dialysis at the New Haven Omni Hotel, at Yale, New Haven, Connecticut, USA. E-mail: Please contact [Deborah.dunn@yale.edu](mailto:Deborah.dunn@yale.edu) Website: [www.ispd.org/NAC/meetings/](http://www.ispd.org/NAC/meetings/)
- ❖ September 1, 2011. Registration time begins for the Nephrology Certification Exam. Contact Canadian Nurses Association Certification Program, e-mail: [lvachon@cna-aiic.ca](mailto:lvachon@cna-aiic.ca). Website: [www.cna-aiic.ca](http://www.cna-aiic.ca) Toll-free phone number: 1-800-450-5206
- ❖ September 10–13, 2011. 40th European Dialysis and Transplant Nurses Association/European Renal Care Association (EDTNA/ERCA) International Conference: Ljubljana, Slovenia. Website: [www.edtnaerca.org](http://www.edtnaerca.org)
- ❖ September 21, 2011. Nephrology Health Care Professionals Day
- ❖ October 20–22, 2011. CANNT 44th National Symposium. Telus Convention Centre/Hyatt Regency, Calgary, Alberta. Conference Planner: Heather Reid: e-mail: [hreid@innovcc.ca](mailto:hreid@innovcc.ca). Website: [www.cannt.ca](http://www.cannt.ca)
- ❖ February 26–28, 2012. Annual Dialysis Conference 2012, San Antonio, Texas. Website: [www.som.missouri.edu/Dialysis/](http://www.som.missouri.edu/Dialysis/)
- ❖ March 15, 2012. 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 21, 2012. 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: 1-800-361-8404
- ❖ April 29–May 2, 2012. ANNA National Symposium. Walt Disney World Dolphin Resort, Orlando, Florida. Website: [www.annanurse.org](http://www.annanurse.org)
- ❖ September 9–12, 2012. 14th Congress of the International Society of Peritoneal Dialysis (ISPD), Kuala Lumpur, Malaysia. Website: [www.ispd2012.org.my](http://www.ispd2012.org.my)

# Attending the 42nd annual American Nephrology Nurses Association (ANNA) conference, Boston, Massachusetts, March 27–30, 2011

*Submitted by Marilyn Muir, RN, CNeph(C), CANNT President-Elect*

I had the pleasure of attending the 42nd annual American Nephrology Nurses Association (ANNA) conference held in Boston, March 27–30. Boston is a city bursting with American history. Whether walking the Freedom Trail, visiting Fenway Park (home of the Red Sox) or walking through the Boston Common, there is so much to see and do while in Boston. I managed to find time to head down to the local pub where “everyone knows your name”... Cheers!

The “big event” dance party was held in a hotel adjoining the convention centre. Similar to our “evening of entertainment” it was a lot of fun... it is nice to see that the ANNA members enjoy the comradery and social aspect of their conference as much as our CANNT members!



Glenda Payne, ANNA President-Elect, Marilyn Muir, CANNT President-Elect, and Donna Painter, ANNA immediate Past-President.

This conference was an excellent opportunity to network with nephrology professionals all across the U.S., Canada and Ireland. The goal for the 42nd national symposium was to “provide a learning and networking environment to assist nephrology professionals enhance their practice.”

There were 962 delegates in total: 25 from Canada and 19 from Ireland. The planning committee did a remarkable job planning a conference of this size. There were 99 exhibitors, two keynote speakers, four pre-conference workshops, 32 concurrent sessions to choose from, and 28 poster presentations. The days were filled with information and learning, starting with breakfast sessions at 7 a.m., and the days ending at 5:45 p.m.

A new and exciting event the organizers tried this year was an “exhibitor theatre”. Situated in the back of the exhibit hall, the “theatre” allowed different companies to do short product demonstrations, product training and focus groups. The exhibitor was given 20 minutes during exhibitor time (so time was not taken away from the concurrent sessions). Seven companies took advantage of this time, and it was a great opportunity for delegates to sit back and watch the presentation and have time for

Q & A. It was a neat experience and gave the company our undivided attention for their time allotment.

On Tuesday March 29, nurses were celebrated with a Nephrology Nurse’s recognition luncheon. During this luncheon, nurses were not only celebrated, but some were also honoured (and surprised) by winning awards/scholarships for which their peers had nominated them. This was also an opportunity to meet the new 2011 ANNA board members. I was in awe as the 2011 ANNA President Dr. Rowena Elliott made her acceptance speech. There was an overwhelming feeling of inspiration and enthusiasm in the crowd, and it was an honour to be a part of it.

Attending this conference was a very rewarding experience. I have met some new friends and have gained a renewed appreciation for my own nephrology practice. I encourage you to celebrate your co-workers, your profession and most of all yourselves. I believe enthusiasm and inspiration are infectious... my hope is that you can all find a renewed sense of enthusiasm for your own practice and pass that along to your co-workers. Let’s celebrate each other and let’s be proud we are CANNT members.

## Dialysis Nursing Opportunities Available Now Across the USA

**Hemodialysis and Peritoneal Dialysis ■ Clinical Services Trainer**

**Acute in-patient Dialysis ■ Home Hemodialysis ■ Nocturnal Dialysis**

WorldWide HealthStaff Associates Ltd. (HealthStaff) is pleased to be recruiting for permanent, direct hire Dialysis Nursing positions. Positions are available now in more than 2,000 service locations in the U.S. providing you with unprecedented opportunities to further your dialysis nursing career.

Do you have at least 1 year of current dialysis nursing experience? Have you or are you willing to take the U.S. RN licensure exam? If yes, then we would like to hear from you today. Visa sponsorship and RN licensure assistance is offered without cost to qualified applicants.



**E-Mail: [rhope@healthstaff.org](mailto:rhope@healthstaff.org)**

**Toll Free Phone: 1-866-264-8022**

**[www.healthstaff.org](http://www.healthstaff.org)**

# Marching towards hope: By participating in Kidney March (September 9–11, 2011), CANNT nurses are proving they can

By Jonathan Riggs, Outreach and Support Specialist, The Kidney Foundation of Canada, Calgary, Alberta

Nurses go above and beyond for their patients. It's just what they do.

And in last year's historic Kidney March, two renal nurses in particular, Heather Dean and Janice MacKay, proved the depth of their commitment. Known as "The PeePee Dancers", they walked 100 kilometres from Kananaskis Country to Calgary and raised almost \$15,000 to benefit The Kidney Foundation of Canada.

"Historically the general public has a limited knowledge of kidney disease and the impact it has on the patient, as well as their families," says Dean, a nurse clinician at the South Calgary Dialysis Centre. "Kidney March allows us to educate by discussing kidney disease with family, friends and anyone who will listen, while raising much-needed funds to assist with ongoing research."

Dean and MacKay were inspired by the spirits of their patients, who must not

only endure having an incurable disease, but also the enormous time commitment dialysis requires each week.

"Despite this, our patients come in with smiles and stories of their lives outside our units," she says. "We are just two nurses who adore our patients. They are our heroes, and we want to help in some small way to make their lives better!"

It was these patients and their families who the nurses carried with them along the 100 K walk: their bravery, their stories, their lives.

"Nursing patients with a chronic disease allows me to get to know them, which is a privilege. As Janice and I were walking, we talked a lot about the people we have gotten to know," she says. "We reminisced about the ones we have lost over the years. And, of course, we thought of all the good wishes and



financial support of our friends and family for the March. We could not let any of them down."

Having such strong support from an array of medical professionals brought an amazing element to last year's Kidney March and helped serve as a reminder of the very human face of kidney disease.

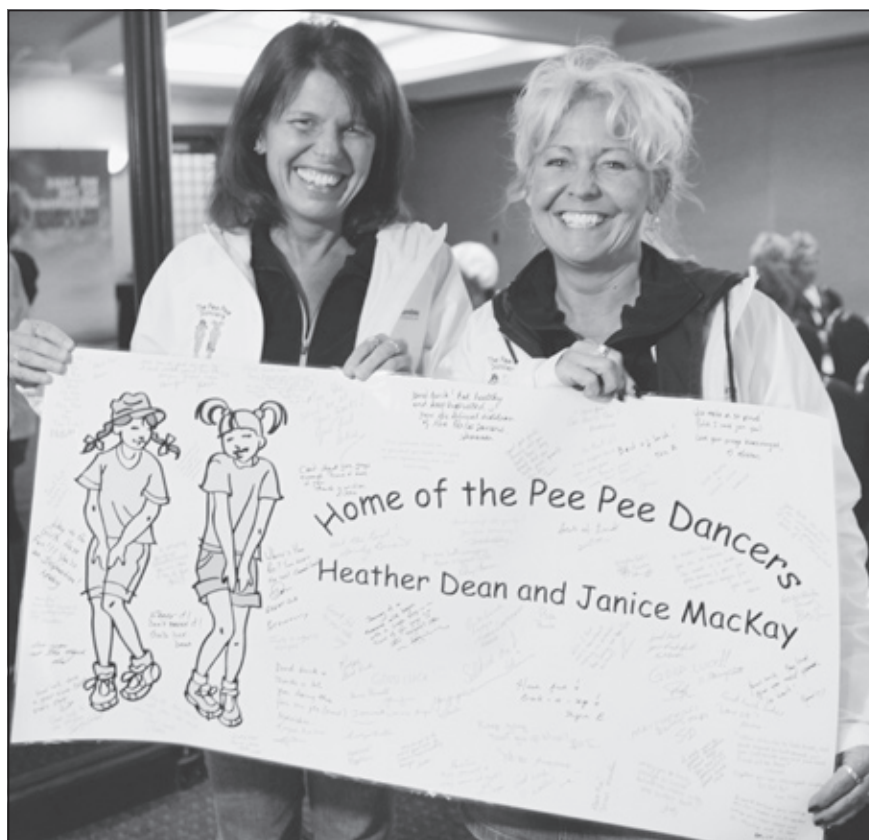
"It was amazing to have so many renal nurses, doctors, social workers and dietitians participating, and it meant so much to their patients," says Joyce Van Deurzen, executive director of the Foundation's Southern Alberta and Saskatchewan branches. "I will never forget a patient asking his family to help him rise from his wheelchair to stand in tribute to the Marchers as they crossed the finish line."

With one successful year under their belts, MacKay and Dean are eager to accept the challenge of Kidney March 2011, an event that promises not only to be bigger and better, but to touch even more lives.

"The personal satisfaction of completing the 100 K was an amazing experience that I cannot wait to feel again," Dean says. "If you cannot walk yourself, sign up to volunteer, or sponsor a walker. Together we can make a difference, one step at a time."

Get a **FREE** brochure to learn more about Kidney March: K-Country to Calgary, September 9–11, 2011.

Contact: [shonna@kidneymarch.ca](mailto:shonna@kidneymarch.ca)  
866-9KMARCH (866-956-2724)



Heather Dean and Janice MacKay show off their Pee-Pee Dancing supporters at Kidney March.





CANNT 2011 promises to be a great conference where nephrology professionals... nurses, technologists, administration, researchers, pediatric nurses, pharmacists and more... will be able to learn, share, network, discuss and socialize together.

Experience all that CANNT 2011 has to offer:

- Share in the upbeat plenary addresses: combat stress, tackle bullying in the workplace, incorporate humour into everything!
- Choose from 54 concurrent sessions, five workshops and two satellite symposiums suited to all interests... topics range from nutrition, transplantation, end-of-life issues, pediatrics, infection control, technology, research and much, much more.
- Learn from 40 poster presentations with contributing authors from across Canada!
- Engage with our corporate partners as they showcase their latest products and services. Come prepared with questions and issues—our exhibitors want to hear from you!

And finally, immerse yourself in this year's conference theme "Blazing New Trails" and take in the beautiful Rockies setting! Western hospitality will warm your spirits, re-energize you professionally and personally, and leave you engaged and ready to return to work!

Register today! CANNT 2011 information is available as follows:

- 1) printed brochure available by calling (519) 652-0364 (Innovative Conferences & Communications)
- 2) downloadable brochure online at [www.cannt.ca](http://www.cannt.ca)
- 3) program, abstracts, on-line registration and secure payment on-line at [www.cannt.ca](http://www.cannt.ca)

We're excited to welcome Canadian nephrology professionals to Calgary—come and join us—we're "BLAZING NEW TRAILS" for CANNT!

---

## ABSTRACTS

Some of the key strategic goals of CANNT are to disseminate educational materials to CANNT members; profile scientific research; and to provide opportunities for nephrology colleagues to network.

CANNT's national conference, CANNT 2011, provides an excellent venue for accomplishing these goals of CANNT. However, only a portion of CANNT members are able to attend the national conference annually. Cognizant of this, CANNT is pleased to be printing the abstracts to be presented in both oral and poster format at this year's annual conference as a supplement to the special anniversary issue of the CANNT Journal.

The following abstracts celebrate the diversity of nephrology topics being investigated and discussed across Canada. It is our hope that CANNT members interested in pursuing a profiled topic will contact our national office at 705-720-2819 or 1-877-720-2819 or [cannt@cannt.ca](mailto:cannt@cannt.ca) to receive information regarding how to contact the author about the work.

We hope you will review these abstracts carefully!

Gillian Brunier  
Editor, CANNT Journal



## Effect of Varied Dialysate Bicarbonate Levels on Phosphate and Potassium Removal in Chronic Pediatric Hemodialysis Patients: A Pilot Study

Rose Nemec, BScN, RN, Konggrapun Srisuwan, MD, Turki Al-Shareef, MD, Michelle Frieling, HBSc, CRA, CCRP, Jun Chuan Teh, MPH, CRA, CCRP, Mukesh Gajaria, BSc, CDP, Elizabeth Harvey, MD, FRCP, and Denis Geary, MB, MRCP(UK), FRCP(C), Toronto, ON

**Purpose of study:** Elevation of serum phosphate ( $\text{PO}_4$ ) and potassium (K) is common in hemodialysis (HD) patients. Alkalosis shifts  $\text{PO}_4$  and K into erythrocytes, and may reduce removal during HD. Therefore, lower bicarbonate ( $\text{HCO}_3$ ) dialysate might increase their removal with HD.

We compared  $\text{PO}_4$  and K removal in serum and dialysate during HD with low (28 mmol/L) and high (38 mmol/L) dialysate  $\text{HCO}_3$  concentrations.

**Methods:** Stable children on maintenance HD with an elevated pre-dialysis serum  $\text{PO}_4$  were studied. Each patient was evaluated as follows: one-week with low dialysate  $\text{HCO}_3$ , one-week with high dialysate  $\text{HCO}_3$ , one week wash-out between the cross-over. Each dialysis session was standardized and consistent except for dialysate  $\text{HCO}_3$ . All patients continued their prescribed  $\text{PO}_4$  binder. The mean difference in serum  $\text{PO}_4$  and K between pre and post values, as well as the total amount of  $\text{PO}_4$  and K removed through dialysis over 3 treatments, for low vs. high  $\text{HCO}_3$  is presented.

**Results:** Six patients, aged  $16.0 \pm 2.2$  years were studied (4/6, male).

Week of	Low $\text{HCO}_3$	High $\text{HCO}_3$	<i>p</i>
<b>Mean Serum Difference</b>			
$\Delta \text{PO}_4$ (mmol/L)	0.36	0.44	0.10
$\Delta \text{K}$ (mmol/L)	0.24	0.30	0.07
<b>Mean Dialysis Removal</b>			
$\text{PO}_4$ (mmol)	$56.9 \pm 23.3$	$42.3 \pm 14.2$	0.021
K (mmol)	$426.5 \pm 83.5$	$279.1 \pm 67.7$	0.001

**Conclusions:** Bicarbonate modelling has a significant effect on  $\text{PO}_4$  and K removal. It is uncertain whether this is clinically relevant.

There was no significant change in serum  $\text{PO}_4$  or K when comparing  $\text{HCO}_3$  dialysate concentrations. However, reduction of total body load of  $\text{PO}_4$  and K, without affecting serum values, is likely beneficial.

**Implications for nephrology care:** The results of this pilot study are encouraging, and provide incentive for larger scale follow-up studies examining, for example, the longer term benefit of lowering  $\text{HCO}_3$  dialysate concentration to reduce overall phosphate burden.

## Seven Years of Nocturnal Hemodialysis in the Southern Alberta Renal Program: Perceptions and Recruitment

Bonnie Couture, RN, CNeph(C), and Janis Heal, RN, Calgary, AB

Over the past 15 years, studies of nocturnal hemodialysis have shown it to be the treatment of choice for patients who require hemodialysis. Our experience agrees with those studies: we know it changes patients' lives by giving them control of their treatment, freedom from the restrictive schedule of conventional dialysis and the energy to use newfound independence as they see fit. Many patients require fewer dietary and fluid constraints and fewer medications, and some are even able to return to work. Our patients love to be on their own at home—despite the challenges of nocturnal hemodialysis—and inevitably become the strongest advocates for the nocturnal program.

So what's the holdup? Our home hemodialysis program provides treatment for 7% of the total dialysis patients in Southern Alberta; we know there are more patients who could perform nocturnal hemodialysis. Like every successful venture, we have experienced our share of triumphs and challenges.

Seven years into the program in southern Alberta, we have found both solutions to problems and obstacles that we are still trying to eliminate, not the least of which is recruitment of new trainees. Our presentation will share results of a survey aimed at eliciting candid observations from health care professionals in our program about referral of patients to nocturnal hemodialysis. We will also share a promotional presentation that we developed to enhance recruitment. Our objective is to encourage dialogue and networking across the country and to provoke discussion to generate new ideas and discoveries.

## Using Carbon Filters for Home Dialysis Water Systems: Our Experience at the Grand River Hospital

Clarence Graansma, Chief Renal Technologist, and Dan Dickinson, Renal Technologist, Kitchener, ON

We have been using large capacity carbon filters in place of carbon tanks for home dialysis water treatment for three years at Grand River Hospital. Overall, we are satisfied with the performance of the filters. We will relate our experiences of the benefits, as well as the drawbacks of each approach to chlorine and chloramine removal. We will discuss the issues of cost, flexibility, and reliability and performance assurance. We will also discuss the purpose of carbon filtration in a water system, problems associated with carbon, some of the problems we encountered in our approach and the solutions at which we arrived.

## **Tailoring Resources to Patient Needs: An Innovative Approach to Resource Allocation for Patients on Home-based Renal Replacement Therapy**

**Reshma Dole, BSc Phm, CDE, Shirley Conolly, RN,  
Tracey Skov, RN, HBScN, MSN, Emily Harrison, RN,  
BHScN, CNeph(C), and Cathy Baynham, RN,  
Oshawa, ON**

Risk stratification of patients on a home-based therapy such as peritoneal dialysis and home hemodialysis provides a unique opportunity to plan patient specific care according to each patient's specific needs to prevent hospitalization and death. Utilizing a risk stratification tool developed for patients on dialysis, all patients on a home-based therapy are stratified into either a low-, medium- or high-risk category for hospitalization or death. This initiative was a result of a unique partnership between the Central East Local Health Integration Network (CELHIN), Lakeridge Health Corporation and industry, as part of the Chronic Disease Prevention and Management project. Funding for this project was provided by the CELHIN. Training was provided to staff on the tool and its use by expert industry partners. Patients are routinely stratified annually and after hospitalization to ensure an accurate risk level has been assigned. All stratified patients are provided with a high standard of care with a case management approach. Patients deemed medium and high risk are identified as potentially needing more resources. Hospital emergency visit data confirm patients at medium- and high-risk levels had more frequent emergency room visits. The risk stratification tool has been embedded into an electronic nursing documentation system. After stratification, the risk level appears on the patient's electronic Kardex. All patients who have been identified as high risk for hospitalization and mortality are discussed to develop a strategy to prevent future emergency room visits and, ultimately, to decrease their risk of mortality.

## **Exploring the Impact of Decision Support for Adults with Chronic Kidney Disease Best Practice Guidelines Implementation on Vascular Access Decisions in Chronic Hemodialysis Patients**

**Alison Thomas, RN(EC), MN, CNeph(C), Mary Ann Murray,  
RN, MScN, PhD, CON(C), GNC(C), CHPCN(C), Rosa  
Marticorena, RN, CNeph(C), Ron Wald, MDCM,  
and Sandra Donnelly, MDCM, Toronto, ON**

**Purpose:** To determine the impact of implementing recommendations from the *RNAO Decision Support for Adults with Chronic Kidney Disease* best practice guideline on hemodialysis (HD) access choices in patients who currently use central venous catheters as their HD access.

**Methods:** A prospective quasi-experimental intervention study with repeated measures was conducted. Decisional conflict about HD access choice for consenting and eligible patients was measured using the validated SURE tool. Following this, a tailored decision support intervention was implemented. Decisional conflict was then remeasured and compared with

baseline scores. Interviews and focus groups were conducted with patients and staff. Quantitative data were analyzed using descriptive and inferential statistics. Statistical significance of difference between means over time for aggregated SURE scores (pre/post) was assessed using a paired t-test. Qualitative analysis with content coding and identification of themes was conducted for the focus group and patient interview data. Preliminary results will be presented.

**Implications:** Coupling the SURE tool with a decision support system structured so that a positive result triggers providers to help patients through the decision-making process and/or refer patients to appropriate resources may help patients to make informed HD access choices. Given the importance of the contribution of patients' values to health care choices, we suggest that implementing and evaluating tools and processes to help patients make informed decisions is central to patient-centred care and professional nursing practice.

## **Green Dialysis: A Healthier Patient, You and Planet**

**Rejean Quesnelle, Renal Technologist, Oakville, ON**

Green Dialysis: A Healthier Patient, Planet, and You is the second in the ongoing Green Dialysis presentation series. This time the focus is on improving the overall health of patients, the planet and staff. Understanding that many of the things we put onto and into our bodies and use on a daily basis both at home and within the renal unit can, in fact, have a negative impact on one's health and the health of the planet. I hope that by revealing some of the hidden dangers that lurk not only within the dialysis unit, but also within our homes and on our plates, you will, in fact, be creating a healthier and greener you from the inside out. Taking inventory of present factors, such as diet, environmental contributors and lifestyle changes, and by making the desired changes, you can improve the overall health of patients and staff, decrease the risks of comorbidities and chronic illnesses such as diabetes and cancer, and leave a greener footprint for future generations. Green Dialysis hopes to prove that eco-minded and sustainable practices can not only be simple to implement, but also a healthy trend that will soon become the norm for you, your patients and Mother Earth.







## **The Road to Healthy Eating: Thinking Outside the Renal Box**

*Darlene Young, RN, CNeph(C), Susan Bonnetta, RN, CNeph(C), and Dianne Kimball, RN, Lindsay, ON*

In the chronic renal population there are ongoing issues related to diet restrictions. Patients and family members find making meals very challenging. Our program organized its second afternoon of recipe demonstrations and tasting at a community supermarket. We are hoping the food presentations will promote patient adherence to their diabetic and renal restrictions. Flyers were given to our hemodialysis patients on the program and posted in the waiting area for our pre-renal population to access. Renal-friendly recipes were gathered by our dietitians and compiled in a booklet, which was given to the patients and their family members in attendance. Different members of our group did the cooking demonstration while others handed out samples, as each recipe was completed. During the demonstration, education on limiting sodium and potassium and reading labels were reviewed. Patients were given the opportunity throughout the demonstrations to ask questions and give feedback. An evaluation of the afternoon was also collected at the end of the session to help in planning for the next session, which will be offered in fall 2011. The success of this initiative has encouraged our program to offer these demonstrations in all other sites within our regional program. This will hopefully help to delay the necessity of initiating dialysis for the pre-dialysis population and improve the quality of life for those already on dialysis.

## **Lions Camp Dorset—How Not to be a Fish Out of Water: Developing the Role of the Lions Camp Dorset Program Coordinator**

*Karen Campbell, RN, CNeph(C), and Heidi Ziegler, BScN, Kitchener, ON*

Lions Camp Dorset is a unique resort situated in the heart of Ontario's cottage country and has an on-site 16-station hemodialysis units to provide dialysis treatments three times a week to individuals with ESRD. As well as serving dialysis patients with nearby vacation properties, it offers one week to each dialysis centre in the province to send a selected number of patients and

visiting nurses from that unit. For nurses attending Lions Camp Dorset and organizing clients' stay for the first time, there is a considerable degree of uncertainty with regards to selection of patients, processing applications and flow of communication to relevant individuals, and also with regards to what to expect when working at Dorset, 40 km away from the nearest acute care hospital.

The role of the Lions Camp Dorset Program Coordinator is essential in ensuring that there is a smooth transition of hemodialysis in-centre care to this remote free-standing dialysis unit. This presentation will provide an overview of Lions Camp Dorset, primarily focusing on the development of role of the Lions Camp Dorset Program Coordinator at Grand River Hospital and the augmentation of an organized transparent process, which included enhanced communication to patients, hospital staff, Lions Camp Dorset personnel, and the community at large.

## **Rhabdomyolysis: Reversible or Irreversible?**

*Jane Alfarero, RN, BScN, CNeph(C), Gillian Brunier, RN(EC), MScN, CNeph(C), Nicole DiPaolo, RN, BSN, CNeph(C), and Alireza Zahirieh, MD, FRCPC, Toronto, ON*

The first well described report of rhabdomyolysis is from victims of crush injury from World War II. Today, rhabdomyolysis has many etiologies including trauma, medication and illicit drug use, electrolyte disorders, endocrinopathies, autoimmune diseases, infections and overexertion. It is caused by the rapid breakdown of skeletal muscle tissue due to traumatic injury, either mechanical, physical or chemical. When muscle is damaged, a protein pigment containing iron called myoglobin is released into the bloodstream and filtered out of the body by the kidneys. Myoglobin breaks down into potentially harmful compounds, which may block the structures of the kidney. A common complication of rhabdomyolysis is acute kidney injury.

This presentation will focus on the diagnosis and management of two cases of rhabdomyolysis at our medical centre. Case number one is a 48-year-old male with multiple sclerosis who had fallen at home and was not found for 12 hours. In the emergency department, his serum creatinine was elevated at 470  $\mu\text{mol/L}$  and his CK at 4951 IU/L. He recovered renal function without dialysis. Case number two is a 34-year-old male who was brought to our trauma unit because of a motor vehicle collision. In the emergency department, his serum creatinine was slightly elevated at 110  $\mu\text{mol/L}$  and his CK extremely elevated at 8370 IU/L. His kidney function declined acutely and he went on to require three weeks of hemodialysis before his kidney function recovered.

The care of patients with rhabdomyolysis is largely supportive. However, some measures may potentially limit the renal injury of myoglobin. These measures include both medical therapies, as well as dialysis strategies. It is, thus, important for nephrology nurses to have an understanding of rhabdomyolysis to participate fully in the care of these patients and aid in their recovery.

## **Calciophylaxis: A Black Hole in the Nephrology Universe**

Elizabeth Kelman, RN(EC), MEd, CNeph(C), Diane Watson, RN(EC), MSc, CNeph(C), and Debra Johnston, RN, BScN, CETN(C), Toronto, ON

**Introduction:** Calciophylaxis, now classified as calcific uremic arteriolopathy (CUA), is a rare condition, which has been described in patients with chronic kidney disease. CUA is a severe complication that poses stressors for the patients and challenges to the health care team in the assessment, diagnosis and allocation of treatment resources for management.

**Purpose:** This paper will present a retrospective review of the experience with CUA at the University Health Network, Toronto, from 2000 to 2011.

**Description, evaluation and outcomes:** We will discuss the etiology, clinical presentation, treatment options and outcomes for our population. The impact on the individual and health care system will also be emphasized. The collaboration of nephrology with wound care specialists, hyperbaric team, palliative care, dermatology, plastic surgery and infectious diseases will be highlighted. We will review the use of increased dialysis and specialty treatments, such as sodium thiosulphate, vitamin K, hyperbaric oxygen, medical honey, and silver based compounds. Two patients who have had successful wound healing with changes in practice will be presented and contrasted with those who had poor outcomes. Finally, we will identify the future of management of these individuals, focussing on early identification, and newer treatment options.

**Implications:** These data may be useful to allow nursing teams to develop strategies for patients with CUA.

## **Expanding Peritoneal Dialysis Options at Capital District Health Authority, Halifax, NS: Introducing the Presternal PD Catheter**

Cindy Everett, RN, CNeph(C), and Karen Delaney, RN, BScN, CNeph(C), Halifax, NS

Peritoneal dialysis (PD) is a home dialysis option for patients requiring renal replacement therapy. Traditionally, a PD catheter is surgically inserted in the abdomen.

There are some contraindications that exclude patients from being candidates for an abdominal exiting PD catheter, which may include ostomies, suprapubic catheter and morbid obesity. Historically, in our nephrology program, ostomy patients or those with a suprapubic catheter have not been candidates for PD because of the potential for cross-contamination. Obese patients may heal poorly and be at higher risk for leaks and/or exit site infections.

Presternal catheter placement offers these patients the PD option, as the exit site is in the upper chest. An exit site in this area has less adipose tissue than the abdomen, promoting healing and reducing the risk of exit site infection and leaks.

From a lifestyle perspective, the presteral catheter offers the patient the option of having a tub bath ("the bath tub catheter"), a luxury denied with an abdominal exit site. Also, the presteral exit site offers a second option for those patients struggling with body image and intimacy issues with an abdominal exiting catheter.

This poster will outline the steps taken to develop a process, implement and evaluate the use of presteral catheters in our organization and report on our experience thus far.

## **Resilience, Acceptance and the Miracle of Birth: A Case Study on Nocturnal Dialysis and Pregnancy**

Saverina Sanchez, RN, MScN, CNeph(C), Fatima Benjamin-Wong, RN, Dorota Jamroz, RN, Michelle Hladunewich, MD, Andreas Pierratos, MD, FRCPC, and Gihad Nesrallah, MD, FRCPC, Toronto, ON

Living a normal life is something we all take for granted, but when you are faced with end stage renal disease the things we take for granted seem, not only out of reach, but impossible. End stage renal disease (ESRD) is associated with reduced fertility. In the event of a successful conception while on hemodialysis, maternal morbidity and fetal mortality risk are significantly greater than in the general population. Hence, strategies to improve obstetrical outcomes in women with ESRD are needed. More intensive (including longer and more frequent) hemodialysis may improve obstetrical outcomes. Although the mechanisms of this beneficial effect are not certain, factors such as improved solute clearance, greater hemodynamic stability, and careful follow-up and monitoring are likely important factors (Nesrallah, 2011). With pregnancy occurring in only 1% of patients (Krane, 2010) and reported live births between 40% and 85% (Haase et al., 2005), nocturnal hemodialysis was felt to be the solution to improve fertility and improve chances of a live infant at a mature gestational age. Ms. X. stated she wanted to have a normal life and that included having a baby. An intricate team of health care professionals helped guide her through the struggles of getting pregnant and managing her care. Ms. X. gave birth in December 2009 and is expecting her second child the summer of 2011. In sharing this journey, this case study will aid one in discussions with patients: "I deserve to have a normal life just like you, and how do I do that?"

## **Green Dialysis: The Green Tech Room**

Rejean Quesnelle, Renal Technologist, Oakville, ON

In the third instalment of the *Green Dialysis* series, Green Dialysis: The Green Tech Room investigates opportunities to bring more eco-friendly initiatives throughout the renal unit by way of renal technologists. As technologists, our roles include more than solely tinkering, repairing and maintaining equipment and other aspects of the renal unit. Other duties include purchasing, the designing of new facilities, pricing contracts and staff education, just to name a few. As keystones to a healthy





functioning and well 'oiled' renal unit, the technologist is key in ensuring both patient and staff safety. Unfortunately, much of what we do on a daily basis may, in fact, be hazardous to the health of everyone in the unit. Acute and chronic exposure to cleaning and disinfection chemicals, solvents, flame retardants, building materials, toiletries and others may lead to long-term chronic illnesses such as multiple chemical sensitivity, fatigue, asthma, and more serious illnesses like neurological disorders and cancer. Incorporating ideas such as green design, toxin and waste reduction strategies, and green procurement into your existing and new facilities will surely create a healthier environment for everyone to work in. *Green Dialysis* hopes to prove that eco-minded and sustainable practices can not only be simple to implement, but also a trend that will soon become the norm for everyone in the tech room, and throughout the renal unit.

### **Peritoneal Dialysis: Telehomecare Initiative**

Sharon White, RN, BScN, MBA, and  
Darlene Wadsworth, RN, London, ON

London Health Sciences Centre (LHSC), a teaching hospital affiliated with The University of Western Ontario, has an active renal program caring for approximately 100 peritoneal dialysis patients. LHSC embarked on a pilot project in partnership with a vendor utilizing an external health coach and a Telemonitoring Station installed in the patient's home. The purpose of the study was to assess quality of life and ease of use of the Telemonitoring Station through patient satisfaction and quality of life surveys. Impact on the use of hospital emergency department and inpatient beds was also measured.

The Telemonitoring Station is an interactive device that asks patients a series of questions, on a daily basis, related to their therapy, continuous ambulatory peritoneal dialysis or automated peritoneal dialysis and diabetic status. Patients were enrolled and randomized as either interventional or control. On a daily basis, the health coach and nursing staff assessed the patient responses, which were stratified by colour on a dashboard—red requiring immediate nursing response and orange or yellow requiring coaching intervention. Two-way videoconferencing was also utilized.

While statistical significance was not the goal, there was a decrease in hospitalizations (70%) and emergency room visits (8%) in the interventional group, thought to be due to the timeliness of assessing potential problems. Patients in the interventional group also reported an improvement in quality of life and satisfaction scores, while those in the control group reported a decline in same.

Study highlights and next steps will be presented.

## **Advance Care Planning is at Odds with Life as it is Lived**

Murray Holtby, RN, PhD, BScN, BTh, Calgary, AB

After two decades and a veritable avalanche of research into advance care planning (ACP), some of the area's most ardent researchers are declaring the effort a failure. The purpose of this original study was to investigate the thesis that this failure has occurred because ACP is at odds with the way human life is lived. The study consisted of open-ended research conversations with registered nurses who work in a chronic kidney disease clinic and with patients who have chronic kidney disease. Data analysis was accomplished using an interpretive "method" based on Gadamerian philosophical hermeneutics where the objective was to gain insight into how history and tradition have been effective in the conceptualization of ACP. The study results confirmed the thesis based on three findings: (a) professional definitions of ACP co-opt patient engagement with original questions of mortality, (b) written statements by their nature put patient meaning at risk, and (c) patients do not live the linear existence presupposed by ACP. Renal nurses may provide care that is more in sync with life, as it is lived for those diagnosed with chronic kidney disease, by abandoning care conceptualized as *advance care* in favour of care conceptualized as *care in due time*. This care ought to be as dialogical as possible and geared to helping people with kidney disease authentically engage their own mortality rather than viewing mortality as a medical status issue solved by a menu of medical solutions.

### **Evaluation of an Advanced Practice Nurse Led Collaborative Chronic Kidney Care Model for Renal Transplant Patients**

Janice Bissonnette, RN(EC)-NP, MScN, PhD, Kirsten Woodend, RN, MScN, PhD, Barb Davies, RN, PhD, Dawn Stacey, RN, PhD, and Greg Knoll, MD, Ottawa, ON

**Purpose:** To evaluate an advanced practice nurse (APN) led collaborative chronic kidney care model on achievement of clinical target outcomes and processes for renal transplant patients.

**Design:** Non-randomized, controlled study guided by the Chronic Care Model (CCM). A propensity-score (PS) matched analysis to account for confounding variables and selection bias in the non-randomized sample.

**Setting:** Ambulatory kidney transplant clinic at an academic Health Science Centre.

**Intervention:** A multifaceted APN-led interprofessional renal transplant CKD model based on the CCM chronic disease self-management elements and CKD clinical practice guidelines. CCM elements included disease self-management, APN/Physician collaborative practice, shared decision-making, and medication adherence interventions.

**Methods:** A prospective group of adult renal transplant CKD patients cared for under the APN-led model were PS matched to a retrospective group cared for under the traditional transplant nephrologist-led model. PS matching included the variables of glomerular filtration rate, age, sex, kidney donor



type, and diagnosis of diabetes. The proportion in each group achieving a target score of 78% (seven out of nine targets), based on Kidney Disease Outcome Quality Initiative (K/DOQI) clinical targets, and participation in discussions about end stage renal disease (ESRD) options were compared after 12 months.

**Results:** The PS matching of 61 treatment to 119 controls, resulted in 40 pairs. Sixty-eight per cent of treatment versus 10% of controls achieved the target score. Eighty-eight per cent of treatment patients participated in ESRD options discussions as compared to 13%. Recommended practice standards implemented in significantly higher proportion of treatment patients (ACE-I/ARB 53% versus 13%, Statins 80% versus 45%, Calcium 73% versus 25%, Calcitrol 65% versus 18%).

**Conclusions:** The APN/physician collaborative CKD model provides a feasible approach to optimizing the clinical outcomes and implementation of K/DOQI standards for the complex health care needs of renal transplant CKD patients

### **Vascular Access: It's Not in VAIN**

*Patty Quinan, RN, MN, CNeph(C), Toronto, ON*

V (vascular mapping and creation)

A (assessment)

I (surgical and radiological intervention)

N (nursing practice)

It is universally accepted among nephrology nurses and practitioners that arteriovenous (AV) fistulae are the best vascular access for chronic hemodialysis patients. AV fistulas are associated with decreased mortality and morbidity, fewer hospitalizations and interventions, and improved long-term survival when compared to AV grafts and central venous catheters (CVC).

Nurses play a vital role in improving patients' outcomes. Good clinical assessment of vascular access, close monitoring of treatment parameters related to access and prompt reporting of access problems are all factors necessary for achieving and maintaining a functional vascular access.

The purpose of this session is to provide nephrology nurses (from novice to expert) with a theoretical and practical review of vascular access. This session includes information on venous and arterial mapping, AV access creation, assessment and troubleshooting strategies for successful cannulation of new and developed AV accesses, CVCs and strategies to improve catheter patency, prevention and standardized reporting of catheter-related blood stream infections (CR-BSI), monitoring machine and access parameters, and common surgical and radiological interventions. Case studies including radiological images will be presented of patients with catheter-related central occlusion, insertion of tunnelled CVC, stenosis treated with angioplasty, vascular access thrombosis, stent placement, and coiling of collateral/accessory veins. Opportunities for discussion will be encouraged.

The implications for nursing practice are to increase nurses' knowledge and understanding about vascular access, in order to optimize patient outcomes, reduce vascular access-related complications and help prolong vascular access survival.

### **Home Visits for Peritoneal Dialysis Patients: A National Perspective**

*Susan McMurray, RN, BN, CNeph(C), London, ON*

Home visits for peritoneal dialysis (PD) patients provide ongoing patient education and follow-up and are "strongly" recommended by the International Society of Peritoneal Dialysis (ISPD) Nursing Liaison Committee, as they provide insight into the way patients adapt and function in their own environment.

There is great variability in frequency and practice of home visits in Canada and across the world. Some programs provide home visits at the end of PD training, post infection and annually, while other programs struggle to provide one home visit during a patients' entire time on PD. Some programs provide standardized education and observation of dialysis exchanges or cyclor set-up while others provide only a brief visit with little standardization. This presentation will provide a summary of current practices for home visits of PD patients in Canada based on current literature and Canadian survey results relating to frequency, practice, safety measures and recommendations for home visits.

In the spirit of continuous quality improvement (CQI), it is hoped that this presentation will encourage programs to assess their current practice related to home visits for PD patients and consider enhancement, if applicable.

### **A Model of Learning Continuum for the Hemodialysis Nurse: From Orientation to Continuing Education**

*Ofelia Magat, RN, BScN, CNeph(C), Clara Wu, RN, BN, and Kuljit Parmar, RN, BScN, Calgary, AB*

Nursing training has posed major challenges for educators in the renal program. Many of today's nurses have varied learning styles; some just came out of nursing schools, whereas others have different nursing backgrounds and experiences unrelated to nephrology. In addition, our health care environment has required a more skilful workforce that is not just proficient in the tasks-related procedures, but demanded critical thinking skills in their practice.

The purpose of this abstract is to present some strategies in preparing different types of learners to be competent practitioners in hemodialysis. It consists of a three-level continuum: from orientation, to follow-up workshops and, finally, annual conferences. It combines traditional approaches to nursing education to achieve technical and clinical mastery. As important is the continuous transformation of learning through experiences, case





analyses, and self-reflections, which are used in the follow-up workshops and conferences. A highlight of this presentation is also the increasing use of modern technology in education such as the human-patient simulations, as an adjunct instruction tool in our area and interactive multimedia training software. Their application and integration in our program will be discussed.

In the modern world, nursing and education are continuously evolving. Therefore, the implication is to integrate the old teaching strategies with the new, innovative methods. In addition, the overall outcome needs to be evaluated for effectiveness for competent nursing.

### **SLED (Sustained Low-Efficiency Dialysis) in the ICU: Exploring Care Models of Two Hospitals**

*Vanessa Godfrey, RN, BScN, MScN, Sharla Adams, RN, BScN, MScN(c), Elizabeth Gordon, RN, RN BED in Adult Education, BN, Marina Bitton, RN, CNCC(C), BScN, MN, Jo-Ann Correa, RN, BScN, MN, CNCC(C), Denise Williams, BScN, MN, CNeph(C), Regidor Taruc, RN, and Karen Johnson, RN, BHSc, BScN(E/CC), ENC(C), Toronto, ON*

SLED is gaining rapid support in the replacement of continuous renal replacement therapy (CRRT) in the ICU setting. Historically, CRRT, a more complex, expensive therapy was managed primarily by ICU nurses, whereas intermittent hemodialysis (IHD) and SLED were managed primarily by hemodialysis nursing staff. At University Health Network (UHN), a collaborative model of care is currently being utilized. Hemodialysis nurses initiate SLED treatments and stand by to support SLED-trained ICU staff with monitoring and discontinuation. At North York General Hospital (NYGH), there is no hemodialysis unit on-site, ICU nurses are educated to independently manage all aspects of the SLED treatment. At both hospitals, some strategies for knowledge transfer to ICU staff occurred through SLED workshops, peer mentorship, educator support, vendor support, documentation tools and resources. The challenges of utilizing ICU staff in the management of SLED at both hospitals are related to practicality of the models, staff perceptions of patient safety, workload and maintaining skill competency. Outcomes of these nursing care models are improved care of the renal patient through: earlier initiation of treatments, decreased complications related to intra- and inter-hospital transfers, improved nursing collaboration, better continuity of care, stronger nursing partnerships and more efficient use of time and nursing resources.

### **“Should I Get a Fistula?”:**

#### **A Video Presentation**

*Lori Mehew, RN, BScN(C), CNeph(C), Oshawa, ON*

**Theme:** This project was a direct result of attending the CANNT 2010 presentation in Toronto by Wilson and Harwood, which explored the “culture of cannulation practices in hemodialysis.” One of the five themes that emerged from Wilson and Harwood’s qualitative research study was “Theme #2-A Fistula is a Hard Sell and Patient Attitudes—Why Change if the CVC Works?” (Wilson & Harwood, 2010).

**Description of the video:** This short, 15-minute video was created with intent to use as an educational video for staff, patients and their families or patient care providers. The video includes four major topics related to fistulae, as described by a vascular surgeon and interviews with four hemodialysis patients who have fistulas and are currently receiving hemodialysis. The content of the video addresses the following: What is a fistula? My line works fine, why would I change? How will a fistula affect my quality of life? Short discussion related to advantages and disadvantages of catheters and fistulae.

**Evaluation and outcomes:** The “go-live” date for the video was March 1, 2011. The outcome of success may be directly correlated with our program’s current rate of fistula prevalence.

**Implication for practice:** The video may be shared or centres may choose to develop their own. This presentation shares the processes required to “blaze a new trail” related to fistula education.

### **Patient Transitions—One Step at a Time**

*Colleen Cuddy, RN, MHS, and Linda Kloosterman, RN, BScN, CNeph(C), Ottawa, ON*

A patient comes to his/her progressive renal insufficiency clinic appointment and needs to be hospitalized. A patient receives dialysis modality education and must make a choice. Another nephrology patient is discharged from hospital and returns to the emergency department within 24 hours. All of these patients are transitioning through a very complex health care system.

Process improvement is not easy. It takes a cohesive group with common goals to accelerate and create successful change. Our regional nephrology program consists of both a multicampus and multisatellite reality. Patients transitioning between sites, between modalities, and between hospital and home experience many challenges.

Over the last year-and-a-half we rolled out a communication plan for all nephrology providers to help ease the burden of these complex transitions. Working with a multidisciplinary team from every corner of our program, the Chronic Kidney Disease Prevention and Management Operations Committee discussed at length who, where, when, why, and what needed to happen so that patient transitions could be seamless. This collaboration allowed for a sharing of unique knowledge and resulted in the creation of a reference guide for all nephrology providers to facilitate patient transitions.

We invite you to participate in our journey, as we educate you on the path that will lead us to reduce risk and improve patient outcomes with a standardized transition policy.

## **Home Dialysis Patient Education: The Art and Science of Adult Learning**

*Debra Appleton, RN, MN, CNeph(C), Rose Faratro, RN, BHScN, CNeph(C), Andrea Heywood, RN, BScN, CNeph(C), Sharron Izatt, RN, BScN, CNeph(C), and Elke Ruthig, RN, BScN, CIC, Toronto, ON*

We did it our way, the way we've "always done it", and thought we were doing fine. However, when we reviewed our patient satisfaction surveys from our home dialysis program, we discovered that our training materials were not always compatible with patients' learning styles. Reviewing the literature revealed we were not alone, and those adults learn in different ways, draw from their experiences, and need to be ready to learn (Knowles, 1967, Baumgartner, 2001). We approached our hospital's Patient Education Network (PEN), a facility resource whose purpose is to support patient education. Together we created an educational workshop to help us improve our home dialysis training programs.

Through another, more focused survey, patients provided suggestions for improved learning and staff provided feedback on education needed to address patient needs. Based on these findings, the workshop agenda included topics such as health literacy, stages of change, psychonephrology, and the management of challenging patients. The day-long workshop was attended by members of our interprofessional team.

The feedback from participants' evaluations from the day was positive, and provided a platform to tailor our education for adult learners. The education provided by the workshop improved our understanding of our patient's experience. This presentation will describe the process, the state of the art in adult education, and the application of adult education to the home dialysis training program. The results of our annual patient satisfaction surveys will demonstrate the patient's perception of the changes.

## **Entering Sacred Space: Challenging the Rule of Two Inches Minimum between Cannulation Needles**

*Christine Rothera, RN, CNeph(C), Robert Lindsay, MD, FRCPC, FRCP(Edin), FRCP(Glas), and Charlotte McCallum, NP-Adult, MN, CNeph(C), London, ON*

Hemodialysis nurses have been taught for decades that a minimum of five centimetres (cm), equal to two inches, between needles is required. The rationale related to a minimum of 5 cm distance between needles is to minimize recirculation, thereby optimizing hemodialysis treatment clearances. However, some arterial venous fistulas (AVF) present with physical challenges to successfully cannulate using at least 5 cm between needles, and sometimes AVF require a much longer period of time to mature in order to accommodate this distance. After reflecting on these challenges, a group of nurses, interested in vascular access best practice, questioned the traditional protocol and performed a literature review. There was expert opinion cited in multiple textbooks. Interestingly, no documented scientific research could be found to support the common practice of cannulating a minimum of 5 cm (two inches) apart.

Therefore, a pilot research project was pursued to measure the amount of recirculation comparing needle distances of 5 cm (two inches) to 2.5 cm (one inch). A randomized controlled cross-over clinical trial, repeated measures design was implemented using 12 patients and generating data on 60 episodes for each treatment group. Our study found there was zero recirculation measured, and no impairment of hemodialysis clearance in both needle distance treatment groups. These findings go against the traditional belief. Since an AVF can be cannulated using 2.5 cm to 5 cm distances between needles, this could improve the AVF use rate amongst our hemodialysis patient population.

## **Diabetes in Stage 4–5 CKD: Diabetes with a Shrinking Pantry**

*Sharon Kelly, BN, Certified Diabetes Educator, Calgary, AB*

People with diabetes and stage 4–5 chronic kidney (CKD) disease face challenges that are not present for those who have a GFR > 30 ml/min. The diabetes disease process is altered by the many physiological and social changes that occur with the progressive decline in renal function and by renal replacement therapies. Among the most significant differences are the effects of renal atrophy, the subsequent alteration of the hormonal milieu and the loss of muscle mass. The hormonal milieu and loss of muscle mass, in turn, impairs the ability of individuals to sustain blood glucose levels in the four- to six-hour period after meals and in fasting states.

There are ample data that address the prevention or slowing of progression of diabetes-related renal disease. Fewer guidelines are written that address the needs of individuals, as they progress through stage 4 CKD, hemodialysis, peritoneal dialysis or transplant therapy. The existing diabetes clinical practice guidelines are based on carefully conducted studies with people who mostly have a GFR > 30 ml/min. Many individuals with stage 4–5 CKD no longer see endocrinologists and are, instead, followed by nephrologists and family practice physicians. These physicians and associated renal health professionals may rely on clinical practice guidelines to make appropriate interventions. This poster presentation and talk will address some of the unique features of diabetes in this chronically critically ill population, plus the need for further research and appropriate clinical practice guidelines.







## **Self Management to Health Coaching: Putting the Patient First**

Colleen Cuddy, RN, MHS, Katherine Standish-Dutton, MSW, RSW, and Linda Kloosterman, RN, BScN, CNeph(C), Ottawa, ON

Like other chronic disease populations, end stage renal disease (ESRD) patients face multiple co-morbid conditions both medical and psychosocial. ESRD patients, however, have the additional challenges of severely restricted dietary choices, limited fluid intake, anemia, dermatological conditions, decreased energy, changes in roles, and many other issues.

By 2020, 75% of all deaths will be from chronic disease (World Health Organization, 2009), thus it follows this group will be an even bigger burden on our health care system. Over the last three years, we have incorporated a self-management model in our nephrology program, providing education to our multidisciplinary team to enhance their skills and enable them to facilitate behaviour change with patients. Self-management encourages patients to take more accountability regarding their own health. As Gruman and Von Korff elucidate, "self-management involves [the person with the chronic health condition] engaging in activities that protect and promote health, monitoring and managing signs and symptoms of illness...and adhering to treatment regimes" (1996).

As a next step, health coaching is a natural complement to self-management. Health coaching targets clients who would benefit from actively doing something to improve their health. Similar to self-management, where the patient is a partner in the maintenance of their health, health coaching will provide staff with the expertise to recognize patients who are ready, confident and knowledgeable to make lifestyle changes.

Health coaching is evidence-based; incorporating motivational interviewing, cognitive behavioural theory, and solution-focused interventions. Join us as we demonstrate how we utilized these methods in our program.

## **Forging Ahead in Unknown Waters: One Year Later—The Collaborative Care Practice Model**

Mary Milton, RN, CNeph(C), Kim Hendrick, RN, CNeph(C), Marie Kulig, RN, MScN, and Leanne Tremain, RN, Kitchener, ON

In April 2010, Grand River Hospital's renal program implemented a collaborative care practice model. This model included both registered nurses (RNs), and registered practical nurses

(RPNs). RPNs began developing their hemodialysis skills in the main 30-bed in-centre unit and in the renal clinic. One year later, RPNs have started in the progressive hemodialysis unit (PHU), with plans to implement them into our satellites, as well.

Previously, the Grand River Hospital renal program spoke about the culture change, the new orientation process and reviewed the lessons learned while integrating the collaborative care nursing model. This session will continue the experience we presented one year ago. It will focus on the evolution of the RPN being introduced into the PHU and satellite dialysis units, the revisions that were made to their orientation process, and the newly developed mentoring program. Introducing the collaborative care model continues to bring many new challenges and opportunities to our program, our goal is to share the experience, the lessons learned, while evaluating the ongoing success of our journey.

## **The Handwriting on the Wall: Program Transformations Utilizing Effective Change Management Strategies**

Anita Amos, RN, BScN, CNeph(C), Colleen Johns, RN, Nordia Hines, BA, MA, Toronto, ON, Tracey Skov, RN, HBScN, MSN, and Linda Kloosterman, RN, BScN, CNeph(C), Mississauga, ON

Historically, there have been indications that we need to change the way we work and think about our health care processes. Yet, with the need to keep abreast of the changing needs of our patients, have we seen these signs? Moreover, how do we respond to the inevitable change processes that must occur?

In 2010, St. Michael's entered into a partnership with Baxter Canada. Improvement in the quality of care and life for individuals living with chronic kidney disease is the overall goal. This initiative is in response to concerns identified, related to existing health care delivery processes within the Renal Program.

Change evokes a variety of responses based on the individual's attitudes. As we embarked on this journey, the nursing leadership team reviewed their usual responses toward change utilizing the book, *Who Moved My Cheese?* Responses may include:

- sniffing out change opportunities
- scurrying ahead to implement change, bumping into barriers along the way
- initially being hesitant, but gradually adapting to the changes
- holding on to current practices, reluctantly moving out of their comfort zone.

Identifying the attitudes of stakeholders involved in change processes is imperative. This facilitates the use of specific strategies to enhance the effectiveness of stakeholder engagement in the process and the outcome of the initiative. Reading the writing on the wall prepares people to participate in and embrace changes that promise to benefit those for whom we provide care.

## **Facing the Challenge Together: New and Improved Patient Information**

Brenda Taylor-Kluke, RN, CNeph(C), and Nicole Page, RN, CNeph(C), Ottawa, ON

Patients living with chronic illness face many challenges. Treatment modality selection is probably one of the most difficult decisions our CKD (chronic kidney disease) patients face. We are challenged to provide our patients with the unbiased information necessary to make an informed decision. We must

also give them the tools they require to play an active role in maintaining their own health.

As part of the Chronic Kidney Disease Prevention and Management (CKDPM) initiative at The Ottawa Hospital (TOH) partnered with Baxter Canada, we modified our patient information program to incorporate a self-management philosophy. We also changed the sessions to be more interactive, values based, with a home first focus and incorporated principles of adult learning, and the Registered Nursing Association of Ontario (RNAO) best practice guidelines.

Feedback was provided by an external reviewer who attended our group sessions, as well as patient and staff participation. The team reviewed the model and saw the need to make changes. Site visits were made to other centres across the country to compare and get ideas. These results were shared with the multidisciplinary team and a subcommittee was formed to operationalize these changes. This presentation will outline the steps we took to reach our goal.

Our revised multidisciplinary patient information sessions now: are shorter in length, allow for peer mentorship, increase the patient involvement, and encourage chronic disease self-management. After transplant, home therapy is presented as the best option where medically appropriate. Evaluations are ongoing and the results are positive.

### **Giving Frontline Nurses a Voice: Creating a Culture of Collaborative Care through Cooperation, Communication and Change**

*Janet Kierdorf, RN, and Kim Hendrick, RN, CNeph(C),  
Kitchener, ON*

In April 2010, the Grand River Hospital Renal Program introduced the Collaborative Care Nursing Model into the in-centre hemodialysis unit, through the introduction of RPNs into a traditionally RN-only work environment. The implementation has been an evolutionary process. It is through this process that a core group of staff nurses recognized that nurses, as professionals, have the ability to positively affect their nursing environment. This poster will illustrate how these nurses joined together to create the Collaborative Care Committee—a committee to promote a healthy work environment, to create a practice setting that maximizes the health and well-being of all nurses and supports quality patient outcomes. The committee members, goals and objectives, patient assessment tools developed, and evaluation will be outlined. The lessons learned and the opportunities for growth, as well as the power of nurses working together to positively impact their workplace will be discussed.

### **How to Tame a Dragon: Implementing a New Nursing Model in a Busy Hospital Based Hemodialysis Unit to Improve Communication, Patient Care and Safety**

*Lora Jensen, RN, MSN-NP(F), CNeph(C), Leilani Ocampo, RN,  
BSN, and Luisito Sera Josep, RN, CNeph(C), Vancouver, BC*

Our increasingly busy hospital-based hemodialysis unit was becoming an unruly dragon with its increasing patient numbers and acuity, large staff size, frequent incident reports, poor communication, lack of accountability, team work and patient

care plans, and inconsistent patient care and follow-up. Due to the large patient and staff numbers and their variable shifts, it was impractical to implement true primary nursing. In order to tame this ruthless dragon, our unit implemented a modified primary nursing model. This new model assigns each part-time and full-time registered nurse (approximately 69 RNs) to four chronic patients (total of approximately 261 patients) for whom they are responsible to perform a detailed chart review and audit every six weeks. Benefits of our new nursing model are already evident. In a recent survey, two months after implementation, respondents have confirmed early detection of errors/omissions, timelier follow-up of laboratory results, and improved communication across the health care team.

### **FHA Embarks on a Care Matters Journey that Blazes New Trails in Hemodialysis Care**

*Katie Nikl, RN, BSN, CNeph(C), Vancouver, BC*

Fraser Health Authority (FHA) has embarked on a new journey of discovery using a Care Delivery Model Redesign (CDMR) approach of delivering Care Matters. Care Matters is a patient-focused, quality improvement strategy that is built on best practice evidence and engages entire renal interprofessional teams to lead strategic change.

The Care Matters' collaborative assists unit teams to build care delivery systems that better respond to the needs of patients using process improvement knowledge, tools, and leading practices. With a focus on sustainability, staff utilize their skills and expertise to become the leaders in transformation.

FHA is inviting frontline staff to redesign how care is being delivered. Three focused areas for improvement have been identified: 1) Reinvesting time to care—empowering teams to identify non-value added activities of care enabling them to spend more time on work that actually makes a difference; 2) Inter-professional team work and collaborative practice—aligning with the care needs of the patient population, optimize the role, scope and functions of care team members in dynamic group practice; 3) Patient-centred, safe, quality care—using leading practices matched to identified patient needs promotes a positive patient experience.

With today's health care delivery system in transformation, strategies that have been used in the past decade are no longer achieving the results required. In response to changing medical knowledge, technology, and services demands FHA hemodialysis program takes a bold step into the future.





### **Patient Education: A Personal Approach to Learning**

*Carolyn Bartol, RN, BScN, CNeph(C), Shondal Byrne, RN, BScN, Janet Campbell, RN, Karen Delaney, RN, BScN, CNeph(C), Pamela Dill, PDt, Michelle Jensen, MSW, RSW, Paula Mossop, RN, CNeph(C), Barb Nickerson, MSW, RSW, and Mary Beth Ross, RN, Halifax, NS*

Patients and families seek continuing education on topics of interest to them in the management of chronic kidney disease and hemodialysis treatment. However, within the hemodialysis unit setting, barriers exist in the delivery of education. These include time, noise distractions, physical crowding, and limited control over learning priorities among patients and family members.

At the in-centre hemodialysis unit in Halifax, NS, an organized, and multidisciplinary approach to education is now being provided on a monthly basis. Group education sessions take place in the patient waiting area. The patients and families identify topics of interest. The sessions are provided by the multidisciplinary team, which includes: nurses, dietitians, social workers, a vascular access nurse, pharmacist, anemia management nurse and clinical nurse educator.

In the waiting area, patients are exposed to potentially negative and/or inaccurate information amongst other patients and families. Families and caregivers often use this same waiting area for long periods of time, with limited, valuable information available to them. The location of the educational sessions in the patient waiting area is an ideal setting in which to connect with the target audience. The learning topics are prioritized according to patients' and family members' interests. Finally, the personal nature of the education provided is intended to be a catalyst to promotion of effective relationships among patients, families and the interdisciplinary health care team.

This poster will show how various health care professionals have planned, implemented and evaluated these educational sessions.

### **Bone and Mineral Disorders: Developing an Interdisciplinary Approach to Support Staff and Patients in Improving Outcomes**

*Marsha Wood, BN, RN, MN, CNeph(C), NP, Pamela Dill, PDt, Jennifer Fleming, BSc(Pharm), ACPR, Karen Delaney, RN, BScN, CNeph(C), Mary Beth Ross, RN, David Landry, MN, RN, NP, CNeph(C), Carolyn Bartol, RN, BScN, CNeph(C), Colleen Wile, RN, CNeph(C), Sohani Welcher, RN, MN, NP, GNC(C), Norma Martel, RN, BScN, CNeph(C), Cynthia Stockman, RN, MN, Janet Campbell, RN, Risa LeBlanc, RN, BScN, Carrie-Ann Boyd, RN, CNeph(C), Rodney Kelland, RN, Karen LaRose, RN, Brenda Baker, LPN, Anastasia Kleronomos-MacAlpine, PDt, Bonnie Rafuse, RN, Krista Chaulk, RN, BScN, Renee Taylor, RN, and Suzanne Schewe, RN, BScN, Halifax, NS*

Bone and mineral disorders are common in patients with CKD on dialysis and are associated with increased morbidity and mortality. Targets for calcium, phosphorus and PTH have been identified through clinical practice guidelines. Achieving these targets falls primarily with the patient. Patients must have the knowledge, motivation and problem-solving skills to achieve desired outcomes. The interdisciplinary team must be well informed and positioned to support patients and families with education, resources, ability to coach and guide patients when required.

The interdisciplinary team of the in-centre and satellite hemodialysis units at the Capital District Health Authority in Halifax, N.S., is embarking on a quality initiative to improve bone and mineral disorder care. The team includes nurses from the hemodialysis units, dietitians, nurse practitioners, clinical nurse educators, a pharmacist, clinical leaders, anemia management nurse, and the manager of the renal program. During an initial half-day session, the team focused on updating its knowledge of mineral metabolism and management including guidelines and targets, identifying tools and resources available to assist in mineral metabolism management, identifying barriers and strategies for improving mineral metabolism outcomes.

Four broad themes emerged from the session: 1. the need to understand what patients/families wanted; 2. the need and desire for more staff education; 3. the need for patients and families to have more opportunities and resources to support their learning and management efforts; 4. the need to explore the use of web-based opportunities and resources for staff and patients.

This poster will show how four sub-committees are championing these broad themes. The strategies of developing and conducting a patient/family needs assessment, compiling an inventory of patient education resources and identifying deficiencies, developing and accessing new patient resources, initiating an ongoing individualized report card for patients about their bone and mineral metabolism, and creative unit-based staff education will be highlighted. The ongoing planning, evaluation and development of quality indicators will be shared.

### **The Expanding Role of the LPN**

*Doris Kane, LPN, and Colleen Wile, RN, BScN, CNeph(C), Halifax, NS*

The LPN has been a member of the hemodialysis team in our unit for the past 19 years. With the increasing volume of dialysis patients, it became more evident that the knowledge/skill and competency of the LPN needed to be drawn upon



in a more effective manner. Historically the role of the LPN was to act in the capacity of 'ward aid'. For example the LPN role included weighing patients, assisting with blankets/snacks and washing machines. The role of the LPN has evolved over the last nine years to maximize their scope of practice to help meet the needs of the patient population they service. To meet the educational requirements to fulfill these new competencies, the LPN was provided with educational opportunities to learn how to prime the dialysis machines, needle established fistulas, and perform transonic measurements and education on how to work in a collaborative care model with RNs in the delivery of care for identified stable patients. Additionally, an initiative in the hemodialysis unit began in 2007 with a mandate to ensure that the right person was providing the right care at the right time for the right patient population. In accordance with this objective, the LPN scope of practice was further enhanced to include education on medication administration and care of stable tunnelled CVC catheters. All of these efforts have enabled LPNs to maximize their practice, thus enabling the RN to be able to coordinate and develop the plan of care for our dialysis patients. This presentation will explain the process and educational endeavours that were undertaken to facilitate the maximization of the LPN's scope of practice within our in-centre hemodialysis unit.

### **A Three-Step Approach to Conversion of Prevalent Catheter-Dependent Hemodialysis Patients to Arteriovenous Access**

*Patty Quinan, RN, MN, Aaron Beder, MD, FRCSC, Murray Berall, MD, FRCPC, Meaghan Cuerden, MSc, Gihad Nesrallah, MD, FRCPC, and David Mendelsohn, MD, FRCPC, Toronto, ON*

Prevalent central venous catheter (CVC) rates among hemodialysis (HD) patients in Canada remain high. In October 2006, we implemented a three-step project in our in-centre HD unit. The primary objective was to convert 50% of suitable patients to arteriovenous fistulae (AVF) or arteriovenous graft (AVG).

**Design, setting, participants, and measurement:** We undertook a case-crossover evaluation of the efficacy of a three-step conversion strategy. In step 1, all medically suitable patients were assessed for arteriovenous (AV) access creation. In step 2, patients were scheduled for preoperative vascular mapping and referred to the vascular surgeon. In step 3, patients who refused conversion were asked to sign a waiver, indicating that their decision to continue with a CVC was against medical advice.

**Results:** At the start of the project, 108 patients were catheter-dependent (38%). Of these, 53 patients were deemed medically suitable for conversion; 26/53 (49%) patients agreed to conversion and 27/53 (51%) refused conversion. No patients, when confronted with the waiver agreed to convert. Although 22 patients have successfully converted, resulting in a conversion rate of 41.5%, the point-prevalence CVC rates increased from 38% to 46% during the project period. Factors that likely contributed to the increase include patient refusal, medical unsuitability, and failure to create AV access among incident HD patients who were followed in our centre through the late stages of chronic kidney disease (CKD).

**Conclusion:** Long-term CVC use in Canada and the unwillingness of medically suitable patients to convert to more optimal forms of vascular access are linked problems with potentially grave consequences. We need to develop a better understanding of the patient's perspective and possible psychological factors affecting patient's decisions if we are to have an impact on the high catheter use of Canadian prevalent HD patients.

### **Bloodstream Infections at NARP: Is there Room for Improvement?**

*Julie Nhan, RN, MN, CNeph(C), Deborah Hobbs, RN, BScN, CIC, and Kailash Jindal, MD, FRCPC(C), Edmonton, AB*

Infection continues to be the most common cause of morbidity and the second most common cause of death in patients undergoing hemodialysis (HD). The primary risk factor for bloodstream infections (BSIs) in HD patients is vascular access. The associated infection risk is lowest for arteriovenous (AV) fistulae and grafts and higher for patients using central venous catheters (CVC) either cuffed or uncuffed. Literature reports mortality rate as high as 20% with BSIs (Bender et al., 2006). Along with the increased risk of morbidity, BSIs can also result in increased hospital admissions, longer hospital stays and substantial health-care costs (Klevens et al., 2006).

A survey of hemodialysis-related bloodstream infections in Canadian hemodialysis units was undertaken by the Canadian Nosocomial Infection Surveillance Program (CNISP) in 1999. The survey results report an HD BSI rate of 0.2 per 1,000 dialysis procedures for AV fistulae, compared to 0.6/1,000 with AV grafts, 3.1/1,000 with tunnelled and cuffed CVCs and 5.2/1,000 with uncuffed CVCs (Taylor et al., 2002). The Northern Alberta Renal Program (NARP) HD BSI rates for 2010 for AV fistulae was 0.07 per 1,000 dialysis procedures, for AV grafts 0.1/1,000, cuffed CVCs 0.7/1,000 and for uncuffed CVCs 0/1,000.

This poster will share evidence that despite a higher than desired rate of catheter use, NARP has a low rate of BSI associated with all types of vascular access when compared to the CNISP benchmarks. Some of the preventative interventions that were implemented over the years, including focus on hand washing, use of triple antibiotic ointment, and active participation of infection control services in monitoring the rate and etiology of BSIs will be highlighted.





## **Abord Vasculaire Pour Hemodialyse : Faits saillants du Congrès 2011 de la Société Française de l'Abord Vasculaire**

*Isabelle Thibeault, infirmière praticienne spécialisée en  
néphrologie, Chicoutimi, QC*

Élément vital pour une hémodialyse de bonne qualité, l'accès vasculaire (AV) doit occuper une place indéniable parmi les soins aux patients atteints d'insuffisance rénale terminale. Pas d'AV efficace, pas de dialyse efficace. Ainsi, le type et la qualité de cet accès ont un impact majeur dans la thérapie de remplacement rénal pour le patient, que ce soit au niveau physique, psychologique et familial. D'importantes conséquences cliniques et socioéconomiques peuvent aussi être engendrées.

Pour maintenir à jour mes connaissances et mes compétences afin d'intervenir plus efficacement dans la gestion de la ligne de vie du patient hémodialysé qu'est l'AV, j'assisterai au 16<sup>ème</sup> Cours Congrès de la Société Française de l'Abord Vasculaire qui aura lieu en Europe (Belgique), les 16–17 et 18 juin prochain. Cet événement d'envergure réunit une équipe multidisciplinaire importante soit : des infirmières, des néphrologues, des chirurgiens, des médecins angiologues et des radiologues.

Puisque c'est ma bourse obtenue en 2009, octroyée par l'Association Canadienne des Infirmières et Techniciens en Néphrologie, qui me permettra d'assister à ce congrès au niveau international, j'aimerais faire profiter mes collègues et transmettre certaines connaissances apprises à ce congrès en ce qui concerne les meilleures pratiques actuelles reliées aux AV. Que ce soit sur la création des fistules, les complications des AV (sténose, thrombose, conséquences cardiaques, anévrisme, ischémie...), l'imagerie, etc, je vous propose de revenir sur certains faits saillants de ce congrès dans le cadre d'une présentation orale.

## **Treatment of Decompensated Heart Failure Using Peripheral Ultrafiltration in an Ambulatory Hemodialysis Unit: A Demo**

*Nancy Filteau, RN, BScN, MSc(A), CNeph(C), Michel  
Serge, RN, MSN, CCN(c), Roch Beauchemin, RN,  
BSc(N), NNP, CNeph(C), Rejean Livernois, RN, Desislava  
Stoycheva, RN, and Catherine Wong, RN, Montreal, QC*

Decompensated heart failure (HF) is an important health concern in North America, accounting for a large number of hospital admissions per year due to fluid overload not

responding to diuretics. In Quebec, approximately 77% of patients suffering from HF will experience at least one or more hospitalizations, as a result of worsening episodes of HF and non-compliance to medical therapy.

Standard treatment of decompensated HF involves stabilizing the patient's fluid volume with intravenous diuretics and vasodilators or inotropes, as needed. The current practice is associated with diuretic resistance, activation of the renin-angiotensin system and a decreased glomerular filtration rate. Ultrafiltration (UF) to manage fluid overload and remove sodium is an alternative treatment strategy for these patients.

The purpose of this project was to determine the feasibility of providing intermittent peripheral UF treatments within an ambulatory hemodialysis setting and to look at the impact on nursing workload.

Implications for nephrology practice and education are pertinent, as the survival rate of patients with HF is increasing, risk factors for both chronic kidney disease (CKD) and HF are similar and a majority of CKD patients receiving dialysis will eventually develop HF.

The poster will describe:

- Project development with nephrology and cardiology
- Equipment and procedures to provide treatments
- Selection and training of the nurses
- Selection of patients
- Future directions for peripheral UF for decompensated HF patients at the McGill University Health Centre.

## **Understanding of Mineral and Bone Disorder in CKD Made Easy**

*Tina Cormier, RN, BScN, CNeph(C), Suzy Hagger, RN,  
Fanny Ng, RN, and Miran Lee, RN, Calgary, AB*

Disorders in minerals and bone metabolism are major complications of chronic kidney disease. The consequences of these abnormalities can result in major cardiovascular diseases, which can be life-threatening, painful and debilitating conditions, frequent hospitalizations and overall poor quality of life. The pathophysiology of mineral and bone disorders is very complex and can be difficult to understand. Its management is even more challenging. In view of the above, the purpose of this poster is to present a simplified algorithm that provides a visual explanation of the disease process and its management. The use of this educational tool can help the health care provider have a better understanding of the disease process and its treatments and other possible interventions.

The implication to our practice is crucial. Foremost, the landscape of our health care environment is continuously changing. The demands for a more educated and skilful workforce is increasing. Current emphasis is more geared to critical thinking. An educated care provider who has a good understanding of mineral and bone disorder can effectively assess her/his patient's condition. Consequently, she can make good clinical judgments and sound recommendations which, ultimately, improve patients' care and their quality of life.

## **Physiologic and Psychosocial Approaches to Global Management of the Hemodialysis Patient**

*Suzy Hager, RN, Tina Cormier, RN, Fanny Ng, RN, and Miran Lee, RN, Calgary, AB*

As frontline nurses, we know firsthand the many challenges of renal disease on our patients and the impact it has on their lives and their families. How can we help them cope with their illness? How can we improve their quality of life? How can we prevent the complications inherent to the disease? How do we know we are doing a good job? Where do we start?

The purpose of this poster presentation is to showcase global management of the hemodialysis patient. It provides a collaborative and systematic approach in assessing, implementing, evaluating and coordinating the physiologic aspects and the psychosocial aspects of their care. It is a model of case management followed in Southern Alberta Renal Program in meeting the many and complex needs of our hemodialysis patients. The quality indicators, to name a few, in assessing the physiologic aspect of their care are solute and fluid removal adequacy, improved BP control, maintenance and improved access function, anemia and bone management, nutritional and diabetes management. The psychosocial aspect of care encompasses goals of care, residential support, transportation, mobility programs in the community and others.

The positive implications to our practice are invaluable in terms of improved patient care, increased adherence to therapeutic regimens, improved mortality and morbidity, and overall enhanced quality of life. Better communications are fostered and wise and prompt use of resources is better utilized.

### **Cardiac Rehab “Biking to a Better Outcome”**

*Dianne Kimball, RN, Sue Evans, RPT, BScPT, ACSM, and Darlene Young, RN, CNeph(C), Lindsay, ON*

Dialysis patients rarely have the sole diagnosis of renal failure. Approximately 50% of dialysis patients are diabetics, are at high risk for cardiac death and have a large burden of cardiovascular disease. A chronic disease prevention and management program can help these patients lead healthier, happier and longer lives. Exercise, proper nutrition, smoking cessation, optimal blood pressure, mental health and blood sugar control are important pieces of the puzzle to help patients maintain optimal heart function and healthy lives.

Dialysis patients who received cardiac rehabilitation after a coronary artery bypass surgery had a 35% reduced risk of all-cause mortality and a 36% reduced risk of cardiac death compared with patients who did not participate in cardiac rehabilitation.

Our program has taken a prevention first approach by linking with the “Health First” team (chronic disease prevention and management program) by offering every diabetic dialysis patient ongoing support through the diabetic clinic and we have also initiated an exercise bike and weight training program within the dialysis unit to promote cardiac health and conditioning for all vascular and diabetes clients. Smoking cessation counselling and support have also been included to reduce all-cause mortality in the hemodialysis population.

Having an onsite cardiac rehab and diabetes education program allows dialysis patients to attend during their treatment. Our next step is to include patients waiting for transplant into the Health First program so they are as healthy as possible prior to receiving their transplants.

### **Partnership in Hemodialysis Care: Implementation of the Self-Management Registered Nurses Association of Ontario (RNAO) Best Practice Guideline (BPG)**

*Marie Kulig, RN, MScN, GNC(C), Cindy Ostel, RN, CNeph(C), Victoria Mawer, RN, BScN CNeph(C), Lori Melitzer, RN, Kellie Bauman, RN, CNeph(C), and Steve Gobran, RN, BScN, CNeph(C), Kitchener, ON*

Empowerment and self-management strategies in hemodialysis patients have been positively associated with the patients’ functioning and well-being. Research has shown that patients trained for self-care dialysis have higher role and social function, and emotional well-being than similar patients who received full care. The progressive hemodialysis unit (PHU) is viewed as a stable renal unit where patients are capable of participating in their own care. Over time, the number of self-care patients has declined and, currently, there are only two patients remaining who perform self-care duties. These duties include taking their own temperature, body weight, managing the dialysis machine and being highly participative in communicating with various health care professionals regarding their care. This poster presentation will display the purpose and significance of implementing self-managed care in PHU. Pre and post patient surveys demonstrating patient perceptions regarding self-management will also be included. Lastly, the poster will depict the steps involved with the implementation of the RNAO self-management BPG. The implementation of this BPG included: a self-care education brochure to the hemodialysis patients and educational sessions to nursing staff regarding self-care management strategies that engaged and empowered patients to be actively involved in their care. The strategies utilized were adapted from the RNAO BPG and Stanford’s self-management program. The poster will include a toolkit that was developed for the nursing staff to help assist with the introduction process of this initiative. Action tools used by nursing staff and patients in the development of self-management goals will also be displayed in the poster.







### **Enhancing Care for Assisted Peritoneal Dialysis Patients Through the use of an “Education and Communication Record”**

*Arlene Cugelman, RN, CNeph(C), Sandra Hislop, RN, BScN, CNeph(C), and Alice Cummings, RN, CNeph(C), Orillia, ON*

With the advent of the peritoneal dialysis initiative in 2007 and its adoption by our regional kidney care program, the importance of consistent, accurate communication amongst the multiple caregivers became evident. Communication occurred between clients and/or caregivers, the home dialysis team, agency nurses, CCAC case managers and on occasion with the three border Local Health Integration Networks (LHINS). In addition, our regional program, Simcoe Muskoka, has an aging population with a large rural component necessitating travel for both clients and home care staff. The stimulus for this record was the need for training information and ongoing client abilities to be accurately and consistently relayed in a manner easily understood by multiple caregivers attending each week. The team responsible for the area the client lived in might have three to 11 nurses, but during the evening, one team often covered two areas. Some clients reported feeling stressed not only by a different caregiver each day, but also by the varying interpretations of what was needed to support them in their care and how it should be done.

The Education and Communication Record that was developed clearly indicated the client/caregivers skill level post training, timelines, what was expected of those assisting with care and how to contact home dialysis in a timely manner. Self-care in a safe environment through the use of this one-page document maintained the client's strong link to the home dialysis unit while supporting the visiting nurses with needed concise information.

### **Our Experience with Bedside (Percutaneous) Insertions of Chronic Peritoneal Dialysis Catheters**

*Sue Buob-Corbett, RN, IIWCC, and Ellen Blundon, RN, Thunder Bay, ON*

**Background:** How many renal units can state they have a decade-plus experience with bedside peritoneal dialysis (PD) catheter insertions? We have been able to provide and maintain

individual care with timely access to PD catheter insertions. The benefits are distinct, notably for those who would have higher risks associated with surgical implantation. The renal unit at the Thunder Bay Regional Health Sciences Centre provides services to approximately 700 patients in a geographical area the size of France. Approximately 235 bedside insertions and approximately 15 surgically implanted over the last 12 years.

“Bedside” is defined as a non-surgical procedure in a non-surgical setting performed by the nephrologists who have received special training with the Y-Tec technique using the peritoneoscope. We must be aware of potential complications and risk factors involved in this procedure.

**Discussion:** We have three nephrologists who implant bedside PD catheters. The nurse has input into exit site placement including marking the abdomen, assessing the abdomen for belt lines and skin folds. We are able to do this technique in a timely fashion. Utilization of resources is foremost. Benefits include: general anesthesia is not required, no wait time, patients are awake during the procedure and offer valuable input, decreased leaks and increased healing time for exit sites. Catheters can be used immediately following the procedure. Pre and post op care instructions and medical directives are important with the continuity of patient-centred care. We do have potential barriers, obstacles and challenges with this procedure, as well.

**Conclusion:** Providing timely access to peritoneal dialysis catheter insertions is an essential aspect of a successful PD program. The benefits contribute to each individual, supporting holistic care. We are continuously striving to improve patient- and family-centred care.

### **Advanced Skills for Personal Support Workers in the Acute Care Setting: Care of the Patient Requiring CAPD**

*Carolyn Bartol, RN, BScN, CNeph(C), Halifax, NS*

To help enhance the scope of practice of the registered nurse, the inpatient nephrology/multi-organ transplant unit at Capital District Health Authority (CDHA) in Halifax, NS, utilizes a model of care that employs registered nurses (RNs) and personal support workers (PSWs). After discussion with unit staff, educators and leaders, it was determined that two advanced skills, specific to the unit patient population, be added to the PSW role. The additional skills include the completion of peritoneal dialysis exit site dressing change, using the modified shower technique, and the connection/disconnection of peritoneal dialysis solution for continuous ambulatory peritoneal dialysis exchanges. A PSW education program is provided that includes delineation of the roles of the PSW and the RN, PSW education within a classroom setting, followed by clinical skill application with a preceptor, and follow-up remedial education and application, as necessary. The training phase is carried out through a staged-in approach, allowing the unit educator and RN preceptors to monitor, and address additional training requirements. The evaluation phase of this practice change takes place three to six months after initial implementation. This includes assessment of ability of the PSW and novice RN staff to maintain skill competency, and the total impact of this transfer of care on the RN role. Addition of skills related to preparation and priming of the cyclor are being considered for the future.

## **On the Road to PARADISE: Peritonitis Analysis of Rates Advancing Dialysis Information and Staff Education**

*Cindi Wheeler, RN, BN, MN(c), CNeph(C), Rita Brownrigg, RN, BScN, CNeph(C), and Brenda Cyr-Mockler, RN, CNeph(C), Ottawa, ON*

Peritonitis is a common risk factor for peritoneal dialysis (PD) patients. The 2009 peritonitis rate in The Ottawa Hospital (TOH) Home Dialysis Unit increased significantly to 1:24.5 patient months, which is below the national infection rate. In early 2010, a continuous quality improvement (CQI) team was formed to conduct an in-depth data analysis using various software and chart reviews to identify trends to explain current peritonitis rates. Based on the analysis, a plan/do/study/act (PDSA) cycle approach was used to make changes to practice, improve peritonitis rates and subsequent quality of patient care. Data analysis revealed multiple, complex causes for infection. Using an evidence-based approach, five key areas of opportunity to improve were identified:

- Home visit protocol revision to include post peritonitis visits
- Consistent documentation practice change to include detailed, specific phrasing for tracking purposes
- Patient education revision to include learning evaluation
- Focus on nursing staff knowledge of microbiology to enhance care planning
- Multidisciplinary team approach to care plan creation based on culture result and patient perception of organism source.

As of December 2010, peritonitis rates decreased to 1:36 patient months and three of five priorities have been implemented. As the project drives forward, TOH CQI group hopes to show that taking a multipronged approach to decreasing peritonitis rates will dramatically reduce the chance of infection and move patients closer to a life of paradise on PD.

## **LPN-Assisted Automated Peritoneal Dialysis**

*Janice James, RN, CNeph(C), Calgary, AB*

**Purpose:** The complexity and aging of the patient with the diagnosis of end stage renal disease is on the rise. Many patients desire the opportunity to be treated in their home environment. Often it can be challenging to perform therapy independently. The development and implementation of licensed practical nurse (LPN)-assisted automated peritoneal dialysis (APD) home program, in partnership with home care, has been created to support peritoneal dialysis (PD) growth and to provide positive clinical outcomes for patients requiring home support in the community served by the Southern Alberta Renal Program (SARP). The service is available for three months' duration per individual client registration. The LPN training and patient follow-up is provided for by the Southern Alberta Peritoneal Dialysis Program. The partnership is unique to the SARP and Calgary Home Care. The program fits well within the focus of Alberta Health Services to offer care in the community.

**Description:** Selected patients residing within the city limits of Calgary, Alberta, receive the daily assistance of a licensed practical nurse for cycler set up and strip down. Patients are chosen based on their desire for home therapy and their inability to perform APD independently for a limited timeframe.

**Evaluation/outcomes:** Outcomes are evaluated for: length of time on therapy, hospitalization rates, infections rates, impact on modality choice and financial implications.

**Implications for nephrology practice/education:** Implementation of a community home-assist program provides the opportunity for patients to be cared for in their home environments. Each candidate may receive up to three months' support based on the complexity of their physical and or cognitive condition. The provision of this option increases the likelihood that patients and families will choose PD as a home therapy, resulting in improved clinical outcomes for the patient and potential cost savings to the program.

## **A Collaborative Team Approach to Increase Use of Peritoneal Dialysis**

*Susan Porteous, RN, CNeph(C), and Cynthia van der Woerd, RN, BA, CNeph(C), Hamilton, ON*

The Ontario Provincial Peritoneal Dialysis Joint Initiative was established in 2005 to increase the use of home therapies, to promote a standardized, consistent and integrated delivery of peritoneal dialysis (PD) services, and to better meet the needs of the elderly population.

**Objectives:** St Joseph's Healthcare Hamilton, Ontario, has developed a team approach between the PD unit, the hemodialysis unit (HD), and the kidney function program (KFP), a program for the care of the chronic kidney disease patients, with the goal to increase awareness of PD and to provide PD education that is consistent within our program.

**Methods:** The primary focus deals with three of the barriers to achieving the Ontario Provincial Peritoneal Dialysis Initiative: the PD educational component, how PD is perceived, and dealing with the elderly population. The PD unit and the KFP nurses met and revised the PD educational component of the teaching sessions in order to ensure consistent education to potential PD patients, as well as to HD staff at staff in-services. The feedback from the staff about their perception of PD before and after the sessions was documented and illustrated as myths and truths. The KFP has 450 patients, with 57.5% over the age of 70. PD is supported in the community by the Community Care Access Centre (CCAC) staff to assist patients, many elderly, who are unable to do PD cycler on their own.

**Results:** Many HD staff indicated their perception of what PD is from previous experience, such as "failed or blocked PD catheters", "not an adequate dialysis treatment", "patient is too old or unable to do PD", or the "patient could not switch from HD to PD". Staff awareness and attitudes towards PD were captured





in an evaluation form and also in discussions. Many patients are started on HD as acute starts and could potentially change to PD once stable. It is important to identify and educate these patients about home therapies.

**Conclusions:** PD modality education is consistent throughout the program. A more positive approach to PD was evident from the HD staff feedback. Contact information was provided to all staff to facilitate the referral process for education. CCAC supports are more readily available.

### Shortening the Miles

*Stephanie Sawka, BSc, RN, CNeph(C), Shirley Morris, RN, and Kim Boudreau, PDT, Sydney, NS*

On Cape Breton Island, we cover a large geographical area. The peritoneal dialysis (PD) patients we care for rarely see or communicate with each other, leaving some feeling isolated and alone. To fill this gap, we decided to formulate a newsletter that would be circulated to each patient.

The dilemma that we identified was a group of individuals who were totally responsible for their care with minimal telephone help from our centre. These patients see their physician and support staff periodically, but not each other. These people had limited emotional support or peer support from other patients and disciplines. They lacked a network to voice their concerns and share their stories about their lives. Home dialysis has a great impact on their lives, yet we lacked an avenue for feedback, education, socialization and dialogue of our patients.

Invitations were sent to all PD patients and staff to attend a brainstorming session. From this session, a core group of people were identified and our newsletter was born. Meeting once a month, the newsletter is patient driven and supported by staff. It is done as a pamphlet and is published biannually. Patients who cannot attend physically are invited to respond by mail or by phone. The newsletter itself needed to be educational, informative, social, humorous, original, engaging and helpful making a connection across the miles.

Our goal was met and on September, 14, 2009, after six months of meetings, discussion, and planning, our first newsletter was published and mailed to all our PD patients. Two years have passed and our newsletter is still a success. Some of our original members are no longer with our group, but their spirit remains. Our newsletter meets most of the criteria, but we are always open to improvement.

From this endeavour, a peer support group of patients has evolved who socialize and have become friends. We have patients who are transplanted or hemodialyzed who are still part of our

team. This patient-driven newsletter has empowered the population of peritoneal dialysis patients to reach for the stars. Social work, dietitians, nurses and patients all have an avenue to reach across the miles to each other. With well educated and informed PD patients, we hope their quality of life improves. This social network shortens the miles, provides updates, educates and mentally stimulates thoughts in each person and personal growth is achieved.

### Initiation of Case-Management in Patient-Centred Care

*Laurie Hermann, RN, Calgary, AB*

**Purpose:** With the increasing utilization of home-based therapies, the Southern Alberta Peritoneal Dialysis Program re-evaluated how they could provide optimum guidance and support to the patient making the transition to their chosen treatment modality.

**Description:** This poster will illustrate how the implementation of case management is improving the assessment, coordination and monitoring of all peritoneal dialysis patients in the program, ultimately identifying patient needs and providing early intervention to maintain patient satisfaction and quality of life, which have become important treatment goals. Also, it will highlight the partnership opportunities and collaborative actions taken by the multidisciplinary team to ensure patient-centred care.

**Evaluation/outcomes:** Outcomes are evaluated for: retention of patients on peritoneal dialysis, meeting International Society of Peritoneal Dialysis (ISPD) guidelines and patient satisfaction.

**Implications for nephrology practice/education:** The implementation of case management has assisted in improving patient transitions through the education process of starting peritoneal dialysis and has increased the continuity of care. It has created a process to ensure the close monitoring and identification of potential issues, thus promoting early intervention and avoiding unnecessary hospital admissions.

### Redesigning Peritoneal Dialysis Catheter Exit-Site Classification

*Patsy Cho, RN, MScN, Emelie Exconde, RN, Virginia Sulit, RN, and Gillian Brunier, RN(EC), MScN, CNeph(C), Toronto, ON*

Practice consistency in classifying peritoneal dialysis (PD) catheter exit sites promotes standardization of technique throughout a hospital and enhances prevention and monitoring of exit-site infections. It also reduces the risk of peritonitis. To achieve practice consistency, nephrology nurses responsible for carrying out PD in a hospital environment must have appropriate training and tools to support best practice in PD exit-site classification. Building on the momentum of the previous year's education initiative to support advanced competence in peritoneal dialysis, in 2011 we obtained funding for two experienced PD unit nurses to work with the advanced practice nurse (APN) to evaluate the need for and implement best practices in exit-site classification. Funding for this 240-hour program was obtained through the Ontario Ministry of Health and Long-Term Care Late Career Nurse Initiative (LCNI), a funding program established to create alternative, less physically demanding role alternatives for RNs 55 years of age or older to utilize their knowledge, experience and skills without loss of work hours or income.

To begin this new educational initiative, a needs assessment designed by the APN was conducted by the two late-career nurses and the decision made to redesign the existing Daily PD Record, to develop a PD catheter exit-site risk assessment



tool, as well as an exit-site classification training program. The training program, which comprised a pocket tool, a six-minute training video, a game, and an exit-site classification demonstration on a real patient, was delivered to all PD practising nurses on the inpatient medicine/nephrology ward. The revised Daily PD Record, with space added for RNs to document the condition of the PD catheter exit site, has been submitted to the Hospital Forms Committee for use throughout the hospital.

### **Modality Education: Does it Make a Difference?**

*Renata Marco, RN, CNeph(C), Hamilton, ON*

The worldwide incidence of kidney failure is on the rise and, ideally, the care prior to initiation of a renal replacement therapy (RRT) should increase the likelihood that patients start electively a modality of their choice. The objective of the kidney function program (KFP) at St. Joseph's Healthcare, Hamilton, Ontario, is to improve the care of patients with advanced chronic kidney disease through education and to prepare patients for a planned, non-emergent initiation of an elective modality.

Modality education sessions include a 1:1 teaching session with a nurse coordinator involving the patient and/or their family members. Patients are given detailed information on all modes of therapy including renal transplantation, hemodialysis, peritoneal dialysis and palliative/conservative care in order to assist them in selecting the particular RRT that will give them the utmost quality of life.

**Objectives:** The goal of this study was to evaluate the effectiveness of modality education in the KFP in preventing the emergent initiation of a modality not of the patient's choice.

**Methods:** Chart audits were completed on all patients that moved from the KFP to a RRT during an 18-month span (January 1, 2009, to June 31, 2010). The information compiled included whether the patient had a modality education session booked, was the modality education session completed, had the patient made a decision on the type of modality they preferred, and to which modality the patient subsequently progressed.

**Results:** Two hundred and two patients moved from the KFP to a RRT during the 18-month timeframe. One hundred and forty-six had a modality education session booked (72.27%). Of these patients, 13 (8.9%) declined to make, or had not made a decision and subsequently 61.5% started hemodialysis in hospital acutely and 38.5% expired prior to initiation of a RRT. Ten (6.9%) had an education session booked, but were a no show or cancelled the appointment and, subsequently, 60% started hospital hemodialysis acutely and 40% expired. Two per cent of the patients started hemodialysis acutely prior to the date of the education session. One hundred and twenty-one (82.8%) patients had completed their education and had selected a particular RRT. Of these patients, 83.3% successfully progressed to the RRT of their choice.

**Conclusions:** Education in the KFP is effective in preventing the emergent initiation of an RRT and increases the likelihood that patients start electively a modality of their choice.

### **Give Me Some Direction—Where is the Map?**

*Wendy Watson, RN, CNeph(C), and Heather Livingston, RN, Cornwall, ON*

Care Maps provide a format for the complete assessment of the new renal patient, data collection requirements, patient education for the new patient on hemodialysis, and documen-

tation of actions and outcomes. Our nephrology program utilizes care mapping in NeproCare. This information stays on the patients' charts and is available electronically to all other hemodialysis units within our nephrology program at The Ottawa Hospital (TOH). When the patient is deemed to have CKD requiring chronic hemodialysis, the care map is initiated. Notification of the interprofessional team (e.g., dietitian, spiritual care, vascular access, liaison nurse) is prompted by the Care Map. The appropriate blood work related to effectiveness of treatment, Hepatitis B and C screening and medication blood levels is ordered. Vaccination for Hepatitis B, Pneumovax and influenza are prompted if required. Allergies are investigated and documented in NephroCare, medication reconciliation is completed and the medication list is updated. Treatment options are reviewed with the patient, as many of our patients parachute in without the benefit of the PRI clinic. The Care Map for the chronic hemodialysis patient was started in the TOH a few years ago and has been revised based on input from the nurses. We feel that the Care Map provides a clear and concise way to meet all the patients' needs and with consistent documentation.

### **Chronic Kidney Disease and Vein Preservation: A Provincial Approach**

*Rick Luscombe, RN, BSN, CNeph(C), Jocelyn Hill, RN, BSN, CVAA(C), OCN, and Cathy Duerkson, RN, BSN, CVAA(C), Vancouver, BC*

Preservation of veins in patients with chronic kidney disease who may or may not be on hemodialysis is crucial for the successful future creation of arteriovenous fistulas and grafts. Frequent venipunctures and the indiscriminate use of peripheral intravenous lines can damage veins, impair the circulatory system and jeopardize future fistula or graft creation and/or function.

This poster presentation blazed a new trail by incorporating a multidisciplinary, multicentre and cross-continuum approach to the development and implementation of a provincial guideline on vein preservation in people with chronic kidney disease.

The guideline makes four recommendations, including an algorithm to assist health care providers in selecting the most appropriate vein for venous access sites. Educational material was also developed to support the implementation of the guideline and targets both health care providers and patients.





## **Provincial Connections: Creating a Common Pathway**

*Tina Drainville, RN, CNeph(C), Deanne Kenny, RN, CNeph(C), Annette Bennett, RN, BScN, C(HPE), Laura Caines, RN, CNeph(C), and Wanda Fitzgerald, RN, CNeph(C), NL*

Imagine a province with an area 405,720 square kilometres, with mostly small, diverse communities that depend solely on the resources that these provide. This is Newfoundland & Labrador. To respond to our diversity, we have implemented a common pathway for our three progressive renal insufficiency (PRI) clinics to standardize and improve quality and continuity of care to end stage renal disease (ESRD) patients. For the last six to eight months, we have used an agreed-upon tracking tool province-wide to reach those with glomerular filtration rates (GFR)  $< 30\text{ml/min/1.73m}^2$ . Our goal is to give consistent information, preserve renal function and help people make informed decisions regarding timely treatment options available for replacement therapy (RTT). The challenges have been lack of global electronic access to patient information and prompting of laboratory values other than GFR. We are working closely with our nephrologists to address these issues. This tool is creating better communication between the nurses, nephrologists, and other interdisciplinary teams throughout our province to enhance continuity of care. This process is proving to be excellent to help track what is happening to our patients, education they have received, areas they will need further information and ensuring that it is provided.

## **Recruiting, Real Estate and Rotations: The Realities of an In-Centre Nocturnal Hemodialysis Program**

*Ann E. Dugas, RN, CNeph(C), Anne J. Dugas, RN, BScN, CNeph(C), Gail Sprott, RN, BScN, CNeph(C), Melanie Bennett, RN, CNeph(C), and Ann Bugeja, MD, FRCPC, Ottawa, ON*

The Ottawa Hospital's (TOH) nephrology program offers patients with chronic kidney disease four treatment options: supportive care with no treatment, transplantation, home therapies and hemodialysis. The standard four-hour hemodialysis prescription does not meet the needs of all patients. Since more intensive dialysis regimens have been shown to have significant

benefits, TOH developed a program to offer in-centre nocturnal hemodialysis (INHd) to patients who could not otherwise dialyze at home.

We present the details of the program development process over its first year. The reality of the program development centred around three essential components: recruiting, real estate and rotations. The nephrologists focused on recruiting patients who met the inclusion criteria and were willing to participate. The nursing team focused on operationalizing the plans. Real estate in a tertiary care institution is a hot commodity, especially if the expectation is to mimic sleeping at home. Once the patients were recruited and the location established, the next task was altering the rotations for patients, nurses, aids and housekeepers. Rotations represented a major challenge requiring constant adjustments.

Additional safety, quality assurance measures and assurance standards were implemented. A monthly multidisciplinary nocturnal clinic was established to ensure patients received the same level of care. The evaluation of the first set of patients demonstrated positive patient outcomes that justified expanding patient numbers in October 2010, and a waiting list has been established. Further program expansion will take place in 2011. Our success can be attributed to careful program planning and ongoing review.

## **"Blazing New Trails": Celebrating our Initiatives at NARP**

*Julie Nhan, RN, MN, CNeph(C), Kailash Jindal, MD, FRCPC(C), and Cynthia Yam, RN, BScN, CNeph(C), Edmonton, AB*

Northern Alberta Renal Program (NARP) provides care to more than 4,000 people with renal problems. The program strives to provide quality patient care and had identified several areas of priorities including 1) bringing renal service into rural communities, 2) focusing on preventative efforts, 3) increasing home therapy utilization, 4) facilitating and encouraging patients' independence and self-management, and 5) supporting a strong, collegial and respectful working relationship among members of the multidisciplinary team. NARP has blazed a trail in dialysis care by developing and implementing many initiatives to support the program's priorities. In an effort to minimize the impact that renal disease has on patients' lives, NARP recognizes that it is imperative that patients have accessibility to as much of the needed services in their own communities as possible. As a result, telehealth was introduced in 2004, as well as the expansion of satellite hemodialysis units, addition of renal insufficiency clinics, introduction of dialysis buses and increased resources to the home therapy program.

Clinics such as the diabetic nephropathy prevention clinics, hypertension clinics and rural clinics were also implemented to provide more comprehensive care with an effort to slow the progression of renal disease. In addition, NARP launched the Nephrology Information System (NIS) in 2006. NIS enables accessibility to patient data, no matter where patients are located in the program, to ensure safe, efficient, seamless patient care. This poster will highlight these innovative programs that NARP has implemented and show that leadership is about trailblazing new trails!

**Acknowledgement:** *These initiatives would not be possible without the dedication and commitment from the multidisciplinary team at the Northern Alberta Renal Program. We also extend a special appreciation to Stephanie Fox for her assistance in data gathering.*

## **Improving Tomorrow by Changing Today**

*Gail Barbour, RN, CNeph(C), BN(c), Val Cameron, RN, Paula Gaspar, RN, BScN, MN(c), Charlotte McCallum, NP-Adult, MN, CNeph(C), and Kari Matos, RN, BScN(c), London, ON*

A commonly debated question is whether continuing education is the responsibility of the professional nurse to seek and fulfill independently, or whether it is the obligation of the employer to provide its staff with education. The role of an educator includes the creative ability to bridge the gap of this great divide. One suggestion that has been pursued is the development and implementation of a performance improvement tool, which is able to fulfill both the professional nurses' ethical and individual quality assurance obligations, as well as the employers' need to ensure safe, competent services for patients. The performance improvement tool is composed of a self-evaluation, thereby identifying potential areas of improvement, facilitating the creation of future goals and choosing potential resources to assist with achieving these goals. It is initiated in the orientation of nurses new to the specialty of nephrology, and is utilized throughout the continuum of a nurse's career and pursuit of excellence in the specialty of nephrology nursing. The design of the tool incorporates the structure of the core competencies for nephrology nurses, the framework of Benner's Domains of Nursing Practice, and encourages independence in professional practice development. The intent is to create a culture of lifelong learning for nurses, and facilitate the growth and development of nephrology nurses' knowledge, skill and judgment from novice to expert. Utilizing an established, consistent and easy to use tool promotes self-monitoring and evaluation of personal goals; thereby fulfilling both individual professional obligations, and employment evaluations simultaneously.

## **Pathways to a Mutual Destination**

*Gail Barbour, RN, CNeph(C), BN(c), Joanne Lawniczak, RN, Kathy McConville, RN, Ethel Harris, RN, London, ON, and Tara Godfrey, RN, BScN, Ottawa, ON*

Across Canada there are limited facilities that have pediatric hemodialysis patients. As a result, it is imperative that the centres offering pediatric hemodialysis pool their resources to ensure there is a standard approach to practice in caring for the limited number of pediatric patients. Maintaining competence in providing care amongst hemodialysis nurses is challenging for each centre. Ottawa and London, Ontario, have similar pediatric hemodialysis demographics. Thus, the two programs collaborated to share resources in the development of an educational program for pediatric hemodialysis nurses. The joint collaboration developed policies, procedures, standards of practice and, in particular, a tool for nurses' self-evaluation and professional goal development. The performance improvement tool is composed of a self-evaluation, thereby identifying potential areas of improvement, facilitating the creation of future goals and choosing potential resources to assist with achieving these goals. It is initiated in the pediatric orientation to nurses new to the specialty, and is utilized throughout the continuum of a nurse's career in pursuit of excellence in pediatric nephrology nursing. The design of the tool incorporates the structure of the core competencies for nephrology nurses, the framework of Benner's Domains of Nursing Practice, and encourages independence in professional practice development. The intent is to facilitate the growth and development of pediatric nephrology

nurses' knowledge, skill and judgment from novice to expert. Fashioning new collaboration between two distant programs not only developed a framework that supports self-learning, but also developed a long-term professional relationship.

## **Development and Implementation of the Acute Modality Nurse Role at the Capital District Health Authority, Halifax, Nova Scotia**

*Cindy Everett, RN, CNeph(C), and Karen Delaney, RN, BScN, CNeph(C), Halifax, NS*

The renal clinic provides education sessions on renal replacement therapy to patients with chronic kidney disease and their families. Each year there are patients who become acutely ill and require dialysis who may never have been followed by a multidisciplinary renal care team. These patients are started on in-centre hemodialysis via a tunnelled catheter. Some of these patients will recover their kidney function after a short time on dialysis. Those patients who do not recover from their acute episode will often remain on in-centre hemodialysis as their chronic modality choice. This is often a result of having missed the opportunity to receive renal replacement therapy education on all available options. This includes the home therapy dialysis options, peritoneal dialysis (PD) and home hemodialysis.

The acute modality nurse role was developed as a means of providing renal replacement education to this patient population. The goals include: increasing the patient's understanding of their current dialysis therapy, providing education on home therapies and promoting home therapies as an alternative option.

This poster presentation will outline the steps taken by the renal clinic to develop the process, resources, role and responsibilities of the acute modality nurse, teaching components, communication/documentation tools and evaluation /outcomes.

## **Process Excellence—Streamlining Clinic Efficiencies**

*Saverina Sanchez, RN, MScN(c), CNeph(C), Toronto, ON*

Managing a busy kidney care clinic can be challenging. In an effort to streamline clinic efficiencies the multidisciplinary team at Humber River took part in a continuous improvement initiative within the Six Sigma, Process Excellence framework. First step, defining the problem: staffing, number of physicians running clinic, number of patients booked for each physician, therefore the problem statement = improve the flow of patients through clinic. We then completed a SIPOC, where we looked







at the Supplier, Inputs, Process, Outputs and Customers. Once the SIPOC was completed, we did flow maps to look at all the disciplines and the delivery of care to the patient within the scope of individual practice. We looked at duplication and reducing non-value-added work in an effort to provide appropriate care by the appropriate discipline. The deployment chart took us through the patients' journey further allowing us to see areas that could be streamlined. Data analysis gave us the empirical data we needed to analyze the problem. A cause and effect analysis revealed key concepts that pointed towards improvement initiatives. We then prioritized changes and completed a Failure Modes and Effects Analysis in order to see anticipated failures to improvement processes. An implementation plan is crucial to the successful roll-out of changes to the delivery care team. The ultimate goal is increasing patient flow through the clinic while simultaneously improving both patient and staff satisfaction.

### **Unit Council: A Pathway to Improved Clinical Practice**

*Margo Leonard, RN, Betty Herman, RN, Twylla-Dawn Wyton, RN, and Deb Gottschalk, RN, London, ON*

Many factors influence nursing job satisfaction and positive work environments that provide access to information, resources, support and opportunities that are empowering. Nurses who work in these environments are more productive, participate more actively and have higher morale. As a means of adjusting to numerous challenges and changes in our large hemodialysis unit, we were in need of an effective system to deal with the abundance of concerns and issues voiced by staff on a daily basis. A unit council was established for the purpose of providing a shared decision-making mechanism to empower staff. This structure enables the multidisciplinary team leadership to identify practice solutions for improving patient care, enhances team morale, develops a healthy workplace strategy and shares both ownership and accountability.

This presentation will outline steps used in the development of our unit council, the implementation of this new way of decision making and methods of evaluating the work of our council. By establishing a unit council we are creating an opportunity for the dialysis staff to explore a new path; one with fewer obstacles. The journey always begins with the first step.

### **Introduction of a Pre-Transplant Coordinator in a Referral Centre: A Single Centre's Experience**

*Carolyn Oscarson, RN, CCTC, and Steve Gobran, RN, BScN, Kitchener, ON*

Grand River Hospital is a 503-bed facility with a dialysis population of more than 488 patients. After recognizing the centre's transplant numbers were low, Grand River Hospital developed the role of pre-transplant coordinator in a referral centre.

The pre-transplant coordinator's role primarily addresses education. Inadequate patient education may prevent patients from beginning or completing transplant evaluation and prevent them from considering living donation as an option early in the transplant evaluation process. The pre-transplant coordinator role also encompasses coordination of pre-transplant tests/evaluation at a centre closer to the patient's home and keeps the transplant centre up to date with changes in the patient's health status.

The poster will outline the role of the coordinator, education topics covered, graphics outlining an increase in transplants since introduction of this role, testimonials, results of a patient satisfaction survey and outline future directions for the role.

### **The Evolution of the LPN Role in Southern Alberta Renal Program**

*Sally Kotchorek, LPN, and Wanda Gorman, LPN, Calgary, AB*

**Purpose:** This poster presentation showcases the continuously progressive and expanding role of the licensed practical nurse (LPN) in the renal program.

**Description:** The emphases of this poster will be the different independent and collaborative functions of the LPN that have developed over time:

- The mere task of putting patient on and taking patient off of hemodialysis now includes critical thinking that encompasses anemia management, antibiotic protocols to management of warfarin dosaging based on the INR Nomogram, medication administration including IV pushes and much more.
- Active participation in education and leadership has taken a landslide with LPNs acting as preceptors, presenting in services, initiating buttonholes, etc.

Implications for nephrology practice and education:

- The changing landscape of the health care industry has permitted the expansion of the LPNs through conscientious utilization and expansion of human resources.
- Improved patient outcome through a more educated workforce.
- Better staff satisfaction and retention in the program.

### **Pathway to Independence... The New Start Chair**

*Peggi Garner, RN, Jane Cornelius, BScN, Joanne Wintemute, MSW, Laura Morrison, RN, Arden Gibson, RN, Suzanne Forgeron, RN, CNeph(C), Sonia Thomas, RN, Jocelyn Laing, RN, BScN, CNeph(C), and Sandee Matthews, RN, St. Catharines, ON*

It is widely understood that when a chronic kidney disease (CKD) patient initiates renal replacement therapy (RRT) in an urgent manner with hemodialysis (HD), they will remain on HD greater than 90% of the time. The Niagara Health Systems (NHS) CKD team focused on all new HD starts in 2010 and provided education on home dialysis modalities. Our New Start

Chair (NSC) program ensured patients dialyzed in a designated chair within a self-care setting, where they observed other patients participating in their own treatment, and were invited to do the same. Multidisciplinary education appointments were scheduled while patients received their dialysis treatment. Patients remained in the NSC for six treatments at which time they were expected to understand the RRT options available, and make an informed choice regarding the best modality for them. Our presentation will discuss our process, education sessions, challenges and recommendations.

Our team established a target of 30% of patients choosing a home modality and we achieved a result of 34% choosing a home therapy in 2010. Our patient and family satisfaction improved with the creation of a dedicated chair and focused education sessions during their initial treatments. Other benefits observed were an increased awareness among all staff of home dialysis options and improved coordination of the multidisciplinary team. Early education of urgent start HD patients does empower more patients to choose the treatment modality that best meets their clinical and practical circumstances.

### **Self-Management Support for Peritoneal Dialysis Patients**

*Mari Sarian, RN, MScN, DESS, Montreal, QC*

The increasing prevalence of chronic illnesses and kidney disease in particular, makes it necessary to adopt new approaches

towards their management (Wagner, 1998). Evidence suggests that promoting self-management improves the health status of peritoneal dialysis (PD) patients. This project proposes an intervention aimed at improving self-management skills among PD patients. This is achieved through the following objectives: (a) develop an algorithm that can improve a patient's ability to solve the specific problem of fluid balance maintenance, (b) develop an educational session for patients on how to use the algorithm, and (c) develop an implementation strategy in collaboration with the PD nurse.

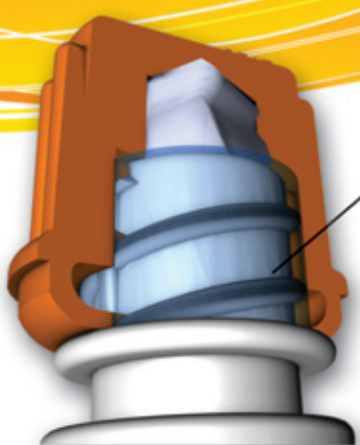
The site of the intervention is the PD clinic in a teaching hospital in Montreal. The algorithm "How do I choose a dialysis bag" was developed with the help of the entire nephrology team. A medical illustrator designed a visually attractive end product.

Three measures evaluate the effectiveness of the intervention. First, a telephone call log shows that participating patients call the clinic less often to inquire about fluid balance maintenance. Next, a pre- and post-intervention knowledge test measures definite knowledge increase. Finally, a Patient Satisfaction Questionnaire reveals overall satisfaction with the intervention.

This project, which proved beneficial to our patient population, could be duplicated in other clinics. The algorithm "How do I choose a dialysis bag" and the slides of the education sessions can be shared with PD nurses across the country, for the benefit of PD patients.

## *See you in Calgary!*


**Protection with a twist of orange.™**



**Bathes Luer Access Valve top and threads with 70% IPA**

**Protects Luer Access Valve between line accesses.**


**Achieve disinfection and protection of all your Luer Access Valves\*\***



**Peel. Twist. Protect.**

## How are you ensuring aseptic line access\*?

Distributed by:



905.825.9300  
or 1-800-461-1423  
www.chsltd.com

**EXCELSIOR MEDICAL**

**Corporate Headquarters – Excelsior Medical Corporation**  
1933 Heck Avenue, Neptune, NJ 07753  
Toll Free 800.487.4276 • Main Phone 732.776.7525 • Fax 732.776.7600  
For more information go to [www.asepticaccess.com](http://www.asepticaccess.com)

\* Aseptic Access is defined as methods used to protect against infection into the line by pathogenic microorganisms.  
\*\* Not compatible with Baxter's INTERLINK system.

# Development of the Self-Care for Adults on Dialysis Tool (SCAD)

By Lucia Costantini, RN, MN, CNeph(C), Heather Beanlands, RN, PhD,  
and Martha Elizabeth Horsburgh, RN, PhD

Copyright © 2011 Canadian Association of Nephrology Nurses and Technologists

## Abstract

*The objective of this study was to develop a norm-referenced tool that would measure the self-care abilities and behaviours for adults requiring dialysis therapy. Guided by the Self-Care Deficit Nursing Theory (Orem, 2001) and an extensive review of the research literature, the Lay Care Giving for Adults on Dialysis tool (LC-GAD) (Horsburgh, Laing, Beanlands, Meng, & Harwood, 2008) was modified to develop the Self-Care for Adults on Dialysis (SCAD) measure. Content validity testing of the SCAD was conducted by a panel of 13 nephrology nursing experts. The tool was modified based on study findings. Further psychometric testing is required. When completed the SCAD tool will guide nurses to design and evaluate supportive self-care interventions for adults requiring dialysis.*

## Background

Living with end stage renal disease (ESRD) necessitates regular dialysis treatments in conjunction with strict fluid and dietary restrictions, as well as complex medication regimens. Unfortunately, adults on dialysis cannot simply attend to the dialysis treatment; their self-care abilities and behaviours require life-long readjustment, if positive clinical outcomes are going to be reached (Braun Curtin, Mapes, Schatell, & Burrows-Hudson, 2005). Nephrology nurses routinely provide self-care instructions without any quantitative assessment tools that measure self-care abilities and behaviours in adults on dialysis. Providing information alone is insufficient when caring for a person with a complex chronic illness. Nurses need to determine the individual's capacity for self-care prior to providing health education. Nurses also require a method

of assessing changes in self-care in response to the individual's illness trajectory and to nursing interventions.

A reliable assessment tool that measures self-care in people on dialysis is imperative. A norm-referenced measure of self-care would allow nurses to assess self-care activities undertaken by adults on dialysis and, subsequently, direct nurses to develop supportive interventions designed to maximize self-care and, ultimately, improve health outcomes. While no instruments are available to measure dialysis-specific self-care, Horsburgh, Laing, Beanlands, Meng and Harwood (2008) developed a tool to measure caregiving activities provided by family/friends of adults on dialysis, the Lay Care Giving for Adults on Dialysis (LC-GAD) tool. Although developed for use with caregivers, the domains of the LC-GAD are congruent with the dimensions of dialysis self-care identified in the literature (Badzek, Hines, & Moss, 1998; Braun Curtin, Bultman Sitter, Schatell, & Chewing, 2004; Braun Curtin, Johnson, & Schatell, 2004; Braun Curtin, & Mapes, 2001; Braun Curtin et al., 2005; Curtin, Mapes, Petillo, & Oberley, 2002; Fok & Wong, 2003; Graham, 2006; Horsburgh, 1999; Horsburgh, Beanlands, Locking-Cusolito, Howe, & Watson, 2000; Horsburgh et al., 2008; Jones & Preuett, 1996; Lin, Lu, Wang, & Lai, 1998; Nozaki, Oka, & Chaboyer, 2005; Nugent, 2006; Oka, Kamiya, Sagawa, Yamana, & Tsuru, 2006; Polaschek, 2006; Sagawa, Oka, & Chaboyer, 2003; Sciarini & Dungan, 1996; Thomas-Hawkins & Zazworsky, 2005; Welch & Davis, 2000) suggesting the tool could be appropriately revised to measure self-care for adults on dialysis.

## Purpose

This project was the first phase of a larger program of research designed to address the need for a norm-referenced, quantitative, self-care measurement tool. In this first phase, the investigators developed and tested an instrument to measure self-care activities for people on dialysis, the *Self-Care for Adults on Dialysis tool (SCAD)*. Specific objectives for this project were to develop the SCAD and to conduct content validity testing of this tool with a panel of nephrology nurse experts.

## Research method

This instrument development study involved revision of the LC-GAD (Horsburgh et al., 2008) followed by content validity testing of the new instrument, SCAD. An extensive literature review was conducted to identify content relevant to self-care for people on dialysis and to further categorize common domains of self-care. This empirical literature and Orem's theoretical perspective (Orem, 2001) guided the research team in modifying the LC-GAD to ensure that the SCAD captured content relevant to self-care.

Lucia Costantini, RN, MN, CNeph(C), PhD student,  
McMaster University, Hamilton, ON.

Heather Beanlands, RN, PhD, Program Director, Master  
of Nursing Program, Daphne Cockwell School of Nursing,  
Ryerson, University, Toronto, ON.

Martha E. (Beth) Horsburgh, RN, PhD, Associate  
Vice-President Research – Health (University of  
Saskatchewan)/ Vice-President Research & Innovation  
(Saskatoon Health Region), Saskatoon, SK.

Address correspondence to: Lucia Costantini, RN, MN,  
CNeph(C), PhD student, McMaster University, 1280 Main  
Street West, Hamilton, ON L8S 4L8.

Email: [costantini@cogeco.ca](mailto:costantini@cogeco.ca)

Submitted for publication: November 17, 2010.

Accepted for publication in revised form: March 14, 2011.



## Review of the literature

The Cumulative Index to Nursing and Allied Health Literature (CINAHL), Medline and Proquest databases were searched for articles that explored dimensions of self-care for people on dialysis. Articles published in English between 1980 and 2008 were included in the review. The terms self-care, self-management and dialysis were used to capture literature that fit these inclusion criteria. Studies in chronic kidney disease (CKD) where participants had not commenced dialysis therapy or had received a kidney transplant were excluded from this review. Of the 35 research articles found, seven focused on adherence, seven examined self-care in the context of psychosocial response to CKD, and the remaining 21 explored self-care activities and behaviours described by people on dialysis and/or their families.

In a review of the literature on adequate self-care among dialysis patients, Ricka, Vanrenterghem and Evers (2002) cited using Orem's (1985) definition of self-care and its dimensions to structure their review. The definition consisted of the following: "patients' deliberate actions regulating his/her functioning and development for health and well-being. The self-care theory claims that self-regulation is necessary for life itself, for health, for human development, and for general well-being" (Ricka et al., 2002, p. 329). Although they argued that Orem's definition of self-care was relevant for people living with kidney failure, the literature included in the review addressed adherence to various treatment dimensions rather than describing the actual self-care skills and abilities of people on dialysis. Therefore, the authors concluded that "very little is known about what dialysis patients actually do in [relation] to self-care" and that "a better understanding of dialysis self-care is needed" (Ricka et al., 2002, p. 337).

As described by Ricka et al. 2002, the adherence literature examined in this review used self-care language when describing study objectives. However, close examination of theoretical constructs and reported findings indicate that the ability of participants to follow prescribed treatment regimens was the actual aim of these studies (Christensen, Moran, Wiebe, Ehlers, & Lawton, 2002; Dowell & Welch, 2006; O'Connor, Jardine, & Millar, 2008; Richard, 2006; Ricka et al., 2002; Tsay, 2003; Zrinyi et al., 2003). This research examined various interventions, including different forms of behaviour modification to improve adherence with various aspects of the treatment plan (Christensen et al., 2002; Dowell & Welch, 2006; O'Connor et al., 2008; Tsay, 2003; Zrinyi et al., 2003). While these interventions provided people on dialysis with information and support that were designed to assist them in managing their care, the outcome measurements were only focused on adherence to treatment and did not address other aspects of self-care. Thus, these studies provided limited insight into the breadth of self-care abilities and tasks undertaken by people on dialysis.

The psychosocial literature focused primarily on examining relationships among self-care and psychosocial indicators including quality of life, depression, adjustment and empowerment. Results of these studies suggested that, in general, self-care was associated with positive psychosocial indicators and that people on home dialysis or performing their own treatment in a dialysis unit (in-centre self-care) had higher role, social and psychological functioning, as compared with those dialyzing in a hospital setting (Ageborg, Allenius, & Cederfjall, 2005; Lev & Owen, 1998; Munakata, 1982; Meers et al., 1996; Tsay & Healstead, 2002; Tsay & Hung, 2004; Tsay, Lee, & Lee, 2005).

These findings suggest that self-care activities are related to the overall wellbeing of people requiring dialysis, and highlight the need to further understand self-care. However, these studies did not explicitly examine self-care. They did not identify specific and measurable self-care activities and they failed to provide insight into the dimensions of self-care behaviours and abilities of people on dialysis.

The most relevant body of literature to understanding the specific domains of self-care was those studies that explored the subjective experiences of people on dialysis and their families (Badzek et al., 1998; Braun Curtin, Bultman Sitter, et al., 2004; Braun Curtin, Johnson, et al., 2004; Braun Curtin, & Mapes, 2001; Braun Curtin et al., 2005; Curtin et al., 2002; Fok & Wong, 2003; Graham, 2006; Horsburgh, 1999; Horsburgh et al., 2000; Horsburgh et al., 2008; Jones & Preuett, 1996; Lin et al., 1998; Nozaki et al., 2005; Nugent, 2006; Oka et al., 2006; Polaschek, 2006; Sagawa et al., 2003; Sciarini & Dungan, 1996; Thomas-Hawkins & Zazworsky, 2005; Welch & Davis, 2000). Although qualitative studies did uncover distinct self-care themes, comparison of these themes across studies was challenging given the use of varying terms to describe similar concepts. For instance, the concepts monitoring, manipulation and deliberate management of symptoms and therapeutic regimes was a cognitive theme reported in several studies (Braun Curtin, Bultman Sitter et al., 2004; Braun Curtin & Mapes, 2001; Jones & Preuett, 1996; Nozaki et al., 2005; Lin et al., 1998; Polaschek, 2006; Sagawa et al., 2003; Thomas-Hawkins & Zazworsky, 2005). This descriptively suggests that patients put a great deal of thought into the meaning of their symptoms as well as how to manage the demands of dialysis. In addition, findings indicated that people on dialysis searched for disease specific information which allowed them to become more engaged in their own care (Badzek et al., 1998; Braun Curtin, Bultman Sitter, et al., 2004; Horsburgh et al., 2008; Thomas-Hawkins & Zazworsky, 2005). Integral to this process was the practice of maintaining vigilant oversight of one's own care or self-advocating. Here people on dialysis described forming relationships with health care professionals for the purpose of communicating preferences specific to their treatment (Braun Curtin, Bultman Sitter, et al., 2004; Braun Curtin, Johnson, et al., 2004; Braun Curtin & Mapes, 2001; Braun Curtin et al., 2005; Horsburgh et al., 2008; Jones & Preuett, 1996; Nugent, 2006; Polaschek, 2006; Thomas-Hawkins & Zazworsky, 2005). The literature further pointed to a distinction between managing the illness and managing one's everyday life. People on dialysis expressed a need to maintain a 'normal' lifestyle congruent with their beliefs and values (Braun Curtin, Johnson, et al., 2004; Braun Curtin et al., 2005; Horsburgh et al., 2008; Jones & Preuett, 1996; Lin et al., 1998; Polaschek, 2006; Sciarini & Dungan, 1996). As well, renal treatment regimens demanded the completion of numerous discrete tasks, often on a daily basis, in order to maintain optimal function and health (Braun Curtin, Bultman Sitter, et al., 2004; Braun Curtin, Johnson, et al., 2004; Braun Curtin & Mapes, 2001; Braun Curtin et al., 2005; Horsburgh et al., 2008; Lin et al., 1998; Sagawa et al., 2003; Welch & Davis, 2000).

Although the terminology used in the literature was not consistent, a number of common domains of self-care were evident. Specifically, the following five self-care themes were identified; appraising, knowledge seeking, advocacy, normalizing, and self-care tasks (Badzek et al., 1998; Braun Curtin, Bultman

Sitter et al., 2004; Braun Curtin, Johnson, et al., 2004; Braun Curtin & Mapes, 2001; Braun Curtin, 2005; Horsburgh et al., 2008; Jones & Preuett, 1996; Lin et al., 1998; Nugent, 2006; Polaschek, 2006; Sciarini & Dungan, 1996; Thomas-Hawkins & Zazworsky, 2005; Welch & Davis, 2000). These themes were comparable to the themes uncovered during the development of the LC-GAD (Beanlands et al., 2005; Horsburgh et al., 2008) suggesting that this tool could be appropriately revised to capture self-care for adults on dialysis.

Conceptual definitions for each theme were developed by the researchers based on the literature review, Orem's theoretical perspective on self-care (Orem, 2001) and definitions uncovered in the development of the LC-GAD. The initial definitions for each theme are provided below.

**Appraising.** This theme was defined as "the often unseen, but energy-consuming process; the cognitive work that underlies the self-management of the illness and treatment."

**Knowledge seeking.** This theme was defined as "the search for information regarding kidney disease and illness management."

**Advocacy.** This theme was defined as "vocalizing one's preferences and desires related to the illness and treatment, as well as negotiating treatment plans with professional care givers."

**Normalizing.** This theme was defined as "the efforts people make to balance their illness with other areas of their lives."

**Self-care tasks.** This theme was defined as "readily observable and/or behavioural day-to-day activities directly associated with managing kidney disease and its treatment, including dialysis."

### Development of the SCAD

Items were developed for each of the five domains of self-care based on the conceptual definitions and corresponding items on the original LC-GAD. Using an iterative consultation process the investigators reviewed and revised the items to ensure that a) a sufficient number of items were included in each domain, b) item content was congruent with the conceptual definition, c) various dimensions of each domain were represented, and d) the readability of the item was appropriate to the intended users. The resulting 77-item SCAD consisted of 16 appraising items, seven knowledge seeking items, six advocacy items, eight normalizing items and 40 self-care task items. Items were scrambled so they appeared in a random order on the SCAD for the purpose of content validity testing.

### Content validity testing

Content validity testing examines the extent to which the items on a measure, and the instrument, as a whole, capture the underlying construct that the instrument is designed to examine (Waltz, Strickland, & Lenz, 2005). Assessment of content validity includes an evaluation of the congruence of items with conceptual definitions, the relevance of the items to the underlying construct and the comprehensiveness of the overall tool in capturing the construct of interest. The index of content validity is a commonly used approach to assess content validity. Polit and Beck (2006) define the Index of Content Validity (CVI) as "the degree to which a scale has an appropriate sample of items to represent the construct of interest..." (p. 459). A CVI is calculated by having a panel of experts review each item and rank the relevance of each item, as well as the instrument as a whole, to the underlying construct and its various domains. In the present study, the SCAD was sent to a panel of expert nephrology nurses for content validity testing.

**Sample.** Following Research Ethics Board approval, a purposeful sample of 17 nephrology nursing experts (e.g., professors, nurse practitioners, clinical nurse specialists, and clinical educators) from a number of different Canadian provinces were invited to assess the content validity of the tool. A 50% response rate was anticipated resulting in a target sample size of nine, which is considered appropriate for content validity testing (Polit & Beck, 2006).

**Measures & Analysis.** Nurse experts were mailed a package with a letter of introduction, definitions of self-care domains, a copy of the SCAD, and instructions for the content validity index (CVI) assessment, a brief demographic questionnaire, and an evaluation form for completing the CVI. For the purpose of calculating a CVI, assessors were asked to rate the relevance of each item to self-care on a four-point Likert scale ranging from 1 (not relevant) to 4 (very relevant) (Waltz, et al., 2005). A CVI was calculated for each item by determining the number of experts who rated the item as "quite" or "very relevant". A mean CVI was calculated for each of the domains and for the total instrument. Items with a CVI of <.80 (i.e., less than 80% of experts rated them as relevant) were reviewed and a determination was made as to whether the item should be dropped from the tool or retained and rephrased based on expert feedback (Polit & Beck, 2006).

Experts were also asked to evaluate the fit of each item with the self-care domains based on the definitions provided and to comment on the completeness of the overall tool in capturing self-care. Experts' responses were then examined to determine level of agreement amongst the experts and investigators as to whether each item fit with the assigned domain. Items that had a low level of agreement (less than 80%) were examined by the investigators to determine if there were patterns of incongruence.

### Results

Of the 17 packages mailed to potential experts, 13 were returned for a response rate of 76%. All CVI assessment packages were completed. However, two participants did not provide demographic information.

The sample of experts averaged 21.45 years of nephrology experience ranging from three to 34 years. Ten participants held a master's degree or higher and one expert reported the extended class nurse practitioner competency as their highest level of education. The participants were employed in advanced practice roles in nephrology nursing varying from clinicians to educators.

The majority of items had a CVI > .80 with only 16 items falling below .80. The CVI for the *appraising*, *knowledge seeking*, *advocacy*, *normalizing* and *self-care tasks* domains were .87, .84, .95, .98, .88, respectively. Overall, the mean CVI was .89 for the SCAD tool.

Low agreement in terms of the fit of items with the domain between investigators and evaluators was evident. Of the 77 items in the SCAD tool, 32 items demonstrated 80% agreement amongst the researchers and experts. The domain items with the lowest level of agreement were *appraising* and *self-care tasks*.

Panel experts also provided qualitative comments about the items and the overall tool. These comments, coupled with the results of the CVI and item-domain matching, suggested that panel experts appeared to have difficulty with items that contained the words "assess", "determine" and "evaluate". Experts reported that these words were confusing when trying to link

items to their domains based on the domain definitions. The investigators re-evaluated the items and determined that the word “monitor” should be substituted for the words “assess”, “determine” and “evaluate” so that each item clearly represented content that was congruent with the definition of its respective domain. Therefore, *appraising* domain items were modified to read, “I monitor...” rather than using the word “evaluate.” As well, under the *appraising* domain the word “recognize” was used to replace the words “assess” and “determine.” In addition, panel experts identified some areas of self-care that were not captured in the tool. Consequently, three new items were added under the *appraising* domain to include the following: “I monitor my bowel functions”, “I monitor my breathing for shortness of breath” and “I monitor my mobility”.

A number of revisions were made to the tool after reviewing items with low CVI and/or low agreement in terms of domain fit and taking into consideration expert feedback. Five items were reassigned to different domains. For example, the item “I evaluate my medical condition” was reassigned from *self-care tasks* to *appraising*. Fifteen items were dropped from the tool due to CVI scores that were less than .80. Twelve items were retained despite obtaining a low relevancy score, (included here were alternative therapy items), as investigators determined that rephrasing of the item and expanding the domain definitions would have resulted in a high relevancy score. This determination was supported by the literature and expert feedback. Domain definitions were reviewed and revised to enhance clarity and to more accurately reflect the domain content.

The final version of the SCAD tool contains 66 items and five subscales. Respondents will rate their self-care activities and behaviours based on a five-point Likert scale, which includes ‘never’, ‘rarely’, ‘sometimes’, ‘quite frequently’, and ‘nearly always.’ The *appraising* domain consists of 18 items that speak to the cognitive work people on dialysis do to manage their illness. The *knowledge seeking* domain captures seven items related to developing an understanding of ESRD and illness-

related self-care. The ‘advocacy’ domain contains six items that describe forming relationships and asserting one’s beliefs and preferences to health care professionals. The ‘normalizing’ domain comprises nine items that assess balancing preferred lifestyle with the illness and its treatment. The ‘self-care tasks’ domain consists of 25 items that measure discrete and often daily activities people on dialysis must perform in order to manage their illness. The final domain definitions with two examples of items for each domain are outlined in Table 1.

## Discussion

Overall, the research findings support the content validity of the SCAD tool. The modifications made to the items and the rephrasing of the domain definitions were intended to enhance the clarity and comprehensiveness of the tool. A re-examination of the literature coupled with expert feedback indicated two principal issues with the content of the tool. Expert feedback indicated that the terms “assess”, “evaluate” and “determine” were viewed as having a similar meaning, making differentiation of items using these terms challenging. Therefore, the investigators sought another term that could be used consistently in the SCAD to reflect these activities. Braun Curtin and Mapes (2001) found that study participants’ used the word monitor when describing their self-care experiences. The dictionary definition of monitor is to “keep under observation, especially so as to regulate, record, or control” (Compact Oxford English Dictionary of Current English, 2008). Thus, words “assess” “evaluate” and “determine” were replaced with the word “monitor” in all items.

In addition, experts reportedly had difficulty with the domain definitions for *appraising* and *self-care tasks* making item placement inconsistent. Further evaluation of the literature, LC-GAD findings and meetings amongst project investigators resulted in the expansion of domain definitions for “appraising”, “knowledge seeking”, “advocacy”, “normalizing” and “self-care tasks”. A richer description of domain defini-

**Table 1. Self-care domains, final definitions and examples of SCAD items**

Self Care Domain and Definition	Example items
<i>Appraising</i> “The often unseen cognitive work that underlies the self-care activities directed toward managing the illness and treatment. This energy consuming process involves making judgments or drawing conclusions regarding care.”	“I recognize when my health needs exceed my ability to care for myself” “I recognize when I am getting worse”
<i>Knowledge Seeking</i> “The search for information via asking questions, reading and/or internet utilization to gain an understanding of kidney disease and learn how to manage the illness.”	“I consult professional care givers (doctors, nurses, dieticians, others) for information about my illness and treatment” “I learn how to do my medical treatments”
<i>Advocacy</i> “Expressing one’s preferences and desires related to the illness and treatment as well as negotiating treatment plans with professional care givers.”	“I speak out on my behalf” “I negotiate with professional caregivers (doctors, nurses, dieticians, others)”
<i>Normalizing</i> “The efforts people make to balance their illness with other areas of their lives including maintaining usual roles, responsibilities and desired lifestyles.”	“I try to find ways that make my life as normal as possible” “I rearrange my routine”
<i>Self-care tasks</i> “Readily observable and/or behavioural day-to-day activities directly associated with managing kidney disease and its treatment, including dialysis.”	“I manage my medications” “I follow my prescribed diet”



tions coupled with clarification of items was intended to ameliorate ambiguity identified by the experts.

Items pertaining to alternative therapy activities and behaviours were retained despite low relevancy results. Examples of these items included, seeking assistance from a naturopathic doctor or acupuncturist to alleviate symptoms. The literature suggests that people on dialysis use alternative therapies and often do not report this usage to their health care provider. Duncan et al. (2007) reported that 81% of hemodialysis study participants' use, have used, or were willing to use, alternative therapies while only 37% had disclosed this information to their health care providers. In addition, Nowack (2009) found that 57% of dialysis patients regularly used alternative therapy products and 50% of these patients informed their physicians. These findings suggest that alternative therapy use is not routinely reported to the health care provider. It is possible that health care providers have not been trained to integrate alternative therapies into their practice. Therefore, they do not ask people on dialysis questions regarding use of other health management methods. This highlights the need to retain alternative therapy-related items, as health care providers must be aware of other factors that may impact on dialysis treatments and clinical outcomes. As well, providers must identify which alternative practices could be contraindicated and provide this information

to adults on dialysis. As such, retaining the alternative therapy items will give nurses a more complete picture as to the self-care activities and behaviours of adults on dialysis.

The current research reports the first steps in developing the SCAD—an evidence-based, norm referenced measure to quantify the self-care activities and behaviours of adults on dialysis. As such, recommendations for future research are that the SCAD tool requires further psychometric testing with a sufficiently large and inclusive sample of adults receiving dialysis treatments for CKD. Subsequent testing is likely to lead to modifications that enhance reliability and validity of the SCAD. Ultimately, it is anticipated that the final version of the SCAD will prove useful to nurses in helping them design nursing systems that facilitate the self-care abilities and behaviours of adults receiving dialysis treatments for CKD, as these abilities and behaviours are acquired, developed, and carried out over time. Used in conjunction with measures such as the LC-GAD (Horsburgh et al., 2008), the SCAD will also enable the examination of the interplay between self-care and supportive activities and behaviours that are often provided by close family members and friends.

## Acknowledgement

*The authors would like to acknowledge the support of a CANNT 2007 Research Grant for this project.*

## References

- Ageborg, M., Allenius, B., & Cederfjall, C. (2005). Quality of life, self-care ability, and sense of coherence in hemodialysis patients: A comparative study. *Hemodialysis International*, 9, S8–S14.
- Badzek, L., Hines, S.C., & Moss, A. H. (1998). Inadequate self-care knowledge among elderly hemodialysis patients: Assessing its prevalence and potential causes. *ANNA*, 25(3), 293–302.
- Beanlands, H., Horsburgh, M.E., Fox, S., Howe, A., Locking-Cusolito, H., Pare, K., & Thrasher, C. (2005). Caregiving by family and friends of adults receiving dialysis. *Nephrology Nursing Journal*, 32(6), 621–631.
- Braun Curtin, R., Bultman Sitter, D.C., Schatell, D., & Chewning, B. A. (2004). Self-management, knowledge, and functioning and well-being of patients on hemodialysis. *Nephrology Nursing Journal*, 31(4), 378–396.
- Braun Curtin, R., Johnson, H.K., & Schatell, D. (2004). The peritoneal dialysis experience: Insights from long-term patients. *Nephrology Nursing Journal*, 31(6), 615–624.
- Braun Curtin, R. & Mapes, D.L. (2001). Health care management strategies of long-term dialysis survivors. *Nephrology Nursing Journal*, 28(4), 385–392.
- Braun Curtin, R., Mapes, D., Schatell, D., & Burrows-Hudson, S. (2005). Self-management in patients with end stage renal disease: Exploring domains and dimensions. *Nephrology Nursing Journal*, 32(4), 389–395.
- Christensen, A.J., Moran, P.J., Wiebe, J.S., Ehlers, S.L., & Lawton, W.J. (2002). Effect of a behavioral self-regulation intervention on patient adherence in hemodialysis. *Health Psychology*, 21(4), 393–397.
- Compact Oxford English Dictionary of Current English (2008). Retrieved from [http://www.askoxford.com/concise\\_oed/monitor?view=uk](http://www.askoxford.com/concise_oed/monitor?view=uk)
- Curtin, R.B., Mapes, D., Petillo, M., & Oberley, E. (2002). Long-term dialysis survivors: A transformational experience. *Qualitative Health Research*, 12(5), 609–624.
- Dowell, S.A., & Welch, J.L. (2006). Use of electronic self-monitoring for food and fluid intake: A pilot study. *Nephrology Nursing Journal*, 33(3), 271–278.
- Duncan, H.J., Pittman, S., Govil, A., Sorn, L., Bissler, G., Schultz, T., Faith, J., Kant, S., & Roy-Chaudhury, P. (2007). Alternative medicine use in dialysis patients: Potential for good and bad! *Nephron Clinical Practice*, 105(3), c108–c113.
- Fok, M.S. & Wong, T.K. (2003). Testing Orem's self-care agency and basic conditioning factors in a Chinese community undergoing haemodialysis. *Contemporary Nurse: A Journal for the Australian Nursing Profession*, 15(3), 262–272.
- Graham, J. (2006). Nursing theory and clinical practice: How three nursing models can be incorporated into the care of patients with end stage kidney disease. *The CANNT Journal*, 16(4), 28–31.
- Horsburgh, M.E. (1999). Self-care of well adult Canadians and adult Canadians with end stage renal disease. *International Journal of Nursing Studies*, 36, 443–453.
- Horsburgh, M.E., Beanlands, H., Locking-Cusolito, H., Howe, A., & Watson, D. (2000). Personality traits and self-care in adults awaiting renal transplant. *Western Journal of Nursing*, 22(4), 407–430.
- Horsburgh, M.E., Laing, G., Beanlands, H., Meng, A.X., & Harwood, L. (2008). A new measure of "lay" care-giver activities. *Kidney International*, 74, 230–236.
- Jones, L.C. & Preuett, S.G. (1996). Self-care activities and processes used by hemodialysis patients. *American Nephrology Nurses' Association Journal*, 13(2), 73–79.
- Lev, E.L. & Owen, S.V. (1998). A prospective study of adjustment to hemodialysis. *American Nephrology Nurses' Association Journal*, 25(5), 495–506.
- Lin, C., Lu, L., Wang, J., & Lai, Y. (1998). Developing and testing of a CAPD self-efficacy scale. *Nursing Research*, 6(4), 315–326.
- Meers, C., Singer, M.A., Toffelmire, E.B., Hopman, W., McMurray, M., Morton, A.R., & MacKenzie, T.A. (1996). Self-delivery of hemodialysis care: A therapy in itself. *American Journal of Kidney Diseases*, 27(6), 844–847.

- Munakata, T. (1982). Psycho-social influence on self-care of the hemodialysis patient. *Social Science & Medicine*, 16(13), 1253–1264.
- Nowack, R., Balle, C., Birnkammer, F., Koch, W., Sessler, R., & Birck, R. (2009). Complementary and alternative medications consumed by renal patients in southern Germany. *Journal of Renal Nutrition*, 19(3), 211–219.
- Nozaki, C., Oka, M., & Chaboyer, W. (2005). The effects of a cognitive behavioural therapy programme for self-care on haemodialysis patients. *International Journal of Nursing Practice*, 11, 228–236.
- Nugent, E. (2006). Standards of care in practice: The nurse's role in effecting change. *Nephrology Nursing Journal*, 33(5), 573–574.
- O'Connor, S. M., Jardine, A.G., & Millar, K. (2008). The prediction of self-care behaviors in end-stage renal disease patients using Leventhal's Self-Regulatory Model. *Journal of Psychosomatic Research*, 65(2), 191–200.
- Oka, M., Kamiya, C., Sagawa, M., Yamana, E., & Tsuru, S. (2006). Structural visualization of expert nursing: Hemodialysis patient education program "behavior modification program for hemodialysis patients. *Studies in Health Technology and Informatics*, 122, 933–934.
- Orem, D.E. (2001). *Nursing concepts of practice* (6th ed.). Toronto: Mosby.
- Polaschek, N. (2006). Managing home dialysis: The client perspective on independent treatment. *Renal Society of Australasia Journal*, 2(3), 53–63.
- Polit, D.F. & Beck, C.T. (2006). The content validity index: Are you sure you know what's being reported? Critique and recommendations. *Research in Nursing & Health*, 29, 489–497.
- Richard, C.J. (2006). Self-care management in adults undergoing hemodialysis. *Nephrology Nursing Journal*, 33(4), 387–394.
- Ricka, R., Vanrenterghem, Y., & Evers, G.C.M. (2002). Adequate self-care of dialysed patients: A review of the literature. *International Journal of Nursing Studies*, 39, 329–339.
- Sagawa, M., Oka, M., & Chaboyer, W. (2003). The utility of cognitive behavioural therapy on chronic haemodialysis patients' fluid intake: A preliminary examination. *International Journal of Nursing Studies*, 40, 367–373.
- Sciarini, P., & Dungan, J.M. (1996). A holistic protocol for management of fluid volume excess in hemodialysis patients. *ANNA Journal*, 23(3), 299–305.
- Thomas-Hawkins, C., & Zazworsky, D. (2005). Self-management of chronic kidney disease. *American Journal of Nursing*, 105(10), 40–48.
- Tsay, S.L. (2003). Self-efficacy training for patients with end-stage renal disease. *Journal of Advanced Nursing*, 43(4), 370–375.
- Tsay, S.L., & Healstead, M. (2002). Self-care self-efficacy, depression, and quality of life among patients receiving hemodialysis in Taiwan. *International Journal of Nursing Studies*, 39, 245–251.
- Tsay, S., & Hung, L. (2004). Empowerment of patients with end-stage renal disease—A randomized controlled trial. *International Journal of Nursing Studies*, 41(1), 59–65.
- Tsay, S.L., Lee, Y.C., & Lee, Y.C. (2005). Effects of an adaptation training programme for patients with end-stage renal disease. *Journal of Advanced Nursing*, 50(1), 39–46.
- Waltz, C.F., Strickland, O.S., & Lenz, E.R. (2005). *Measurement in nursing research* (3rd ed.). Philadelphia, PA: F.A. Davis.
- Welch, J.L., & Davis, J. (2000). Self-care strategies to reduce fluid intake and control thirst in hemodialysis patients. *Nephrology Nursing Journal*, 27(4), 393–395.
- Zrinyi, M., Juhasz, M., Balla, J., Katona, E., Ben, T., Kakuk, G., & Pall, D. (2003). Dietary self-efficacy: Determinant of compliance behaviours and biochemical outcomes in haemodialysis patients. *Nephrology Dialysis Transplantation*, 18, 1869–1873.

## MANAGER, RENAL SERVICES & CHRONIC DISEASE MANAGEMENT

### Be part of a healthcare legacy.

Located in Barrie, approximately 45 minutes north of Toronto, the Royal Victoria Hospital (RVH) is part of the North Simcoe Muskoka LHIN, and provides outstanding healthcare services to the growing populations of Barrie, Simcoe County and the districts of Muskoka and Parry Sound. In March 2009, RVH began construction as part of a \$400-million Phase 1 Expansion Project that will include the opening of additional patient care units this Fall.

This is an excellent opportunity for an RN with current CNO registration and proven leadership skills to act as a resource and role model for clinical staff. Liaising with the Regional Kidney Care Program at Orillia Soldiers'

Memorial Hospital, you will administer the satellite Dialysis Unit on Wellington Street and the Chronic Disease Management Clinics. You have a BScN combined with dialysis experience, or 5+ years of dialysis experience in acute care and outpatient settings. For inquiries, please contact **Dana Naylor, Program Director**, at [naylor@rvh.on.ca](mailto:naylor@rvh.on.ca). Req. #436

For details and to apply online, visit our website and click on RVH Career Opportunities.

In accordance with Canadian Immigration regulations, we accord preference to Canadian citizens and permanent residents, but all qualified applicants are encouraged to apply.

[www.rvh.on.ca](http://www.rvh.on.ca)

EXCEPTIONAL PEOPLE EXCEPTIONAL CARE

# RVH

ROYAL VICTORIA HOSPITAL



# Thinking outside the box: An extraordinary woman on home peritoneal dialysis

By Lisa Harley, RN, BScN, CNeph(C)

Copyright © 2011 Canadian Association of Nephrology Nurses and Technologists

## Abstract

*At the home peritoneal dialysis unit (HPDU) of the University Health Network in Toronto, Ontario, we offer training to help patients perform peritoneal dialysis at home with ongoing support, which includes clinic visits and on-call services. Not every patient is able to carry out independent dialysis, however. Additional support at home is often provided in conjunction with Community Care Access and home care nurses. We recently had the privilege to learn from an extraordinary patient, whose special needs provided us with challenges and opportunities. This paper describes the interaction, flexibility and creativity between our unit, home care nurses, the patient and her family. It demonstrates that with commitment, there truly are many ways to solve even seemingly impossible problems.*

Holly (not her real name) is a 33-year-old woman with Down syndrome who suddenly developed end stage renal failure, etiology unknown, in November of 2008. She lives with her parents, both of whom are in their seventies and speak Italian as their first language, with minimal English. Her mother is her main caregiver. She has a supportive older brother and sister who live in the city; however, they do not live in the same home with her. Prior to having to come to the hospital, Holly had a very structured, predictable life, in keeping with her needs. She attended a day program for special adults, was independently picked up and dropped off by bus, and returned home to her familiar environment. Although she understood both English and Italian, she spoke very little, even to her family, and disliked anyone invading her space. Communication with her was challenging due to her delayed developmental age and non-participation in conversation. Thus, it was difficult to ascertain what she understood from the team.

Hemodialysis (HD) was initiated urgently, but she clearly “hated it” and became so anxious and upset that she required

full chemical sedation and, on occasion, physical restraints for treatments. On two occasions, she inadvertently removed the newly inserted tunneled hemodialysis lines. Line insertion itself was difficult for her, requiring a general anesthetic followed by a short stay in the intensive care unit. She was exceedingly upset to be in hospital, as it was a strange environment for her. Procedures, some of which were painful, were difficult given her inability to understand what was being done.

Many family meetings were held, and education was provided to the family. It was decided with the family that it would be best for Holly to convert to peritoneal dialysis (PD). PD was felt to be less invasive, could be done at home, and would not require such an intimidating machine and environment as HD. The fact that there is no blood access was also more comforting for her and the family. Our next challenge was to think about the PD catheter, knowing that she pulled at the HD catheter and was very aware and frightened of foreign objects on her body. We have, in the past, utilized presternal PD catheters, so the idea of tunneling a catheter was familiar. The team came up with the idea of tunneling the catheter to a location that she could not see or reach. Our dedicated surgeon, Dr. Todd Penner, stepped up to the unique challenge of inserting her catheter in her back (interscapularly) to decrease the risk of her pulling on it (see Figure 1). Holly loves to sleep on her tummy and likes to sit on the floor, and even in her unconventional positions, the catheter drained beautifully.



Figure 1. Interscapular peritoneal dialysis catheter.

*Lisa Harley, RN, BScN, CNeph(C), Staff Nurse, Home Peritoneal Dialysis Unit, University Health Network, 200 Elizabeth Street, Toronto, ON M5G 2C4*

*Address correspondence to: Lisa Harley, RN, BScN, CNeph(C), Staff Nurse, Home Peritoneal Dialysis Unit, University Health Network, 200 Elizabeth Street, Toronto, ON M5G 2C4*

*E-mail: [Lisa.Harley@uhn.on.ca](mailto:Lisa.Harley@uhn.on.ca)*



Our entire training protocol had to be continually evaluated and modified. For example, we started with small volumes on the cyclor, thinking it would be best for her to have her dialysis through the night while asleep. Unfortunately, she did not appreciate that she was attached to a cyclor, and tended to walk away. Clearly, this could cause trauma to her exit site and/or become disconnected and require a dose of antibiotics for a “wet contamination.” We then converted Holly to continuous ambulatory peritoneal dialysis (CAPD). The hope was that she would sit quietly during the 20- to 30-minute exchange and at other times be free to walk around.

It is customary for patients to come to the home peritoneal dialysis unit (HPDU) for approximately six to seven days for training as an outpatient but, with Holly, we planned to do her training while she was still an inpatient. Previously, she had a temporary pass and the family had found it intensely difficult to get her to come back to the hospital, so everything had to be done before discharge. We hoped that Holly would become familiar with the HPDU, as she had been having HD for months only in her hospital room up to that time. But Holly had a tour in advance and made it very clear to us that it didn't look very inviting, and she wouldn't come back. Despite a back rub, gentle approach, and advance efforts to make the room look more homey (such as pink curtains, stuffed animals, coloured pillowcases), Holly was clearly agitated and retreated back to the inpatient unit that had by that time become so familiar to her. A cleverly crafted doll was also integral to our teaching plan. Nurse manager Sharron Izart did “corrective surgery” on a doll to give her an exit site that matched Holly's. However, Holly banished the doll from her room (see Figure 2).

Our original plan was to have Holly's mother learn CAPD. However, despite ten days of training, she felt she would not be able to cope due to Holly's ongoing agitation during the procedures and her own anxiety. No distraction strategy for Holly proved consistently effective. When she was agitated, she would pull at the tubing, sit on the floor and remove her hospital gown, which naturally distressed her family, and made the experience unpleasant for all.

We recognized that our routine prescription of CAPD exchanges four times per day was not going to work because it requires independence at home. We contacted a PD nurse, Susan Ackerman, from the Hospital for Sick Children, who



**Figure 2.** Teaching doll used at the Home Dialysis Unit, University Health Network, Toronto, Ontario.

had experience working with adult-sized pediatric patients. She provided excellent ideas and guidance, and suggested a creative prescription of a short period on the cyclor plus two CAPD exchanges. This would allow a home care nurse provided by the Community Care Access Centre (CCAC) “Home Plus” program to go to her home to give two CAPD exchanges and, while there, to disconnect and re-set up the cyclor, as home care nurses were permitted to make a maximum of two visits per day for adults. The treatment plan would include nighttime sedation, as needed, to allow Holly to sleep while on dialysis.

Despite the plan, Holly's mother was fearful of leaving her connected to the cyclor unattended for any period of time, even with sedation, since her response to sedation was unpredictable. The only other dialysis option was hemodialysis with sedation, but the family was certain they would not be able to get Holly to come for HD three times per week. Again, we met and brainstormed about options for this young woman. We thought we might have to resort to CAPD just twice per day so that home care nurses could wholly manage the dialysis, but were certainly concerned about the impact of under-dialysis, as well as fluid reabsorption from such long dwell times. The family felt that PD was truly the only option for Holly, so we focused our energy on trying to make it work for her. Fortunately, CCAC worked with us for this unique case, and negotiations were done to have a very generous three nursing visits per day. Holly's initial prescription for home was two litres of 1.5% exchanges twice during the day and two litres of 7.5% Icodextrin once overnight.

In consultation with our bioethicist and team, new goals were set. Our primary goal would not be the usual optimal dialysis, but to be home. The secondary goal was quality of life, which would mean not forcing her to take oral medications or even have all three dialysis exchanges. Additionally, CAPD three times per day, as opposed to our usual four, might eventually allow Holly to return to her day program, which she valued greatly. As a tertiary goal, of course, we wanted to prevent overburdening her mother.

Another team-family meeting was convened to ease the transition home. Fourteen people were present, including home care nurses, an HPDU nurse (the author), a nurse practitioner, nephrologist, social worker, interpreter, Holly's mother and sister, a CCAC case coordinator, and a hospital CCAC coordinator. All of the home care nurses went to meet Holly prior to the meeting. The discharge date was set and all was in readiness at the home.

The home care nursing supervisor later revealed that she almost refused the referral, as she didn't think they would succeed with their philosophy of teaching patients to do their own care and reducing services that was historically the pattern of home care nursing. A very special nurse, Marcela Diaz, a new RN graduate with no previous PD experience, heroically took on the role of being Holly's primary home care nurse, and was educated in the procedures of PD. We all recognized that it was critical that Holly have consistency with the nurses who treated her, given her fear and mistrust of strangers. Being Holly's home care nurse wasn't without challenges, however, as Marcela and her colleagues related that they sometimes needed to climb over furniture in order to follow Holly during an exchange. Their visit times were typically 9 a.m., 2 p.m. and 9

p.m. for exchanges, and Holly's mother assumed responsibility for the PD dressing and oral medications.

Our typical follow-up is based in large part on guidelines developed by the Home Dialysis Interest Group (2002), aimed at consistency in management of patients on PD. The guidelines include fluid assessment and dialysate selection based on assessment of weight and blood pressure. However, Holly is not our typical patient. She doesn't like to be weighed and may, or may not agree to have her blood pressure measured. To say that her management is a challenge is an understatement. We are continuously surprising even ourselves with creative ways to manage her care. For example, she had her first "clinic visit" in her sister's van in the hospital driveway because she refused to set foot back in the hospital. We count ourselves lucky if we can get blood work.

In spite of the obstacles, and "creative care", things were running relatively smoothly until 16 weeks post discharge when Marcela reported that Holly had cloudy effluent and decreased appetite. We were not able to easily assess her pain, as she is fairly non-verbal. Peritonitis was diagnosed with culture results of *Proteus mirabilis* and *Enterococcus faecalis*. Interestingly, *Proteus* and *Enterococcus* are not organisms associated with touch contamination, which we initially suspected before the lab results became available. Fortunately, we were able to treat Holly at home with intraperitoneal antibiotics and holding her PD for a short time.

Holly has now been home with PD for two years and two months. We do wonder if the consequences of our altered dialysis regimen and clinic follow-up will mean decreased survival for Holly. Possibly, but it is in keeping with her values and lifestyle, thus we hope the benefits of her outcome outweigh the risks. Holly is at home with family and is content and that has been everyone's overarching goal. She has resumed some of her previously enjoyed activities such as watching television and is eating well, although has not returned to her day program. She and her family are much more familiar and comfortable with PD. Her mother is now carrying out one exchange per day and nursing visits are reduced to twice daily. She has had two more episodes of peritonitis, likely related to dental cavities and broken teeth. She is awaiting dental treatment with general anesthesia and antibiotic prophylaxis.

We have learned so much from this special young woman. Challenges were plenty, but each provided opportunities for creativity, teamwork, goal setting and re-setting and, indeed, "thinking outside the box."

### Acknowledgement

*The author would like to acknowledge the support and advice she received from Diane Watson and Betty Kelman, Nephrology Nurse Practitioners at University Health Network, Toronto, for editing the final version of this manuscript.*

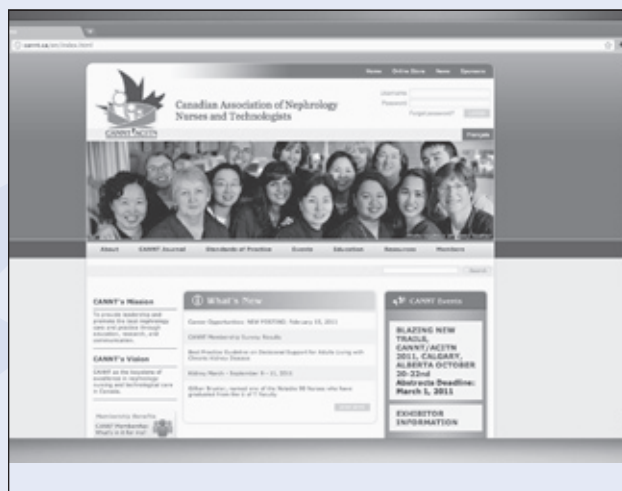
## Reference

Home Dialysis Interest Group, formerly City Wide Peritoneal Dialysis Interest Group (CWPDIG), Greater Toronto Area. (2002). *Fluid Assessment*. Retrieved from <http://www.pdinterest.ca/guidelines>

## "Stay in the Know" at [www.cannt.ca](http://www.cannt.ca)

### Visit your CANNT website for:

- "What's New" at a glance
- nephrology job postings
- educational resources: awards/bursaries/grant applications
- PDF articles of previous CANNT Journal issues
- online continuing education articles that earn you CEU credits
- links to educational and professional affiliate websites
- CANNT merchandise available in our online store
- regional report updates and our annual CANNT/ACITN report
- CANNT Nursing and Technical Practice Standards, revised 2008
- national nephrology certification information and exam preparation support
- regional, national and international educational events information
- National Nephrology Professionals' Day information—discover how colleagues from across Canada celebrate the day
- CANNT National Symposium 2011, Calgary, Alberta, details and updates



**Join or renew your  
CANNT membership online today  
at [www.cannt.ca](http://www.cannt.ca)!**

# Medication adherence in patients with chronic kidney disease

By Colette B. Raymond, PharmD, MSc, Lori D. Wazny, PharmD, and Amy R. Sood, PharmD

Copyright © 2011 Canadian Association of Nephrology Nurses and Technologists

## Introduction

Individuals with chronic kidney disease (CKD) and receiving dialysis are generally prescribed an average different 10 medications that they must take several times daily (Manley et al., 2004). This represents a large pill burden. A recent study found the median number of daily pills for hemodialysis patients to be 19 (Chiu, Teitelbaum, Misra, de Leon, Adize, & Mehrotra, 2009)!

Adherence to medications and treatments has been defined in several ways for patients with CKD and receiving dialysis. One definition of adherence includes a person's behaviours concerning taking medication, following a diet, and making changes in lifestyle in accordance with health professional recommendations (Sabate, 2003). Another common definition of adherence is the extent to which people follow the instructions they are given for prescribed treatments (Haynes, Ackloo, Sahota, & McDonald, 2008). The National Kidney Foundation Dialysis Outcome and Quality Initiative (KDOQI) considers non-adherence to include missed or shortened dialysis treatments, interdialytic weight gain, treatment adequacy (Kt/V), serum albumin, and serum phosphorus (National Kidney Foundation, 2006). The related concept of patient self-management involves including patients in the assessment, care

planning collaborative problem solving and decision making to manage kidney disease and treatment, including medications (Browne & Merighi, 2010).

The purpose of this article is to review the definition and prevalence of medication non-adherence within the CKD population and to describe what is known about factors predictive of and barriers to medication non-adherence. Finally, current knowledge about interventions to improve medication adherence and remove barriers to patient self-management of medications will be reviewed.

## Scope of medication non-adherence

Medication non-adherence is very common among patients with CKD and receiving dialysis. However, there is very little research describing medication adherence in patients with CKD not receiving dialysis. The largest study of medication adherence evaluated 3,936 patients with CKD (estimated glomerular filtration rate < 60 mL/min/1.72m<sup>2</sup> or albuminuria) and found that 27.7% of patients responded "yes" to ever forgetting to take their medication, 4.4% responded "yes" to being careless about taking medications, 5.7% indicated that they missed taking medications when they felt better, and 4.2% missed taking medications when they were feeling sick. In this study, patients with CKD demonstrated similar rates of non-adherence to more than 9,000 patients without CKD included in the study. For those with CKD, older age and higher income were associated with better adherence, while depression was associated with lower adherence (Munter, Judd, Krousel-Wook, McClellan, & Safford, 2010). In another study of 149 patients with CKD, 17.4% were considered to be non-adherent (as measured by self-report) at baseline and 26.8% at one year (Magacho, Ribeiro, Chaoubah, & Bastos, 2011).

More studies have examined medication-related non-adherence in patients receiving dialysis. In a systematic review of 19 studies, which evaluated medication adherence among patients receiving dialysis, rates of medication non-adherence (evaluated with self-report, structured interview and predialysis serum phosphorus levels) ranged from 3% to 80% (mean 67%) (Schmid, Hartmann, & Schiffel, 2009). In another systematic review of 34 studies which evaluated

*Colette B. Raymond, PharmD, MSc, Clinical Pharmacist—Winnipeg Regional Health Authority, Manitoba Renal Program, Winnipeg, MB.*

*Lori D. Wazny, PharmD, Clinical Pharmacist—Winnipeg Regional Health Authority, Manitoba Renal Program, Winnipeg, MB.*

*Amy R. Sood, PharmD, Clinical Pharmacist—St Boniface Hospital, Manitoba Renal Program, Winnipeg, MB.*

*Address espondence to: Colette Raymond, PharmD, Department of Pharmaceutical Services, Health Sciences Centre Hospital, MS189-820 Sherbrook St., Winnipeg, MB R3A 1R9*

*E-mail: [craymond@exchange.hsc.mb.ca](mailto:craymond@exchange.hsc.mb.ca)*



medication adherence to phosphate-binding medication among patients receiving dialysis, rates of non-adherence (evaluated with self-report and serum phosphorus levels) ranged from 22% to 74% (mean 51%). The mean number of patients considered non-adherent was greater when non-adherence was expressed with serum phosphorus (58%) than self-report (31%) (Karamanidou, Clatworthy, Weinman, & Horne, 2008).

### **Consequences of non-adherence with medications**

In a study of more than 3,000 patients with CKD, medication non-adherence has been associated with uncontrolled hypertension (Munter, Judd, Krousel-Wook, McClellan, & Safford, 2010). In a study of 663 hemodialysis patients, medication non-adherence was associated with increased risk of hospitalization, medication and hospitalization-related costs (Manley, Wang, & Nissensohn, 2010). Non-adherence to all aspects of dialysis, including dialysis treatments, medication, fluid, and diet has been associated with increased hospitalization and death (Saran et al., 2003).

### **Reasons for non-adherence with medications**

Medication non-adherence is multifactorial among patients with CKD and receiving dialysis. Demographic and clinical characteristics are not consistently associated with adherence in patients with CKD and receiving dialysis, with the exception of age. In a systematic review of 34 studies that evaluated medication adherence to phosphate-binding medication among patients receiving dialysis, 11 of 24 studies evaluating age found that older age was consistently associated with greater adherence. No clinical variable (for example, diabetic status or length of time on dialysis) influenced phosphate-binder adherence in the same systematic review (Karamanidou, Clatworthy, Weinman, & Horne, 2008). Patients who smoke have been reported to be more likely to be non-adherent with medications in a study of 199 hemodialysis and 51 peritoneal dialysis patients (Kutner, Zhang, McClellan, & Cole, 2002). In another study examining adherence to epoetin alfa in patients receiving peritoneal dialysis, the independent predictors of non-adherence in order of importance were missed dialysis exchanges, completion of post-secondary education and younger age (Wazny, Stojimirovic, Heidenheim, & Blake, 2002).

Numerous medication factors contribute to adherence. In patients receiving dialysis, higher pill burden has been associated with reduced health-related quality of life (Chiu, Teitelbaum, Misra, de Leon, Adize, & Mehrotra, 2009). Increased regimen complexity, polypharmacy and pill burden (including number of tablets, frequency of administration and scheduling difficulties), inconvenience and medication user-friendliness have been associated with reduced adherence in CKD and dialysis patients (Bland, Cottrell, & Guyler, 2008; Browne & Merighi, 2010; Karamanidou, Clatworthy, Weinman, & Horne, 2008; Lindberg & Lindberg, 2008; Magacho, Ribeiro, Chaoubah, & Bastos, 2011; Rifkin, Laws, Rao, Balakrishnan, Samak, & Wilson, 2010).

Psychosocial factors appear to be important predictors of adherence for patients with CKD and receiving dialysis. Health beliefs (such as concern for adverse effects, perceived barriers and benefits to medications, especially for asymptomatic conditions) have been found to influence phosphate-binder adherence in six of nine studies to evaluate health beliefs (Karamanidou, Clatworthy, Weinman, & Horne, 2008). In a qualitative study of CKD and dialysis patients, interviews revealed health beliefs about medications discordant with those of health professionals. Patients prioritized medication-taking based on their perceptions of the importance of the condition, effect of the treatment, and barriers to using the prescribed medications. Adverse effects were common and a source of anxiety, especially when health professionals did not acknowledge or help them cope with the adverse effect (Rifkin, Laws, Rao, Balakrishnan, Samak, & Wilson, 2010). Personality characteristics such as low conscientiousness, cynical hostility and being expedient or lacking self-control have been found to decrease phosphate binder adherence in four of eight studies to examine personality (Karamanidou, Clatworthy, Weinman, & Horne, 2008). Patient forgetfulness has also been reported to reduce medication adherence in dialysis patients (Bland, Cottrell, & Guyler, 2008; Lindberg & Lindberg, 2008). Social support of friends, family and renal health professionals (four of five studies), as well as family dynamics (three of five studies) such as disorganization or conflict have been found to influence phosphate-binder adherence in a systematic review (Karamanidou, Clatworthy, Weinman, & Horne, 2008). Studies from other chronic diseases reveal that cognitive impairment, reduced social support and psychological stress may be associated with poor adherence, and it is logical that these factors may impact adherence with medications in patients with CKD and receiving dialysis (Browne & Merighi, 2010). Non-medical reasoning has also been reported to adversely affect adherence (Rifkin, Laws, Rao, Balakrishnan, Samak, & Wilson, 2010). Irrational thought such as mental shortcuts (e.g., ignoring some medical conditions) altered risk perceptions of behaviours and cognitive trickery (e.g., distorted views about controlling conditions or lack of consequences of not taking medications), and using denial as a form of coping have also been reported to contribute to non-adherence (Williams, Manias, & Walker, 2009).

Medication knowledge was not a consistent predictor of phosphate-binder adherence in dialysis patients in four studies included in a systematic review (Karamanidou, Clatworthy, Weinman, & Horne, 2008). Some authors argue that lack of patient education is not an important factor in medication non-adherence, as most dialysis patients are knowledgeable about medications (Holley & DeVore, 2006). However, other authors have found low knowledge about medications (Lindberg & Lindberg, 2008). Additionally, low health literacy has been reported in dialysis patients and this factor combined with regimen complexity may contribute to non-adherence (Browne & Merighi, 2010).

Cost has also been implicated in non-adherence in several studies of dialysis patients. In a large study of hemodialysis patients from 12 countries participating in the Dialysis

Outcomes and Practice Patterns Study (DOPPS), the proportion of patients who responded “yes” to the question “Do you sometimes decide not to purchase medications because of cost?” ranged from 3% in Japan to 29% in the United States. Among 503 Canadian hemodialysis patients included in the study, 12.9% were non-adherent to medications, and average monthly spending on medications for these patients was estimated to be \$51 per month (2002 U.S. dollars) (Hirth, Greer, Albert, Young, & Piette, 2008). Those with inadequate medication coverage and lack of transportation were more likely to be non-adherent in a survey of 54 hemodialysis patients (Holley & DeVore, 2006).

### **Interventions to improve medication adherence**

Methods to encourage optimal medication adherence in patients with CKD and receiving dialysis are not well studied (Haynes, Ackloo, Sahota, & McDonald, 2008). The data that have been published to date do not suggest that a single approach is effective. In a systematic review of randomized controlled trials (RCTs) evaluating interventions to help patients follow prescription medications for medical problems (but not including studies of patients with CKD or receiving dialysis), found that 36 of 83 interventions in 70 RCTs of long-term treatments were associated with improved adherence, but only 25 interventions led to improvement in a clinical outcome. Interventions were generally complex and the effect of the interventions was generally small (Haynes, Ackloo, Sahota, & McDonald, 2008). In a systematic review of eight randomized controlled trials to evaluate adherence to all aspects of hemodialysis (K/DOQI adherence parameters of missed treatments, shortened treatments, intradialytic weight gain, serum albumin and phosphorus), six demonstrated an effective intervention (three of four studies evaluating diet and medication adherence interventions were effective). Effective interventions had a cognitive component, using a variety of health professionals to target phosphorus management through multifaceted educational interventions (Matteson & Russell, 2010).

### **Limitations to existing literature about medication non-adherence**

Evaluating studies and comparing studies of adherence to medication in the CKD and dialysis population is challenging, as these studies have numerous limitations (Karamanidou, Clatworthy, Weinman, & Horne, 2008; Magacho, Ribeiro, Chaoubah, & Bastos, 2011; Schmid, Hartmann, & Schiffl, 2009). Limitations to studies include small numbers and great variability in study design. Studies use inconsistent and non-standardized measures of adherence. For example, one of the most common methods for measuring medication adherence in the CKD population is serum phosphorus, which can be impacted by numerous other factors besides medications (such as adherence to diet and dialysis), residual renal function, comorbid conditions, nutritional status or type of dialysis treatment (Karamanidou, Clatworthy, Weinman & Horne, 2008). Studies also employ variable definitions of non-adherence, including acceptable

serum phosphorus. Some studies include composite measures of adherence to dialysis, diet and medications to estimate adherence to medication, and patients may adhere preferentially to one aspect of treatment. Additionally, studies have variable duration of follow up and health care system bias according to the country of origin (the majority of studies of adherence take place in the U.S.) (Karamanidou, Clatworthy, Weinman, & Horne, 2008). As the concept of patient and medication self-management is newly evolving for patients with kidney disease, very little published data examine this concept (Browne & Merighi, 2010). Evidence to support effective interventions to improve medication adherence is sparse (Matteson & Russell; 2010).

### **Implications for practice: identify and removing barriers to self-management of medications**

It is important for renal health professionals to identify and attempt to remove their patients’ barriers to medication self-management and optimal medication adherence. Staff in the dialysis unit can impact patient satisfaction with care and include patients as active team members in order to identify barriers to medication adherence and to create individualized care plans for patients (Browne & Merighi, 2010).

Assessing medication adherence, health literacy and health beliefs are important considerations to achieve optimal medication adherence and self-management. Understanding adherence from the patient perspective is a crucial step (Bissonette, 2008). One suggestion for health professionals to ask patients about medication self-management includes asking patients “I know it must be difficult to take all your medications regularly. How often do you miss taking them?” (Osterberg & Blaschke, 2005). Employing techniques of reflective listening and motivational interviewing may improve adherence. Assessing health and medication literacy is important, but must not single out or embarrass patients. Asking patients to actually read a prescription label or handing them information upside down are ways that health professionals can quickly and easily assess health literacy (Andrus & Roth, 2002; Browne & Merighi, 2010). It is also important to ask patients about conditions for which they are prescribed medications, particularly asymptomatic conditions such as mineral and bone disorders or hypertension (Browne & Merighi, 2010). It is important to discuss a patients’ willingness to take or initiate a new medication (Rifkin, Laws, Rao, Balakrishnan, Samak, & Wilson, 2010). Finally, it is important to work with patients to detect irrational thinking processes that may affect medication adherence (Williams, Manias, & Walker, 2009).

Creating individualized care plans for patients that take into account medication-related patient beliefs, barriers, concerns priorities and supports is important to improve medication adherence and self-management (Browne & Merighi, 2010; Rifkin, Laws, Rao, Balakrishnan, Samak, & Wilson, 2010; Williams, Manias, & Walker, 2009). Strategies to reduce pill burden (including pill size, shape, taste and, the number of pills) creating personalized reminders and medication schedules may improve adherence. Tools such as medication calendars, alarms and compliance packaging may also improve adher-

ence. It is important to acknowledge patient health literacy, visual ability, language and cultural considerations and patient social and family supports when creating such plans (Browne & Merighi, 2010). Exploring, acknowledging and relating to patients' unique medication-taking coping strategies (such as taking prophylactic antiemetics, adjusting their administration time or—a potential harm for dialysis patients—consuming extra water) are important to creating an individualized care plan (Lindberg & Lindberg, 2008). Encouraging patient

choices, self-management and problem-solving skills may be more effective than simply telling patients how to use their medications (Browne & Merighi, 2010).

The dialysis health care team is ideally situated to help patients achieve medication self-management, through regular and frequent contact with their patients (Lindberg & Lindberg, 2008). The dialysis team can work together to identify barriers and obstacles to medication taking and work with patients in order to overcome these barriers.

## References

- Andrus, M.R., & Roth, M.T. (2002). Health literacy: A review. *Pharmacotherapy*, 22(3), 633–640.
- Bissonette, J. (2008). Adherence: A concept analysis. *Journal of Advanced Nursing*, 63(3), 634–643.
- Bland, R.J., Cottrell, R.R., & Guyler, L.R. (2008). Medication compliance of hemodialysis and factors contributing to non-compliance. *Dialysis & Transplantation*, 37(5), 174–178.
- Browne, T., & Merighi, J.R. (2010). Barriers to adult hemodialysis patients' self-management of oral medications. *American Journal of Kidney Diseases*, 56(3), 547–557.
- Chiu, Y.W., Teitelbaum, I., Misra, M., de Leon, E.M., Adize, T., & Mehrotra, R. (2009). Pill burden, adherence, hyperphosphatemia and quality of life in maintenance dialysis patients. *Clinical Journal of the American Society of Nephrology*, 4(6), 1089–1109.
- Haynes, R., Ackloo, E., Sahota, N., & McDonald, H. (2008). Interventions for enhancing medication adherence. *Cochrane Database of Systematic Reviews* (2), CD000011.
- Hirth, R.A., Greer, S.L., Albert, J.M., Young, E.W., & Piette, J.D. (2008). Out of pocket spending and medication adherence among dialysis patients in twelve countries. *Health Affairs*, 27(1), 89–102.
- Holley, J.L., & DeVore, C.C. (2006). Why all prescribed medications are not taken: results from a survey of chronic dialysis patients. *Advances in Peritoneal Dialysis*, 22, 162–166.
- Karamanidou, C., Clatworthy, J., Weinman, J., & Horne, R. (2008). A systematic review of the prevalence and determinants of non-adherence to phosphate binding medication in patients with end stage renal disease. *BMC Nephrology*, 9(2).
- Kutner, N.G., Zhang, R., McClellan, W.M., & Cole, S.A. (2002). Psychosocial predictors of non-compliance in haemodialysis and peritoneal dialysis patients. *Nephrology Dialysis Transplantation*, 17(1), 93–99.
- Lindberg, M., & Lindberg, P. (2008). Overcoming obstacles for adherence to phosphate binding medication in dialysis patients: a qualitative study. *Pharmacy World & Science*, 30, 571–576.
- Magacho, E.J.C., Ribeiro, L.C., Chaoubah, A., & Bastos, M.G. (2011). Adherence to drug therapy in kidney disease. *Brazilian Journal of Medical and Biological Research*, 44 (3), 258–262.
- Manley, H.J., Garvin, C.G., Drayer, D.K., Reid, G.M., Bender, W.L., Neufeld, T.K., et al. (2004). Medication prescribing patterns in ambulatory haemodialysis patients: Comparisons of USRDS to a large not-for-profit dialysis provider. *Nephrology Dialysis Transplantation*, 19, 1842–1848.
- Manley, H.J., Wang, S., & Nissenon, A.R. (2010). *Medication non-adherence predicts hospitalization rate and healthcare costs in hemodialysis patients* [abstract] Renal Week 2010 American Society of Nephrology 43rd Annual Meeting November 16–21, 2010; Denver, Colorado.
- Matteson, M.L., & Russell, C. (2010). Interventions to improve hemodialysis adherence: A systematic review of randomized controlled trials. *Hemodialysis International*, 14, 370–382.
- Munter, P., Judd, S.E., Krousel-Wood, M., McClellan, W.M., & Safford, M.M. (2010). Low medication adherence and hypertension control among adults with CKD: Data from the REGARDS (Reasons for Geographic and Racial Difference in Stroke) study. *American Journal of Kidney Diseases*, 56(3), 447–457.
- National Kidney Foundation. (2006). Clinical Practice Guidelines and Clinical Practice Recommendations for hemodialysis adequacy, update 2006. *American Journal of Kidney Diseases*, 48(Suppl.), S2–S90.
- Osterberg, L., & Blaschke, T. (2005). Adherence to medication. *New England Journal of Medicine*, 353(5), 487–497.
- Rifkin, D.E., Laws, M.B., Rao, M., Balakrishnan, V.S., Samak, M.J., & Wilson, I.B. (2010). Medication adherence behavior and priorities among older adults with CKD: A semistructured interview study. *American Journal of Kidney Diseases*, 56(3), 439–446.
- Sabate, E. (2003). *Adherence to long-term therapies: Evidence for action*. Geneva: World Health Organization.
- Saran, R., Bragg-Gresham, J.L., Rayner, H.C., Goodkin, D.A., Keen, M.S., Van Dijk, C.K., et al. (2003). Non-adherence in hemodialysis: Associations with mortality, hospitalizations, and practice patterns in the DOPPS. *Kidney International*, 64, 254–262.
- Schmid, H., Hartmann, B., & Schiffel, H. (2009). Adherence to prescribed oral medication in adult patients undergoing chronic hemodialysis: A critical review of the literature. *European Journal of Medical Research*, 14(5), 185–190.
- Wazny, L.D., Stojimirovic, B.B., Heidenheim, P., & Blake, P.G. (2002). Factors influencing erythropoietin compliance in peritoneal dialysis patients. *American Journal of Kidney Diseases*, 40(3), 623–628.
- Williams, A.F., Manias, E., & Walker, R. (2009). The role of irrational thought in medicine adherence: People with diabetic kidney disease. *Journal of Advanced Nursing*, 65(10), 2108–2117.



# Medication adherence in patients with chronic kidney disease

By Colette B. Raymond, PharmD, MSc, Lori D. Wazny, PharmD, and Amy R. Sood, PharmD

Copyright © 2011 Canadian Association of Nephrology Nurses and Technologists

**1. Which of the following statements is true about patients with chronic kidney disease receiving dialysis?**

- (a) rates of non-adherence with medications in clinical studies range from 20%–30%
- (b) rates of non-adherence with medications in clinical studies range from 20%–50%
- (c) measuring medication non-adherence with self report yields higher rates of non-adherence than measuring medication non-adherence with serum phosphorus
- (d) measuring medication non-adherence with serum phosphorus yields higher rates of non-adherence than measuring medication non-adherence self report

**2. Which of the following statements is true about the reasons for non-adherence in patients with chronic kidney disease?**

- (a) patients who know more about their medications are more likely to be adherent
- (b) psychosocial factors are important predictors of adherence
- (c) cognitive impairment does not impact adherence with medications
- (d) coping mechanisms such as denial contribute to increased adherence

**3. Which of the following statements is true about the consequences of non-adherence in patients with chronic kidney disease?**

- (a) medication non-adherence has been associated with uncontrolled hypertension
- (b) medication non-adherence has been associated with decreased medication-related costs
- (c) medication non-adherence has been associated with hospitalization
- (d) medication non-adherence has been associated with decreased mortality

**4. Non-adherence for patients with chronic kidney disease has been attempted to be measured in research studies by:**

- (a) a person's behaviours concerning taking medication, following a diet, and making changes in lifestyle in accordance with health professional recommendations
- (b) the extent to which people follow the instructions they are given for prescribed treatments
- (c) missed or shortened dialysis treatments, interdialytic weight gain, treatment adequacy (Kt/v), serum albumin, and elevated serum phosphorus
- (d) including patients in the assessment, care planning collaborative problem solving and decision making to manage kidney disease and treatment, including medications

**5. Which of the following statements is true about the reasons for non-adherence in patients with chronic kidney disease?**

- (a) younger patients are more adherent with medications than older patients
- (b) higher pill burden and regimen complexity have been associated with non-adherence
- (c) patients with diabetes are less adherent with medications than patients without diabetes
- (d) patients who smoke are more adherent with medications than patients who do not smoke

**6. Strategies to improve adherence include:**

- (a) attempting to reduce the number of pills a patient takes daily
- (b) telling patients that they will die if they don't take their medications
- (c) telling patients about the purpose of their medications
- (d) Leaving medications in the vials from the pharmacy

**7. Limitations to studies that evaluate medication adherence in patients with chronic kidney disease and receiving dialysis include:**

- (a) numerous studies, but poorly designed
- (b) numerous studies with consistent definitions of adherence
- (c) few studies with inconsistent definitions of adherence
- (d) few studies but consistent study duration

**8. Which of the following statements is true about patient self-management of medications:**

- (a) patient self-management of medications involves telling patients about their care plan including what their medications are and how they are going to take them
- (b) understanding adherence from the patient perspective is not necessary for patient self-management of medications
- (c) assessing health and medication literacy is important, is usually a cause of embarrassment for patients and does not assist in patient self management
- (d) it is important for renal health professionals to identify and attempt to remove their patients' barriers to medication self-management and optimal medication adherence

CONTINUING EDUCATION STUDY  
ANSWER FORM

CE: 2.0 hrs continuing education

# Medication adherence in patients with chronic kidney disease

Volume 21, Number 2

By Colette B. Raymond, PharmD, MSc, Lori D. Wazny, PharmD, and Amy R. Sood, PharmD

**Post-test instructions:**

- Select the best answer and circle the appropriate letter on the answer grid below.
- Complete the evaluation.
- Send only this answer form (or a photocopy) to:  
CANNT National Office,  
336 Yonge St., Ste. 322,  
Barrie, ON, L4N 4C8  
or submit online to [www.cannt.ca](http://www.cannt.ca)
- Enclose a cheque or money order payable to CANNT.
- Post-tests must be postmarked by June 30, 2013.
- If you receive a passing score of 80% or better, a certificate for 2.0 contact hours will be awarded by CANNT.
- Please allow six to eight weeks for processing. You may submit multiple answer forms in one mailing, however, you may not receive all certificates at one time.

CANNT member – \$12 + HST (\$13.56); Non-member – \$15 + HST (\$16.95)

**Post-test answer grid***Please circle your answer choice:*

1. a b c d

2. a b c d

3. a b c d

4. a b c d

5. a b c d

6. a b c d

7. a b c d

8. a b c d

**Evaluation**

	Strongly disagree			Strongly agree		
1. The offering met the stated objectives.	1	2	3	4	5	
2. The content was related to the objectives.	1	2	3	4	5	
3. This study format was effective for the content.	1	2	3	4	5	
4. Minutes required to read and complete:	50	75	100	125	150	

Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Complete the following:**

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

Address: \_\_\_\_\_

\_\_\_\_\_

CANNT member? ☐ Yes ☐ No Expiration date of card \_\_\_\_\_

# Steps to safe swimming for patients on peritoneal dialysis

By Arlene Cugelman, RN, CNeph(C)

Copyright © 2011 Canadian Association of Nephrology Nurses and Technologists

The regional program of North Simcoe Muskoka opened its peritoneal dialysis program in 1997—since that time there have been few patients for whom swimming was a treasured pastime they wished to continue. Most clients decided not to swim in response to the conventional teaching that swimming posed a risk of infection at the exit site or peritonitis, with removal of the peritoneal dialysis (PD) catheter as a possible outcome.

One patient trialed swimming using the supplies available in 1998 for ostomy care and decided there was more enjoyment standing knee deep in the water without the labour-intensive application of the ostomy ring and bag used at that time. In the early days of our program two patients insisted on swimming without proper precautions resulting in infection and subsequent switch of dialysis modality to hemodialysis.

Recently, we have had several younger patients who spoke repeatedly of wanting to swim, expressing a sincere loss at being unable to participate in what had been a favourite activity before dialysis. Patient-centred care with attention to

quality of life, as defined by the patient, became an opportunity to revisit this activity, the historic thinking behind it, and develop new guidelines for its safe adoption.

While attending several conferences, both international and local, I had many opportunities to discuss with nurses instructions they gave to PD patients for swimming, for updates and patient experiences. It appeared the recommendations adopted in 1997 (Prowant & Twardowski, 1996) were still the current model; that being, it is safer to swim in the ocean or a well chlorinated private pool. Swimming was not recommended in lakes, rivers or public pools due to the high bacterial count. Traditionally, swimming was not recommended for patients on PD. An internet search we conducted for articles revealed no recent information.

Researching the new materials used in ostomy care, we elected to trial a Hollister ostomy pouch (see Table 1). The transfer set and PD catheter fit easily into the pouch, which was attached to the skin around the exit site. The edges of the pouch were then secured with

Tegaderm™ strips to ensure it would be “water tight”. The pre-swim procedure steps were:

1. Cleanse the skin with AllKare® protective barrier wipes.
2. Apply Hollister ostomy pouch (82335) around the exit site encasing the catheter and transfer set.
3. Cut in half, three 10 cm x 12 cm Tegaderm™ films.
4. Apply three half-inch strips of Tegaderm™ film around all the edges of the ostomy bag.
5. Allow 20 minutes to adhere before using.

The post-swim procedure (see Table 2) steps were:

1. Shower using antibacterial soap.
2. Using the AllKare adhesive remover wipe, begin to loosen the edges of the Tegaderm™ film and ostomy pouch and carefully remove/discard.
3. Perform exit site care using chlorexidine swabs, Bactroban® cream, as needed, apply a Mepore® dressing and secure the catheter/transfer set in their usual fashion.

Our patient followed precisely the guidelines as recommended and was instructed to contact the home dialysis unit immediately for any concerns regarding the exit site or PD catheter. Supplies were given to the patient to trial—every swim was enjoyed problem free. It was found to be more economical for the patient to purchase supplies from the hospital versus retail. The pharmacies varied greatly in both the items held as stock and the cost of supplies. Ordering

Table 1. Swimming supplies

1 × Hollister Ostomy Pouch (82335)  
1 × Tegaderm™ Film (1626W) 10 cm × 12 cm  
1 × ConvaTec AllKare® Protective Barrier Wipe  
1 × ConvaTec AllKare® Adhesive Remover Wipe

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

Arlene Cugelman, RN, CNeph(C), Charge Nurse/Clinical Educator, Orillia Soldier's Memorial Hospital, Orillia, ON

Address correspondence to: Arlene Cugelman, RN, CNeph(C), Charge Nurse/Clinical Educator, Orillia Soldier's Memorial Hospital, 170 Colborne Street West, Orillia, ON L3V 2Z3; Email: [ACugelman@osmh.on.ca](mailto:ACugelman@osmh.on.ca)

Table 2. Exit-site care supplies

1 × Chlorexidine Swabs  
1 × Mepore® Dressing  
Bactroban® Cream  
PD belt



through our facility, at a special rate set for patients, the cost for supplies was approximately \$5.00 per swim.

The patient reports swimming more than 30 times during the summer of 2010. She would often be in the lake for an hour at a time “just floating and enjoying”. Each swim had multiple entries over several hours and she would often spend the entire day at the beach. Most recently, with the arrival of the cold weather, she has enjoyed swimming at the local YMCA problem free. The following is our patient’s experience of swimming and its importance to her:

*Being able to swim has made all the difference to me this summer. Swimming is one of my favourite things to do, so it would have been disappointing to sit on the sidelines while everyone else was having fun enjoying one of Muskoka’s most basic pleasures—summer days spent at the beach.*

*I am a patient at the Soldier’s Memorial Hospital in Orillia, Ontario. I chose to use the PD method using the overnightycler. This method has given me daytime freedom including the freedom to swim.*

*The swimming pouch gave me the freedom to belly flop into Lake Vernon in Huntsville, just two minutes down the*

*road from where I live. I was so excited at the prospect of being able to swim again that I used my Facebook “news feed” so that my friends knew when I would be heading to the beach to enjoy the soothing delights of that lake on a hot summer’s day. I have enjoyed swimming from a very young age.*

*Over the course of the 30 swims I enjoyed, the device completely waterproofed my PD catheter and, more importantly, the exit site. I was careful to take a shower after swimming using, as always, antiseptic soap. Proper exit site care afterwards was also important.*

*I was happy to discover that the device was fairly incognito under my black suit.*

*I’m so glad that I had this wonderful opportunity and that others may be able to have the chance to try it as well.*

This patient, highly motivated and attentive to instructions, was an excellent candidate to trial the newly created *Steps to Safe Swimming Guideline* (Soldiers’ Memorial Hospital, 2011) for peritoneal dialysis clients.

Patients are trained in the *Steps to Safe Swimming Guideline* and application of the equipment. This guideline was expanded in 2011 to include a client signature to the listed risks and possible

outcomes if the guideline is not followed as outlined. We advise against hot tubs, Jacuzzis and soaking tubs. Patients using the *Steps to Safe Swimming Guideline* are being tracked for peritonitis and exit site infection rates and, to date, there have been no adverse events or outcomes.

As a PD nurse, witness to patients’ many trials, it was a pleasure to witness the utter joy this patient expressed first at the thought of being able to swim again, and her exuberance as she shared her many experiences “just floating and enjoying”.

## References

- Plante, B., Amadai, M., Herbert, E., & O’Regan, S. (1990). Tegaderm dressings for peritoneal dialysis and gastrojejunostomy catheters in children. *Advances in Peritoneal Dialysis*, 6, 279–280.
- Prowant, B.F., & Twardowski, Z.J. (1996). Recommendations for exit care. *Peritoneal Dialysis International*, 16(Suppl. 3), S94–S99.
- Sandahl, L.L., & Owens, E.L. (1989). Use of an ostomy pouch for pediatric CAPD swimmers. *American Nephrology Nurses Association (ANNA) Journal*, 16(4), 274–277.
- Soldiers’ Memorial Hospital. (2011). *Steps to Safe Swimming Guideline*. Orillia, ON: Author.

## DID YOU KNOW...?

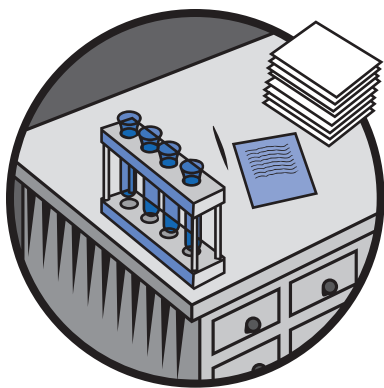


**Now it’s even easier  
for you to get hold  
of the CANNT/ACITN  
National Office**

- 1) Call TOLL-FREE from anywhere in Canada/US: 1-877-720-2819 or local dial 705-720-2819
- 2) email: [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**



## Research review

# Bone and mineral disorder prevention and management: What to do?

By Alison Thomas, RN(EC), MN, CNeph(C)

Copyright © 2011 Canadian Association of Nephrology Nurses and Technologists

Palmer, S.C., Hayen, A., Macaskill, P.F., Pellegrini, F., Craig, J.C., Elder G.J., & Strippoli, G.F.M. (2011). Serum levels of phosphorus, parathyroid hormone and calcium and risks of death and cardiovascular disease in individuals with chronic kidney disease. *Journal of the American Medical Association*, 305(11), 1119–1127.

One of the more significant challenges facing chronic kidney disease (CKD) patients in later stages and on dialysis is the need to manage the intricate bone and mineral imbalances that occur as a result of loss of kidney function. To assist in managing the complexities, clinical practice guidelines have been written for treating mineral and bone disorders in CKD—the most recent being the *Kidney Disease: Improving Global Outcomes (KDIGO) Guidelines for Chronic Kidney Disease—Mineral and Bone Disorder (CKD-MBD)* (2009). A recently published paper in the *Journal of the American Medical Association* has been somewhat of a hot topic of discussion by nephrology multidisciplinary teams in rounds, journal clubs and online forums. The article, entitled “Serum levels of phosphorus, parathyroid hormone and calcium and risks of death and cardiovascular disease in individuals

with chronic kidney disease” (Palmer, Hayen, Macaskill, Pellegrini, Craig, Elder, & Strippoli, 2011) was written by a group of internationally based academic nephrologists and researchers. In an era where clinical practice guidelines are prevalent, the study hypothesis was that the evidence upon which CKD-MBD guidelines are based is poor and that these guidelines are, therefore, not useful in everyday practice.

The objective of the project was to assess the existing evidence in the literature through a systematic review and meta-analysis to better understand the association (as demonstrated by published studies) between serum phosphorus, parathyroid hormone (PTH), and calcium levels, and risks of death, cardiovascular mortality, and nonfatal cardiovascular events in CKD patients (Palmer et al., 2011, p. 1119).

This paper is a systematic review and meta-analysis. A systematic review is defined as “a critical assessment and evaluation of all research studies that address a particular clinical issue. The researchers use an organized method of locating, assembling, and evaluating a body of literature on a particular topic using a set of specific criteria. A systematic review typically includes a description of the findings of the collection of research studies. The systematic review may also include a quantitative pooling

of data, called a meta-analysis” (Agency for Healthcare Research and Quality, n.d.). A meta-analysis can be further described as “a statistical process that combines the findings from individual studies” (Agency for Healthcare Research and Quality, n.d.).

In this paper, the authors used a rigorous process to search out studies that measured the association between serum mineral levels (calcium, phosphorus, and PTH) and cardiovascular disease and mortality in patients with chronic kidney disease (CKD). The search process utilized a specialized librarian who conducted database searches both online and by hand. The authors inspected the full text of a journal article if a citation found via the search appeared to be relevant. A total of 8,380 articles were identified by initial search using Medline and EMBASE. After review and exclusion for a variety of reasons including lack of CKD focus, non-fatal cardiovascular or non-mortality outcomes, and non-adult population, only 47 studies were included in the systematic review. Participant numbers in these studies ranged from 99 to 78,420 individuals. The larger studies were derived from registry databases such as the Dialysis Outcomes and Practice Patterns (DOPPS) and United States Renal Data System (USRDS). The final summary analysis was based on more than 100,000 study participants. This is very relevant, as it increases the validity of the findings. A critique of the research methods employed by the authors is

Alison Thomas, RN(EC), MN, CNeph(C), Nurse Practitioner, Hemodialysis, St. Michael's Hospital, Toronto, ON.

beyond the scope of this review; detailed discussion of the analysis can be found in the original article, p. 1120. However, it should be mentioned that the authors did focus their efforts on studies that had been properly adjusted for confounding variables, as this strengthens the findings from a research quality perspective.

Following vigorous statistical analysis, the authors did not demonstrate an association between PTH levels or calcium levels and death in CKD patients. They did find an association between serum phosphorus levels and death. However, they caution that “high-quality data for an association between serum levels of phosphorus, PTH, and calcium with cardiovascular mortality were available only in single cohort studies and summary estimates for cardiovascular events were not available” (Palmer et al., 2011, p. 1125). Therefore, they concluded that, based upon cohort data available and the lack of randomized controlled trials (considered to be the most reliable form of research study), the evidence basis for clinical practice guidelines such as the KDIGO CKD-BMD guidelines was poor. Moreover, they expressed their concern that targeting serum mineral levels in CKD patients according to guidelines based on poor evidence may “lead to considerable unintended harm”. They advise and encourage large randomized controlled trials be carried out with placebo-controls in order to provide the evidence upon which quality practice guidelines may be developed to guide clinicians in managing patients with CKD-MBD.

This publication challenges the current practices of targeting calcium, phosphorus and PTH levels based upon clinical practice guidelines for CKD-BMD because of the lack of quality evidence to support the recommendations. Dr. Ross Morton, in a review of this study on [UKidney.com](http://UKidney.com), offers the following comment: “This paper may have the effect of allowing a sense of security in having a laissez-faire attitude towards abnormal mineral metabolism for the general nephrology practitioner. The essential, if repetitive, call for placebo-controlled randomized studies (for which funding is unlikely to come from either industry or payers) provides little help for clinical practice” (Morton, n.d.).

If not already happening, nephrology nurses may start to hear mixed messages from clinicians with respect to appropriate targets and approaches to management of calcium, phosphorus and PTH values. Questions arise with each blood work review: Is it important to normalize serum phosphorus levels, despite the amount of calcium needed to bind phosphorus? Is it safe to give large amounts of calcium on a daily basis? Is it important to use non-calcium based phosphate binders as alternatives to calcium-based binders, despite their increased cost? Is the PTH value really a valid marker for bone and mineral metabolism disorder? How useful are the laboratory assays that are used to measure PTH? Do we really know that keeping the target PTH between two and nine times normal value is the right thing to do? Nephrology nurses may also hear clinicians or researchers talk about planning trials to address these issues; the design of which will be a great topic of debate. Some feel that randomizing patients to placebo versus standard binders and allowing phosphorus to rise in order to quantify the risks to the patient is unethical. Whatever the fallout, this study has encouraged frank discussion about these issues, leading us to question the status quo. The point is that we need better studies to inform our practice. Nephrology nurses, as key care providers who have meaningful conversations with patients about everyday routines, adherence to binders and intake will be needed to answer questions from patients about their self-management of this CKD complication, and to provide guidance for patients participating in research studies. These are interesting and exciting times for nurses in nephrology—are you up for the challenge?

## References

- Agency for Healthcare Research and Quality. (n.d.). *Glossary of Terms. Systematic Review*. Retrieved from <http://www.effectivehealthcare.ahrq.gov/index.cfm/glossary-of-terms/?pageaction=showterm&termid=70>
- Agency for Healthcare Research and Quality. (n.d.). *Glossary of Terms. Meta-analysis*. Retrieved from <http://www.effectivehealthcare.ahrq.gov/index.cfm/glossary-of-terms/?pageaction=showterm&termid=39>
- Kidney Disease: Improving Global Outcomes (KDIGO) CKD-MBD Work Group. (2009). KDIGO clinical practice guideline for the diagnosis, evaluation, prevention, and treatment of chronic kidney disease—mineral and bone disorder (CKD-MBD). *Kidney International*, 76(Suppl. 113), S1–S130.
- Morton, R. (n.d.). Serum levels of phosphorus, parathyroid hormone and calcium and risk of death and cardiovascular disease in individuals with chronic kidney disease—Article review. *Ukidney.com*. Retrieved from <http://ukidney.com/bone-and-mineral-metabolism-articles/serum-levels-of-phosphorus-parathyroid-hormone-and-calcium-and-risk-of-death-and-cardiovascular-disease-in-individuals-with-chronic-kidney-disease-article-review-dr-ross-morton>
- Palmer, S., Hayen, A., Makaskill, P., Pelligrini, F., Craig, J.C., Elder, G.J., & Strippoli, G.F.M. (2011). Serum levels of phosphorus, parathyroid hormone, and calcium and risks of death and cardiovascular disease in individuals with chronic kidney disease. A systematic review and meta-analysis. *Journal of the American Medical Association*, 305(11), 1119–1127.

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

Gillian Brunier, Editor,

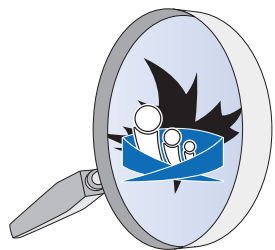
CANNT Journal

Fax: (416) 495-0513

email:

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





## Profiling...

# In memoriam—Maureen Donnelly March 29, 1956–February 17, 2011

*Maureen Donnelly began her nursing career in 1979. She spent the last 30 years working at St Paul's Hospital, Vancouver, in nephrology.*

*The following is a tribute to Maureen given by Rick Luscombe at her memorial service held March 3, 2011, in Vancouver.*

Good morning!

My name is Rick Luscombe. I'm here representing our small coffee and lunch group: Laddie Frank, Dave Morrison, Amable Cruz and Edith Davidson. We've had the honour and joy of sharing our break time over the past eight years with Maureen. Today I've been asked to pay tribute to our dear friend.

We've known Maureen for 20-plus years. Dave knew of Maureen when they both worked in Saudi Arabia. Apparently they hadn't physically met, but would talk to each other over the phone about patient issues from time to time. It wasn't until 1991, when Dave joined St Paul's, that they would actually meet. Laddie first met Maureen when they worked together at Vancouver General Hospital. They both eventually transferred to Saint Paul's where they continued to be close friends.

I had the privilege of joining St Paul's and working with Maureen in 1990. I'll always remember meeting Maureen for the first time and being mesmerized by her beautiful blue eyes and long black hair. I soon learned that her personality was just as beautiful.

Providence Health has a slogan, "How you want to be treated." I believe they came up with the saying by observing Maureen. Maureen was a strong patient advocate. She always treated patients, family members and colleagues with respect, dignity and compassion. My friend Laddie made a statement that I agree with, that Maureen represented the moral consciousness of the nephrology department.

Maureen loved her job. She loved being and was proud to be a nurse. She was in nephrology for more than 30

years. She started as a staff nurse and quickly went up the ladder as the assistant head nurse, head nurse and, finally, as the patient coordinator.

But nursing was only one facet of Maureen. She was a proud and devoted wife, daughter, sister and aunt. Maureen loved Wayne... no matter what he did. She came to work one day, and would continue to tell the story years later, about the day that Wayne inadvertently sat on their pet bird. She had the capacity for forgiveness. She would proudly update us on the accomplishments of Father Lawrence, Mark's career as an actor and singer, and the lives of her nine nieces and nephews. From the way she talked about her nieces and nephews you could tell these were the children she never had.

I shouldn't say she never had children, for she did. I can only remember Sadie, Onslow and Millie I'm sure there might have been more. She adored her dogs. She was a proud mama sharing pictures, telling us stories of the antics the dogs had gotten into. Sadly, we went through the hardships with her as well, when her pets were going through difficult times and eventually when tough decisions had to be made.

Maureen loved music, singing and the opera. In the early 1990s, before the dialysis program got too big, you could count on Maureen organizing the annual Christmas caroling expedition with pre and post libations—pre for courage, post for celebration. Once she had a few under her belt it was hard for her not to break out in a rendition of one of her favorite songs, "Oh Danny Boy". She had a beautiful voice.

Maureen had two secret desires: one to be an interior decorator, the other to be a hairstylist. From time to time, Maureen would be running around the unit with paint swatches asking for opinions on what colour to paint the walls of an office or newly renovated section of the unit. Soon to follow would be samples of furniture that might possibly match.



At least twice a year Laddie and Maureen would disappear into a back room, a vacant office or unoccupied space and cut each other's hair. Just two inches off the bottom. At first they were nervous about the process, but soon became Edward Scissorhand's wannabes.

The last few years, I'm sure, were not easy for Maureen having to deal with multiple health issues. She never complained, and always had a kind word for others. Maureen had a great sense of humour and, believe it or not, could appreciate a raunchy joke. There was more than one occasion where I thought she would choke because she was laughing so hard.

Maureen, you were a dear friend to many of us. We miss you.

Maureen is survived by husband Wayne, mother Maria, brothers Lawrence and Mark, sister-in-law Catherine and nine nieces and nephews.

**Submitted by Rick Luscombe, RN, BSN, CNeph(C), Vascular Access Clinical Nurse Leader, Vancouver Coastal, Providence Health Care, Vancouver, BC. Rick is also the current Past President CANNT.**

# Guidelines for authors

**The Canadian Association of Nephrology Nurses and Technologists (CANNT) Journal** invites letters to the editor and original manuscripts for publication in its quarterly journal. We are pleased to accept submissions in either official language—English or French.

## Which topics are appropriate for letters to the editor?

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

## What types of manuscripts are suitable for publication?

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

- Original research papers
- Relevant clinical articles
- Innovative quality improvement reports
- Narratives that describe the nursing experience
- Interdisciplinary practice questions and answers
- Reviews of current articles, books and videotapes
- Continuing education articles.

## How should the manuscript be prepared?

**Form:** The manuscript should be typed double-spaced, one-inch margins should be used throughout, and the pages should be numbered consecutively in the upper right-hand corner. More formal research or clinical articles should be between five and 15 pages. Less formal narratives, question and answer columns, or reviews should be fewer than five pages.

**Style:** The style of the manuscript should be based on the **Publication Manual of the American Psychological Association (APA)**, Sixth Edition (2009), available from most college bookstores.

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

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

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

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

## How should the manuscript be submitted?

Email your manuscript to: [gillianbrunier@sympatico.ca](mailto:gillianbrunier@sympatico.ca)

Include a covering letter with contact information for the primary author and a one-sentence biographical sketch (credentials, current job title and location) for each author.

## How are manuscripts selected for the CANNT Journal?

Each manuscript will be acknowledged following receipt. Research and clinical articles are sent out to two members of the **CANNT Journal** manuscript review panel to be reviewed in a double-blind review process. All manuscripts may be returned for revision and resubmission. Those manuscripts accepted for publication are subject to copy editing; however, the author will have an opportunity to approve editorial changes to the manuscript. The criteria for acceptance for all articles include originality of ideas, timeliness of the topic, quality of the material, and appeal to the readership. Authors should note that manuscripts will be considered for publication on the condition that they are submitted solely to the **CANNT Journal**. Upon acceptance of submitted material, the author(s) transfer copyright ownership to CANNT. Material may not be reproduced without written permission of CANNT. Statements and opinions contained within the work remain the responsibility of the author(s). The editor reserves the right to accept or reject manuscripts.

## Checklist for authors

✓ Cover letter

✓ Article

- Title page to include the following:
  - title of article
  - each author's name (including full first name)
  - professional qualifications
  - position
  - place of employment
  - author to whom correspondence is to be sent, including address, phone, fax number, and email address
- Text of article, with abstract if applicable, **double-spaced, pages numbered**
- References (on a separate sheet)
- Tables (one per page)
- Illustrations (one per page)
- Letters of permission to reproduce previously published material.

# Lignes directrices à l'intention des auteurs

Le **Journal de l'Association canadienne des infirmières et infirmiers et des technologues de néphrologie (ACITN)** vous invite à faire parvenir articles, textes et manuscrits originaux pour publication dans son journal trimestriel. Nous sommes heureux d'accepter vos documents soumis dans l'une ou l'autre des langues officielles, anglais ou français.

## Quels sont les sujets d'article appropriés ?

Nous acceptons les articles portant sur des manuscrits récemment publiés, des activités de l'Association ou tout sujet d'intérêt pour les membres de l'ACITN.

## Quels types de manuscrits conviennent à la publication ?

Nous préférons des manuscrits qui présentent de nouveaux renseignements cliniques ou qui traitent des enjeux propres aux champs d'intérêt des infirmières et infirmiers et des technologues en néphrologie. Nous recherchons plus particulièrement :

- Exposés de recherche originaux
- Articles cliniques pertinents
- Rapports sur des approches innovatrices en matière d'amélioration de la qualité
- Textes narratifs relatant une expérience de pratique infirmière ou technologique
- Textes sous forme de questions et de réponses sur la pratique interdisciplinaire
- Revues d'articles courants, de livres et films
- Articles en éducation continue.

## Comment les manuscrits doivent-ils être présentés ?

**Forme:** Le manuscrit doit être présenté à double interligne avec une marge de 1 po et une numérotation consécutive des pages dans le coin supérieur droit de la page. Les articles plus formels de recherche ou d'études cliniques doivent compter de 5 à 15 pages. Les articles moins formels, tels que textes narratifs, questions-réponses ou revues, doivent compter moins de 5 pages.

**Style:** Le style du manuscrit doit être conforme au manuel de publication de l'Association américaine de psychologie (AAP), 6<sup>e</sup> édition (2009), offert dans la plupart des librairies universitaires.

**Page titre:** La page titre doit inclure le titre du manuscrit ainsi que les renseignements suivants: nom de chacun des auteurs (incluant prénoms au complet), titres professionnels (c.-à-d., inf., B.Sc.Inf., CNéph[C]), titre du poste occupé, nom de l'employeur, adresse, numéros de téléphone et de télécopieur et adresse courriel. L'adresse privilégiée de correspondance doit aussi être indiquée.

**Résumé:** Sur une page distincte, les articles formels de recherche ou d'études cliniques doivent être accompagnés d'un résumé de 100 à 150 mots, reprenant brièvement les principaux points du manuscrit.

**Texte:** Les sigles, abréviations ou acronymes doivent être écrits au long la première fois qu'ils apparaissent dans le texte, suivis de l'abréviation entre parenthèses; p. ex., Association canadienne des infirmières et infirmiers et des technologues de néphrologie (ACITN). Les noms génériques des médicaments doivent être employés. Les unités de mesure doivent être indiquées selon le Système international d'unités (SI). Les références doivent être citées dans le texte en utilisant le format de l'AAP. Une liste de références comprenant la bibliographie complète de toutes les références utilisées doit suivre le texte.

**Tableaux/Figures:** Les manuscrits ne doivent inclure que les tableaux et figures (incluant schémas, illustrations, croquis, etc.) visant à clarifier certains détails. Les auteurs qui utilisent des tableaux et des figures qui ont déjà fait l'objet d'une publication doivent fournir l'autorisation écrite de l'éditeur d'origine et la joindre au manuscrit soumis.

## De quelle manière doit-on soumettre les manuscrits ?

Veuillez envoyer par courriel votre manuscrit à :

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

Veuillez inclure une lettre de présentation en précisant les coordonnées de l'auteur principal ainsi qu'une notice biographique d'une phrase (incluant titres de compétences, titre du poste actuel et lieu de travail) pour chaque auteur.

## Quel est le processus de sélection des manuscrits pour publication dans le Journal de l'ACITN ?

À la réception de chaque manuscrit, un accusé de réception est envoyé. Les articles de recherche et d'études cliniques sont envoyés à deux membres du comité de révision du **Journal de l'ACITN** afin d'être révisés suivant un processus à double insu. Tous les articles peuvent être retournés aux auteurs pour révision et nouvelle soumission par la suite. Les manuscrits acceptés pour publication peuvent subir des changements éditoriaux; toutefois, les auteurs pourront approuver ces changements. Les critères d'acceptation pour tous les manuscrits comprennent l'originalité des idées, l'actualité du sujet, la qualité du matériel et l'attrait des lecteurs.

Les auteurs doivent prendre note que les manuscrits seront considérés pour publication à la condition qu'ils ne soient soumis qu'au **Journal de l'ACITN**. Sur acceptation du matériel soumis, les auteurs transfèrent leur droit d'auteur à l'ACITN. Aucune reproduction n'est permise sans l'autorisation écrite du **Journal de l'ACITN**. Les déclarations et opinions émises par les auteurs dans leurs articles, textes ou manuscrits demeurent leur responsabilité. La rédactrice en chef se réserve le droit d'accepter ou de refuser tout manuscrit.

## Aide-mémoire à l'intention des auteurs

✓ Lettre de présentation

✓ Article

- Page titre incluant les renseignements suivants:
  - Titre de l'article
  - Nom de chaque auteur (incluant prénoms au complet)
  - Titres de compétences
  - Titre du poste actuel
  - Nom et adresse de l'employeur
  - Nom de l'auteur à qui la correspondance doit être envoyée (incluant adresse, numéros de téléphone et de télécopieur et adresse courriel)
- Texte de l'article avec résumé, s'il y a lieu à **double interligne et pages numérotées**
- Références (sur une feuille distincte)
- Tableaux (un par page)
- Figures (une par page)
- Lettre d'autorisation pour tout matériel ayant déjà fait l'objet d'une publication





 **formula<sup>®</sup> 2000** **plus**

**The fruit of exploration:  
Dialysis monitoring  
evolves**

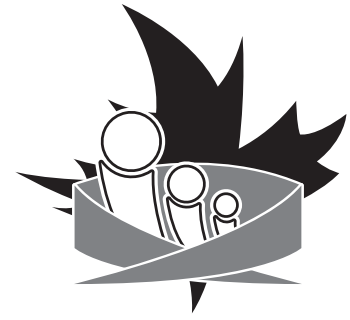


**Renal Care**

2900 Argentia Road, Unit 10  
Mississauga, ON L5N 7X9  
Tel: 1.866.443.8567 Fax: 1.866.443.9567



# CANNT Membership



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

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

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

City \_\_\_\_\_

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

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

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

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

Email \_\_\_\_\_

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: \$70.00 + HST/GST

☐ Two Years: \$130.00 + HST/GST

☐ Student Rate: \$35.00 + HST/GST\*

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

BC: 12% HST; AB/SK/MB/PE/NT/NU/QC/YT: 5% GST;

ON/NL: 13% HST; NS: 15% HST

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

☐ Administration

☐ Technical

☐ Teaching

☐ Research

☐ Other (Specify) \_\_\_\_\_

## Work environment

☐ Acute Care

☐ Self-Care Unit

☐ Independent Health Care

☐ Private Sector

## Highest level of education

### Nursing

☐ Diploma

☐ Baccalaureate

☐ Master's

☐ Doctorate

### Non-Nursing

☐ Diploma

☐ Baccalaureate

☐ Master's

☐ Doctorate

## I am at present studying toward

### Nursing

☐ Specialty Certificate

☐ Baccalaureate

☐ Master's

☐ Doctorate

### Non-Nursing

☐ Specialty Certificate

☐ Baccalaureate

☐ Master's

☐ Doctorate

## Primary area of practice

☐ Progressive renal insufficiency (pre-dialysis)

☐ Transplantation

☐ Hemodialysis

☐ Peritoneal

☐ Pediatrics

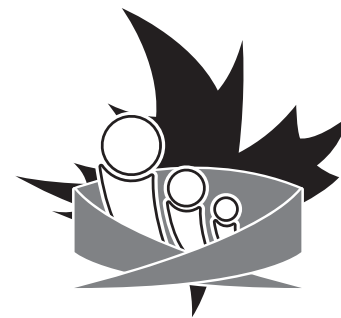
☐ Other (Specify) \_\_\_\_\_

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? ☐ Yes ☐ No

☐ 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: 70,00 \$ + TVH/TPS

☐ Deux ans: 130,00 \$ + TVH/TPS

☐ Tarif étudiant: 35,00 \$ + TVH/TPS\*

\*La demande doit inclure une preuve d'inscription à plein temps  
BC: 12 % TVH; AB/SK/MB/PE/NT/NU/QC/YT: 5 % TPS;  
ON/NL: 13 % HST; NS: 15 % TVH

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