



CANNT JOURNAL JOURNAL ACITN

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PD Start Strong

Peritoneal dialysis (PD) is associated with clinical benefits that can set up end stage renal disease (ESRD) patients for future success compared to conventional haemodialysis:

- Patients starting on PD have better short-term survival^{1,2}
- Patients treated with PD have better survival compared with those treated with Conventional Hemodialysis using a Central Venous Catheter³
- PD better preserves residual renal function^{4*}
- PD is a strong bridge to transplant^{5,6}

PD. Stronger than you think.



*Compared to HD using standard quality dialysis fluid.

References: 1. Yeates K, Zhu N, Vonesh E, Trpeski L, Blake P, Fenton S. Hemodialysis and peritoneal dialysis are associated with similar outcomes for end-stage renal disease treatment in Canada. *Nephrol Dial Transplant*. 2012;advance access. 2. Mehrotra R, Chiu YW, Kalantar-Zadeh K, Bargman J, Vonesh E. Similar outcomes with hemodialysis and peritoneal dialysis in patients with end-stage renal disease. *Arch Intern Med*. 2011;171:110-118. 3. Perl J, Wald R, McFarlane P, et al. Hemodialysis vascular access modifies the association between dialysis modality and survival. *J Am Soc Nephrol*. 2011;22:1113-1121. 4. Jansen MA, Hart AA, Korevaar JC, Dekker FW, Boeschoten EW, Krediet RT. Predictors of the rate of decline of residual renal function in incident dialysis patients. *Kidney Int*. 2002;62:1046-1053. 5. Schwenger V, Dohler B, Morath G, Zeier M, Opelz G. The role of pretransplant dialysis modality on renal allograft outcome. *Nephrol Dial Transplant*. 2011;26:3761-3766. 6. Molnar MZ, Mehrotra R, Duong U, et al. Dialysis modality and outcomes in kidney transplant recipients. *Clin J Am Soc Nephrol*. 2012;7:332-341.

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A time of renewal



Janet Baker



Alison Thomas

Welcome to the inaugural edition of the new *CANNT online Journal*! You will notice that the electronic version of the journal looks familiar, as we have not made major changes to the layout. The new *CANNT Journal* contains all of the usual columns and features that you have been accustomed to seeing in the print version. As always, we welcome your feedback—feel free to contact either one of us with comments or suggestions about the journal's content or features. We are also pleased in this issue to introduce the launch of a new column “*The 5th Modality*”.

Psychonephrology”. This column will be edited by Drs. Gavril Hercz (nephrologist), and Marta Novak (psychiatrist), two Canadian experts in the area of Psychonephrology—the study of the interconnection between the psychological self and the nephrology patient identity. As you read the guest editorial written by Drs. Hercz and Novak, you will better understand the rationale for this column. We, at the *CANNT Journal*, are pleased to allow you an opportunity to be actively involved and to learn more about this important component of patient care. Please send us your challenging scenarios or questions about how to handle patient situations, and we will forward them to Drs. Hercz and Novak for their review and response. Finally, this issue includes the CANNT 2013 conference abstracts. We are hoping that many of you will be intrigued by the abstracts enough to consider joining us in St. John's, NL, for CANNT 2013!

THANKS TO OUR 2013 SPONSORS

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Un temps de renouveau



Janet Baker



Alison Thomas

Bienvenue à ce numéro inaugural du nouveau *Journal de l'ACITN*! La version électronique vous sera familière, car le format est sensiblement le même. Le nouveau *Journal de l'ACITN* contient toutes les chroniques et composantes usuelles auxquelles vous étiez habitué(e)s de voir dans sa version imprimée. Comme toujours, nous accordons une grande importance à vos commentaires. N'hésitez pas à communiquer avec l'une de nous pour nous faire part de vos commentaires ou de vos suggestions à propos du contenu ou du format du Journal. Dans ce numéro, nous avons également le plaisir d'inaugurer une nouvelle chronique intitulée: «*The 5th Modality: Psychonephrology*», rédigée

par D^{rs} Gavril Hercz (néphrologue) et Marta Novak (psychiatre), deux experts canadiens en psychonephrologie—l'étude de l'interconnexion entre le moi psychologique et l'identité du patient en néphrologie. En lisant l'éditorial rédigé par nos nouveaux collaborateurs, les D^{rs} Hercz et Novak, vous serez à même de saisir le bien-fondé de cette chronique. En tant que corédactrices en chef, nous sommes heureuses de vous offrir une occasion d'en apprendre plus à ce sujet et de participer activement à cette importante facette des soins infirmiers. N'hésitez pas à nous faire parvenir vos récits ou questions sur la prise en charge de cas difficiles pour alimenter cette chronique. Nous les ferons parvenir aux D^{rs} Hercz et Novak qui en feront une analyse et un compte rendu. Enfin, ce numéro inclut aussi les résumés des différents exposés qui seront présentés au prochain congrès. Nous espérons qu'ils sauront piquer votre curiosité et susciter votre participation en grand nombre au Congrès annuel de l'ACITN de 2013, à St. John's, à Terre-Neuve-et-Labrador!

PLEASE SEND ALL SUBMISSIONS, QUESTIONS OR COMMENTS TO:

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Voici les échéanciers à rencontrer pour soumettre des articles/nouvelles au journal:

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GUEST EDITORIAL: DR. GAVRIL HERCZ & DR. MARTA NOVAK

Introducing the fifth renal replacement modality

We welcome this wonderfully unique opportunity to host a new column in the *CANNT Journal*, entitled “The 5th Modality: Psychonephrology”, on [page 59](#). The idea for this column grew out of discussions with the editors, Janet Baker and Alison Thomas. It was suggested that a regular column that would allow readers to submit clinical scenarios that they found perplexing or disturbing would result in a communal sharing of these experiences. It was also hoped that our thoughts may provide a window through which to continue trying to understand and help our patients and ourselves to deal with our own emotions while caring for chronically ill patients.

Our everyday care of the patients in the various clinical areas often exposes us to all kinds of confusing situations. Very often the issues raised do not lend themselves to being solved by logical means. It is as if the patients seem to speak a different language from us, with mutual misunderstanding. However, not only are we left confused by these interactions—but we, as caregivers, are also left with all kinds of inner emotional turmoil, at times becoming anxious, angry or

saddened. At other times our coping abilities are impacted upon, and we may respond to these situations by “dumping” on our colleagues, family or friends. In many ways the nursing staff face the brunt of the issues that the patients bring, spending eight to 12 hours with a multitude of psychosocial issues, many of which are not even recognized as such. It is only by finding a forum for discussion—either locally or through this column—that we can begin to make sense of these topics and hopefully find ways of understanding and defusing our own responses.

As we move forward, we welcome your input and feedback. We hope you will find this discussion useful and meaningful. Please communicate your challenging patient scenarios, comments and feedback to the *CANNT Journal* co-editors, Janet Baker and Alison Thomas at the contact information below:

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Marta Novak, MD, and Gavril Hercz, MD

Le 5^e élément dans la thérapie de remplacement rénal

C'est avec joie que nous avons accepté l'occasion merveilleusement unique de rédiger une nouvelle chronique dans le Journal de l'ACITN, intitulée: «Le 5^e élément: la psychonephrologie» (titre anglais original: *The 5th Modality: Psychonephrology*) sur la [page 59](#). L'idée de cette chronique a germé à la suite de discussions avec Janet Baker et Alison Thomas, corédactrices en chef du Journal de l'ACITN. Nous avons donc proposé le concept d'une chronique permettant aux lecteurs de soumettre leurs propres récits dans la prise en charge de cas cliniques complexes ou bouleversants en vue de partager leur expérience. Nos réflexions pourraient ainsi, espérons-le, ouvrir une fenêtre pour continuer à essayer de comprendre et d'aider nos patients et nous-mêmes dans la gestion de nos propres émotions, tout en prenant soin de patients atteints de maladie chronique.

Les soins que nous prodiguons au quotidien aux patients à différents égards sur le plan clinique nous exposent souvent à toutes sortes de situations déroutantes. Très souvent, les enjeux soulevés ne peuvent se résoudre par des moyens logiques. C'est comme si les patients parlaient une langue différente de la nôtre, avec une incompréhension mutuelle de l'autre. Cependant, non seulement sommes-nous bouleversés par ces interactions, mais, en

tant que fournisseurs de soins, nous sommes laissés à nous-mêmes avec une grande agitation interne qui, parfois, entraîne l'anxiété, la colère ou la tristesse. En d'autres temps, notre résilience peut être affaiblie, et nous pouvons réagir à ces situations en nous «déoulant» sur nos collègues, nos amis ou les membres de notre famille. De maintes façons, le personnel infirmier est confronté au fardeau de la maladie des patients et exposé de huit à douze heures par jour à une multitude de troubles psychosociaux, dont bon nombre ne sont même pas reconnus. Ce n'est qu'en trouvant un forum de discussion—que ce soit à l'échelle locale ou par le truchement de cette chronique—que nous pouvons commencer à saisir la portée de ces points de discussion et, avec plein d'espoir, se donner des moyens de comprendre et de désamorcer nos propres réactions.

À partir d'aujourd'hui, nous attendons avec impatience de vous lire. En espérant que vous trouverez cette chronique utile et enrichissante, nous vous invitons à envoyer vos récits de cas difficiles, vos questions ou vos commentaires à l'attention des corédactrices en chef qui nous les feront parvenir.

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Sow in spring to enjoy the fall harvest



Spring has finally arrived, although it felt doubtful for a while. As the seasons change, so CANNT is changing. Things old are now becoming new and improved. The first example of this is the *CANNT Journal*. You are now viewing our first online only journal issue—and we certainly hope you are enjoying it. Your Board of Directors strives to improve and move forward with the times. In this age of new technology and concern for the environment, we felt this was an appropriate time to make the transition to a completely electronic online journal. As you experience

this change, please feel free to share your thoughts with us, as our journal editors appreciate your feedback in order to produce our high-quality publication.

There are additional changes afoot! The *CANNT Technical Standards* have been revised and are now available on the CANNT website. The *Nursing Standards* are also under revision, and the updated version will be posted on the website in the coming months. Our dedicated Not for Profit (NFP) team continues to work diligently on our behalf preparing all the documents required for the new Not for Profit Act. These documents will be distributed to the membership for review prior to the October conference and will be discussed during the Annual General

Meeting in October 2013. The association must be in compliance with the government's new Not for Profit Act by October 2014.

Please remember the National Conference is being held in St. John's, Newfoundland and Labrador, on October 6–8, 2013. Come out and support your colleagues as they present more than 70 abstracts either through poster or verbal presentations. CANNT 2013 is promising to be a conference to remember, so consider booking your reservations now. Don't be left without a spot on the rock!

Growing membership continues to be a challenge for CANNT. Why not share your experiences with others? Plant the seed and watch it grow as we encourage our colleagues to join our wonderful organization. We need you (all of us) to get out there and encourage membership. There are many benefits to becoming CANNT members—for example: the opportunity and ability to network with colleagues from across Canada and beyond through conferences (to which CANNT members receive a registration discount), access to the full website, participation in the Refined Clinical Practice Groups; the opportunity to apply for and receive bursaries, grants or awards of excellence (which are only available to CANNT members); and the opportunity to seek positions on the Board of Directors or to act as a liaison to the VP in your region, and access to the CANNT online journal.

I leave you with an Irish proverb "If you do not sow in the spring, you will not reap in the autumn." Together we can make a difference in encouraging leadership and promoting the best in nephrology care and practice through education, research and networking. Sow the seeds now! Encourage others to join CANNT today at www.cannt.ca or call toll free at 1-877-720-2819.

NOTICE BOARD

- Ottawa Supper Clubs—contact Janet Graham, Nephrology Unit, Ottawa Hospital, jgraham@ottawahospital.on.ca
- August 31–September 3, 2013. EDTNA 42nd international Conference in Sweden. conference2013@edtnaerca.org
- September 3–November 6, 2013. Application for Canadian Nurses Association Spring Certification Exam. Email: certification@cna-aiic.ca. Website: www.cna-aiic.ca. Toll free phone number: 1-800-361-8404
- September 18, 2013. Nephrology Health Care Professionals Day
- October 6–8, 2013. CANNT 46th National Symposium. St. John's, Newfoundland and Labrador. www.cannt.ca
- April 13–16, 2014. 45th American Nephrology Nurses Association Symposium, Anaheim, California. www.annanurse.org
- April 5, 2014. Exam date for CNeph(C) Certification Exam. Contact Canadian Nurses Association Certification program, Email: certification@cna-aiic.ca. Website: www.cna-aiic.ca. Toll free phone number: 1-800-361-8404

Qui sème au printemps, récolte à l'automne



Le printemps s'est enfin pointé le nez, bien qu'il se soit laissé languir. Comme changent les saisons, notre Association change aussi. Certaines choses reprennent

vie et s'améliorent en vieillissant. Prenons par exemple le Journal de l'ACITN (*CANNT Journal*). Vous avez sous les yeux notre premier numéro électronique—et nous espérons vivement qu'il vous plaira. Votre Conseil d'administration (CA) cherche constamment à s'améliorer et à se positionner en avance sur son temps. À une époque où règnent les technologies nouvelles et les préoccupations sur l'environnement, nous sentions que le moment était venu de passer à l'ère électronique, à une publication entièrement électronique accessible en ligne. À mesure que vous découvrirez votre nouveau Journal ACITN, dites-nous ce que vous en pensez. Vos corédactrices en chef accordent une grande importance à vos commentaires afin de produire une publication de qualité supérieure.

D'autres changements sont à surveiller! Les *Normes de pratique technique de l'ACITN* ont été révisées et sont maintenant accessibles sur notre site Web. Les *Normes de pratique infirmière* sont également en cours de révision, et leur mise à jour sera affichée sur le site Web dans les prochains mois. Les membres du Comité pour la conformité à la *Loi sur les organisations sans but lucratif (LOSBL)* de l'Ontario travaillent sans relâche afin de préparer tous les documents requis pour respecter les exigences de cette loi. Ces documents seront distribués à tous les membres pour une révision avant la tenue de notre prochain congrès et feront l'objet d'une discussion au cours de l'Assemblée générale annuelle qui aura lieu en octobre prochain.

L'Association doit se soumettre à cette nouvelle loi d'ici octobre 2014.

N'oubliez pas de réserver les dates du 6 au 8 octobre 2013 pour assister au Congrès annuel de l'ACITN à St. John's, à Terre-Neuve-et-Labrador. Inscrivez-vous en grand nombre et venez encourager vos collègues qui présenteront plus de 70 exposés, que ce soit sous forme de communications ou d'affiches scientifiques. Le Congrès annuel de l'ACITN de 2013 promet d'être mémorable! Réservez dès maintenant. Ne restez pas en plan, faites partie du « Rallye sur le Roc »!

L'augmentation du nombre d'adhésions demeure un défi pour l'ACITN. Pourquoi ne pas partager vos connaissances et votre expérience avec les autres? Semons l'intérêt et encourageons nos collègues à adhérer à notre merveilleuse Association. Nous devons tous et toutes faire un petit effort et veiller au grain afin d'assurer notre croissance. Les nombreux avantages à devenir membre de l'ACITN permettent, entre autres, de réseauter entre collègues d'un bout à l'autre du

pays et bien au-delà en participant à des congrès, à des colloques ou à des séminaires (pour lesquels les membres de l'ACITN ont droit à un tarif préférentiel), d'accéder au site Web de l'ACITN, de prendre part à des groupes de travail sur la pratique clinique, de recevoir des bourses, des subventions ou des prix d'excellence (strictement réservés aux membres de l'ACITN), de convoiter un poste au sein du CA ou d'agir en qualité d'agent(e) de liaison auprès du vice-président ou de la vice-présidente dans sa région ou de recevoir le journal électronique de l'ACITN.

Je termine sur ce proverbe irlandais: « Qui sème au printemps, récolte à l'automne ». Ensemble, nous pouvons faire la différence. Encourageons le leadership et soutenons la prestation de soins meilleurs et d'une pratique exemplaire en néphrologie par l'éducation, la recherche et le réseautage. Semez à tout vent! Encouragez les autres à se joindre à l'ACITN dès aujourd'hui en visitant le www.cannt.ca ou en appelant sans frais au 1-877-720-2819.

NEW Beginning with April/June edition
CANNT Journal
 IS GOING ON-LINE

Printed journals will no longer be produced, but CANNT members can access their NEW online journal through the "members only" section on the website.

www.cannt.ca

Visit for further details



CANNT Board in Action

Marilyn Muir, RN, CNeph(C)
CANNT Past President 2012–2013

The purpose of this report is to inform our CANNT members of current and upcoming activities in which the Board of Directors (BOD) is involved. The BOD is composed of nine members: past president, president, president elect, VPs (Ontario, Atlantic, Western, Quebec and Technical), and the website/financial coordinator.

MEMBERSHIP

There are currently 440 CANNT members. CANNT is an association run by membership, and membership continues to be a challenge. There are so many benefits to being a CANNT member:

- Member access to the online CANNT journal
- Access to www.cannt.ca members-only section
- Reduced rates at the annual nephrology symposium/regional events
- Access to CANNT standards of practice (nursing) and the CANNT technical professional practice guidelines
- Promote and support specialty certification
- Provide continuing education opportunities—journal and online
- Recognize excellence in practice
- Awards, educational bursaries and research grants
- Promote evidence based practice
- Collaboration within the nephrology community.

We encourage you to maintain your yearly membership, as this assists with the long-term viability of our association.

FINANCES

- The CANNT BOD and our office administration staff continue to make every effort to curb spending, and we continue to look for cost savings so we can have a viable association.
- We continue to hold our spring board meeting via teleconference to try to keep our costs down.

- We also continue to use the Adobe Connect software, which has allowed us to have face-to-face meetings without incurring the cost of actual face-to-face meetings.
- We continue to hold our elections for Board of Director positions online; this has reduced the cost of mailing to our 400-plus members.
- We are moving to an online version of our peer-reviewed *CANNT Journal*.

STRATEGIC PLANNING

- 2012–2013 has been a year of many changes within our CANNT association, with the change in our office staff, our new journal editors, and the new changes coming to the Not for Profit Act (NFP). The BOD continues to develop our new strategic plan for 2013–2018.
- Our goals remain the same... increase membership, sustain the viability of the association, communication, education, professional practice, research, partnerships and the *CANNT Journal*.
- Our bylaws were due to be reviewed in 2012, but we have deferred this project until we are in full compliance with the new NFP Act. There are changes that will have to be made as a result of the new NFP Act, so once everything is in place, we will review our bylaws. Members will be receiving a copy of our updated bylaws later this summer, and we will need to vote to accept our bylaws at our AGM held in St. John's, NL, on October 7. So please plan on attending!

JOURNAL

- Our *CANNT Journal* is a peer-reviewed journal and is distributed to members quarterly. The journal continues to be highly recognized as a resource for all nephrology health

care professionals and is indexed through CINAHL, MEDLINE, and OVID databases.

- We encourage you to submit a research paper or article you think may be of interest to your fellow CANNT members to the journal. You can find the guidelines for authors on the CANNT website under the "CANNT Journal" section.
- Alison Thomas and Janet Baker have been doing a remarkable job as the co-editors of the *CANNT Journal*. You can email the co-editors if you have any questions or would like to discuss a potential manuscript or article: jbaker@haltonhealthcare.on.ca or thomasal@smh.ca.
- The January–March 2013 edition of the journal was the last print copy of our journal, as we have moved to the e-journal. The content of the journal will remain the same, but will only be accessible to members online through the CANNT website.

WEBSITE

- You will notice the CANNT website continues to grow and is updated regularly.
- You will find great information, and as a member, you have access to the "members only" section on the website.
- The discussion forums are a great way to share information with colleagues across Canada. These forums can be accessed under the "members only" section.
- One of the newest additions to the website is the "news from the president", which is found under the "about section—board of directors". You can read the latest message from our CANNT president Colleen Wile.
- We encourage you to renew your CANNT membership by clicking the "renew now" box on the website.

- Career opportunities and coming events can be found on the home page—and this is just the beginning of all things available—please check out the CANNT website <http://www.cannt.ca/en/index.html>
- You can also check out the different organizations that partner with CANNT on our website.

COMMUNICATION

- Communication continues to be a priority for the CANNT BOD. Communication between the BOD, our members, our corporate sponsors and our valued partners is key to maintaining a viable association.
- Our office administration has changed, but our email address has not! *Please contact us at cannt@cannt.ca, or use our toll free number: 1-877-720-2819. Sharon Lapointe will be happy to assist you.*
- We continue to disseminate information to our members through email blasts. You may also notice an email directing you to surveys that can be found on our CANNT website.
- We may have already received your copy of “The CANNT Connection”. This is an innovative new way for us to communicate with our members. This newsletter will be sent to our members monthly, and it contains important coming events, dates to remember, and other noteworthy news. It’s a way to keep members *connected* to CANNT and all of our activities.

ANNUAL SYMPOSIUM

- CANNT 2012 in Ottawa was a great success with 592 participants in total; this included 430 actual delegates from 10 provinces, three international delegates, exhibitors and faculty. We had 38 booths in our exhibit hall.
- Plans are underway for CANNT 2013 in St. John’s, Newfoundland and Labrador, where we are going to “Rally on the Rock”. This year’s theme is “New Found Realities in Nephrology Nursing and Technology”.
- Co-chairs Anne Rowsell and Cheryl Harding have their planning committee together and have already had two face-to-face meetings with our conference planner Heather Reid. We hope to see you all there!

STANDARDS OF PRACTICE

- The CANNT technical professional practice guidelines (technical standards) have been updated, and have been posted to the CANNT website. Thank you to the members who contributed to the review and changes. The technical guidelines were due for review in 2012.
- The CANNT nursing standards will be reviewed in 2013. Please contact the CANNT national office or one of the BOD members if you are interested in being a part of the nursing standard review.
- Both the technical guidelines and nursing standards can be found on the CANNT website under the heading “Standards of Practice”.

AWARDS, BURSARIES AND GRANTS

- Information on the CANNT awards and bursaries available can be found on the CANNT website under the “resources” tab.
- There is more than \$26,000 available to our CANNT members.
- The deadline for applications is May 1st annually. A new addition to the application process this year is for you to submit a picture *with* your application.
- You will have an opportunity to meet the award winners at CANNT 2013 in St. John’s, Newfoundland and Labrador, October 6–8, 2013.

NOMINATIONS COMMITTEE

- The call for nominations for Board of Director positions deadline was May 15, 2013.
- Positions available this year are: president-elect, website coordinator/treasurer, VP Atlantic and VP Quebec.
- Being on the CANNT Board of Directors is a very rewarding opportunity, and is a great way to meet new colleagues, contact and friends. Please consider applying for one of our vacant positions.
- You will have an opportunity to meet our new in-coming board members in St. John’s.

CANADIAN NURSES ASSOCIATION (CNA)

- 226 of our CANNT members are members of the Canadian Nurses Association, and 1,192 nurses are certified in nephrology across Canada.
- Professional certification demonstrates your commitment to the nephrology profession, and our association (CANNT) encourages all nephrology nurses who meet the certification criteria to write the CNA exam.
- We wish the best of luck to all the nurses who wrote the nephrology certification exam on April 20, 2013.
- Once again, we offered a pre-symposium workshop on writing the CNA exam in Ottawa. This pre-symposium was offered in both English and French; both sessions were well attended. This workshop will also be available at our 2013 conference in St. John’s.
- As the CNA representative for CANNT, I will be joining in on all teleconferences involving the “specialty network”. This is where specialty areas (nephrology is only one of more than 40) across Canada discuss issues affecting their specialty and nursing in general. This is an excellent forum for sharing information.

NEPHROLOGY HEALTHCARE PROFESSIONALS DAY

- Nephrology Healthcare Professionals Day is held the third Wednesday of September, annually.
- Our theme for Nephrology Healthcare Professionals Day is “together we make a difference”.
- This year we will celebrate September 18, 2013—watch for the poster to promote this year’s NHCP day!

CANNT OFFICE OPERATION

- Effective November 1, 2012, Innovative Conferences and Communications have taken over as our new association office managers. Sharon Lapointe is our contact person for CANNT, and she can be reached at cannt@cannt.ca or by calling our toll free number: 1-877-720-2819.



Votre CA en action

Marilyn Muir, inf. CNéph(C)
Présidente sortante de l'ACITN 2012–2013

Le présent rapport consiste à vous informer, vos les membres de l'Association canadienne des infirmières et infirmiers et des technologues de néphrologie (ACITN), sur les activités en cours et à venir de votre Conseil d'administration (CA). Le CA est composé de neuf membres : la présidente, la présidente sortante, la présidente élue, les quatre vice-présidentes et vice-présidents régionaux (Ouest canadien, Ontario, Québec et Atlantique), le vice-président de la Technologie et la coordonnatrice du site Web/trésorière (fonction combinée).

ADHÉSION

Nous comptons actuellement 440 membres. La viabilité de l'ACITN dépend du nombre de membres, et l'adhésion est un défi perpétuel. Il y a de nombreux avantages à devenir membre de l'ACITN :

- accès en ligne au Journal de l'ACITN (CANNT Journal);
- accès à la section réservée aux membres sur www.cannt.ca;
- tarifs réduits pour l'inscription à des congrès annuels de néphrologie et à des événements régionaux;
- accès aux normes professionnelles et aux lignes directrices de l'ACITN en matière de pratique infirmière et de pratique technique;
- soutien dans l'obtention d'un agrément pour une spécialité;
- accès à des occasions de formation continue—par le Journal et en ligne;
- reconnaissance de l'excellence dans la pratique;
- octroi de prix, de bourses d'études et de subventions de recherche;
- promotion de la pratique fondée sur des données probantes;
- collaboration dans la communauté de la néphrologie.

Nous vous encourageons à renouveler annuellement votre adhésion, ce qui permet de maintenir la viabilité à long terme de notre Association.

FINANCES

- Les membres du CA et le personnel administratif continuent d'exercer une gestion serrée des dépenses. Nous cherchons sans cesse des façons d'économiser afin de maintenir notre viabilité.
- Nous continuons de tenir notre assemblée printanière par conférence téléphonique pour tenter de réduire nos coûts d'exploitation.
- Nous privilégions également l'utilisation du logiciel Adobe Connect, qui nous permet d'organiser des cyberconférences sans engager les coûts associés aux réunions en personne.
- Nous continuons de tenir en ligne l'élection des membres du CA, ce qui contribue à réduire de façon importante les frais postaux qu'auraient engendrés les envois à nos 400 membres et plus.
- Nous passons à une version électronique offerte en ligne de notre Journal de l'ACITN, revue à comité de lecture.

PLANIFICATION STRATÉGIQUE

- L'exercice 2012–2013 a été marqué par de nombreux changements au sein de notre Association, plus particulièrement l'arrivée en poste du nouveau personnel administratif, la nomination des nouvelles corédactrices en chef du Journal de l'ACITN et la création d'un Comité pour la conformité à la Loi sur les organisations sans but lucratif (LOSBL) de l'Ontario.
- Le CA dressera un nouveau plan stratégique quinquennal pour 2013–2018.
- Nos objectifs demeurent les mêmes, à savoir l'augmentation du nombre de membres (adhésion), le maintien de la viabilité de l'Association, la communication, l'éducation, la pratique professionnelle, la recherche, l'établissement de partenariats et la publication du Journal de l'ACITN.

- Nous devons réviser nos règlements administratifs en 2012, mais nous avons repoussé ce projet jusqu'à ce que nous satisfassions pleinement aux exigences relatives à la LOSBL. Dès que nous serons conformes à cette loi, nous réviserons nos règlements administratifs. Nous ferons parvenir une copie révisée de ceux-ci à l'ensemble de nos membres plus tard au cours de l'été. Nous devons adopter par scrutin les nouveaux règlements à notre Assemblée générale annuelle (AGA) qui aura lieu à St John's, Terre-Neuve-et-Labrador, le 7 octobre prochain... Nous comptons sur votre présence!

JOURNAL

- Le Journal de l'ACITN (CANNT Journal) est une publication à comité de lecture qui est publiée trimestriellement. Cette source d'information est prisée par les professionnels en néphrologie et est indexée dans les principales bases de données : CINAHL, MEDLINE et OVID.
- Nous vous encourageons à soumettre aux corédactrices en chef vos articles ou vos rapports de recherche qui pourraient présenter un intérêt pour vos collègues. Sur notre site Web, vous trouverez sous la rubrique « Journal de l'ACITN » (CANNT Journal) les lignes directrices à l'intention des auteurs.
- Alison Thomas et Janet Baker ont fait jusqu'à présent un travail remarquable en qualité de corédactrices en chef. Si vous avez des questions ou désirez leur parler d'un article ou d'un manuscrit que vous souhaitez publier, n'hésitez pas à communiquer avec elles à jbaker@haltonhealthcare.on.ca ou à thomasal@smh.ca.
- Le numéro de janvier-mars 2013 était le dernier sous format papier...

nous passons à l'ère électronique. Le contenu du Journal de l'ACITN demeure le même, mais il sera désormais offert uniquement en ligne sur notre site Web.

SITE WEB

- Vous remarquerez que notre site Web continue de prendre de l'expansion et qu'il est mis à jour régulièrement.
- Vous y trouverez une excellente source d'information et, en tant que membre, vous avez accès à la section réservée aux membres.
- Les forums de discussion sont une excellente plateforme pour partager de l'information avec ses collègues au Canada. Vous pouvez accéder à ces forums dans la section réservée aux membres.
- Le site présente une nouveauté: le « Mot de la présidente ». Vous le trouverez sous la rubrique « À propos de l'ACITN » (About), puis sous l'onglet « Conseil d'administration » (Board of directors). Vous pouvez y lire le dernier message de la présidente, Colleen Wile.
- Nous vous encourageons à renouveler votre cotisation en cliquant sur la boîte « Renouveler maintenant » (Renew now) qui se trouve sur la page d'accueil.
- Vous pouvez consulter les offres d'emploi et les événements à venir sur la page d'accueil. Ce n'est là qu'un aperçu de ce qui est accessible. Pour plus d'info, rendez-vous sur <http://www.cannt.ca/en/index.html>.
- Vous pouvez également consulter l'information sur les différentes organisations qui font équipe avec l'ACITN.

COMMUNICATION

- La communication est toujours une priorité pour le CA. La communication entre le CA et ses membres, commanditaires et partenaires est la clé du succès pour maintenir la viabilité de notre Association.
- Notre bureau a changé d'adresse, mais notre adresse électronique demeure la même! Vous pouvez communiquer avec nous par courriel à cannt@cannt.ca ou par téléphone

en composant le numéro sans frais 1-877-720-2819. Sharon Lapointe sera heureuse de vous aider.

- Nous continuons de transmettre l'information à nos membres par voie de publipostage électronique collectif. Vous avez sûrement reçu un courriel vous dirigeant vers des sondages hébergés sur notre site Web.
- Vous avez également reçu votre exemplaire du bulletin d'information « The CANNT Connection ». Il s'agit pour nous d'une nouvelle façon de communiquer avec nos membres. Ce bulletin vous sera envoyé tous les mois et contient des renseignements importants sur les prochaines activités, les dates à se souvenir et autres nouvelles importantes. C'est une façon de tenir les membres « branchés » sur l'ACITN et ses activités.

CONGRÈS ANNUEL

- Le Congrès annuel de l'ACITN de 2012, qui s'est tenu à Ottawa, a été un franc succès avec ses 592 participants au total, dont 430 provenaient des 10 provinces canadiennes et 3 d'ailleurs dans le monde, en plus des exposants et des conférenciers. Nous avions 38 stands dans la salle des exposants.
- Les préparatifs vont bon train pour le Congrès annuel de l'ACITN de 2013 à St. John's, à Terre-Neuve-et-Labrador. L'endroit idéal pour un « Rallye sur le Roc » (Rally on the Rock). Cette année, nous avons choisi le thème suivant: « Réalités nouvelles dans les soins infirmiers et les technologies en néphrologie » (New Found Realities in Nephrology Nursing and Technology).
- Anne Rowsell et Cheryl Harding, coprésidentes du congrès, ont mis sur pied un comité organisateur. Deux rencontres ont déjà eu lieu avec Heather Reid, notre organisatrice d'événements. Nous espérons que vous serez des nôtres!

NORMES DE PRATIQUE

- Les lignes directrices de l'ACITN en matière de pratique technique professionnelle (normes de pratique technique) ont été révisées et elles

sont accessibles sur le site Web. Merci aux membres qui ont collaboré à cette édition, revue et corrigée. Les lignes directrices devaient faire l'objet d'une révision en 2012.

- Les normes de pratique infirmière seront révisées en 2013. Veuillez communiquer avec le bureau national de l'ACITN ou l'un des membres du CA si vous souhaitez faire partie du Comité de révision des normes de pratique infirmière.
- Les normes de pratique infirmière et de pratique technique sont accessibles en ligne sur notre site Web, sous l'onglet « Normes de pratique » (Standards of Practice).

PRIX, BOURSES ET SUBVENTIONS

- Vous trouverez sous l'onglet « Ressources » (Resources) du site Web de l'ACITN toute l'information relative aux prix, aux bourses et aux subventions.
- Il y a un fonds de plus de 26 000 \$ qui est réservé aux membres de l'ACITN.
- La date limite pour déposer vos candidatures est le 1^{er} mai. Dans le cadre du processus d'inscription, vous devrez dorénavant ajouter une photo à votre candidature.
- Vous aurez la chance de rencontrer les gagnants au Congrès annuel de l'ACITN de 2013, à St. John's, Terre-Neuve-et-Labrador, du 6 au 8 octobre 2013.

COMITÉ DES MISES EN CANDIDATURE POUR LE CA

- La date limite pour soumettre votre candidature au CA est le 15 mai 2013.
- Les postes vacants cette année sont: président(e)-élue(e), trésorier(ière)/coordonnateur(trice) du site Web, v.-p. de l'Atlantique et v.-p. du Québec.
- Faire partie d'un CA est une occasion très gratifiante et une excellente façon de rencontrer de nouveaux collègues, contacts et amis. Nous vous invitons à poser votre candidature à l'un des postes vacants.
- Nous vous présenterons le nouveau CA au Congrès annuel de 2013, à St. John's.

ASSOCIATION DES INFIRMIÈRES ET INFIRMIERS DU CANADA (AIIC/CNA)

- Au sein de l'ACITN, nous comptons 226 membres qui sont membres de l'AIIC. Près de 1292 infirmières et infirmiers sont agréés en néphrologie au Canada.
- L'agrément professionnel témoigne de votre engagement envers la profession infirmière en néphrologie. Notre Association encourage toutes les infirmières et tous les infirmiers œuvrant en néphrologie, qui satisfont aux critères de l'agrément, à s'inscrire à l'examen de l'AIIC.
- Nous tenons à féliciter toutes les infirmières et tous les infirmiers qui se sont inscrits à l'examen du 20 avril 2013 et qui ont obtenu leur agrément.
- Une fois de plus, nous avons présenté un atelier de préparation à l'examen d'agrément en avant-première du Congrès annuel de l'ACITN de 2012, à Ottawa. L'atelier a été offert

en anglais et en français. Les deux séances ont fait l'objet d'une bonne assistance. Cet atelier sera également offert dans le cadre du Congrès annuel de 2013, à St. John's.

- À titre d'agente de liaison de l'AIIC pour l'ACITN, je participerai à toutes les téléconférences engageant le «réseau des spécialités». Il s'agit d'une plateforme qui permet à tous les délégués des domaines de spécialité (la néphrologie n'est qu'une spécialité parmi 40) au Canada de discuter des enjeux qui touchent leurs activités et leur personnel infirmier en général. C'est un excellent forum de discussion pour échanger de l'information.

JOURNÉE DES PROFESSIONNELS DE LA SANTÉ EN NÉPHROLOGIE

- Tous les ans, la Journée des professionnels de la santé en néphrologie se tient le troisième mercredi de septembre.

- Le thème de 2012 était : « Ensemble, nous pouvons faire la différence » (Together we make a difference).
- Cette année, nous soulignerons cette journée le 18 septembre 2013—surveillez l'affiche pour promouvoir dans vos unités respectives la Journée des professionnels de la santé en néphrologie!

SERVICES ADMINISTRATIFS

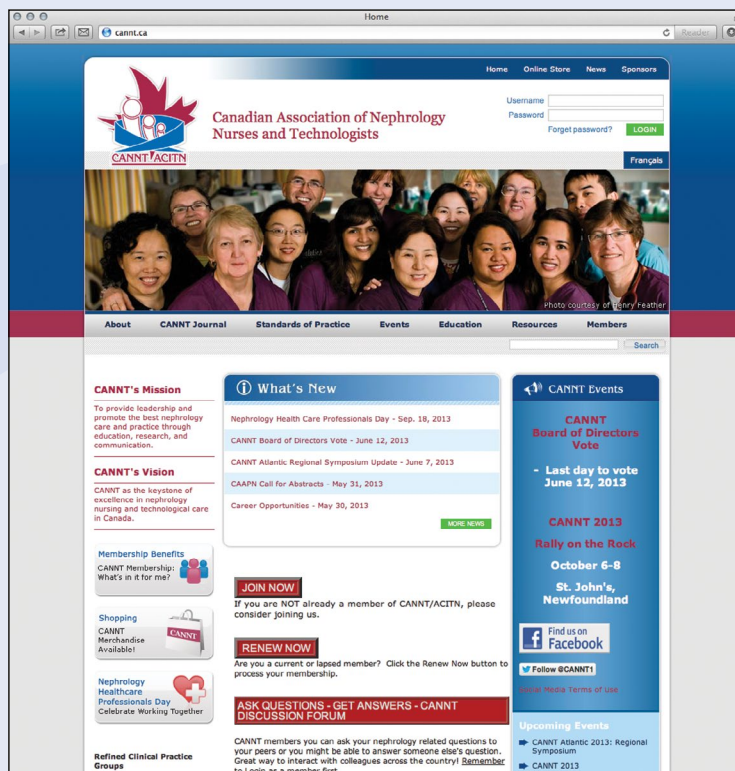
- Depuis le 1^{er} novembre 2012, l'agence Innovative Conferences and Communications a pris la relève à titre de nouveau gestionnaire administratif de notre Association. Sharon Lapointe est notre personne ressource pour l'ACITN. Vous pouvez la joindre à cannt@cannt.ca ou en appelant au numéro sans frais au 1-877-720-2819.

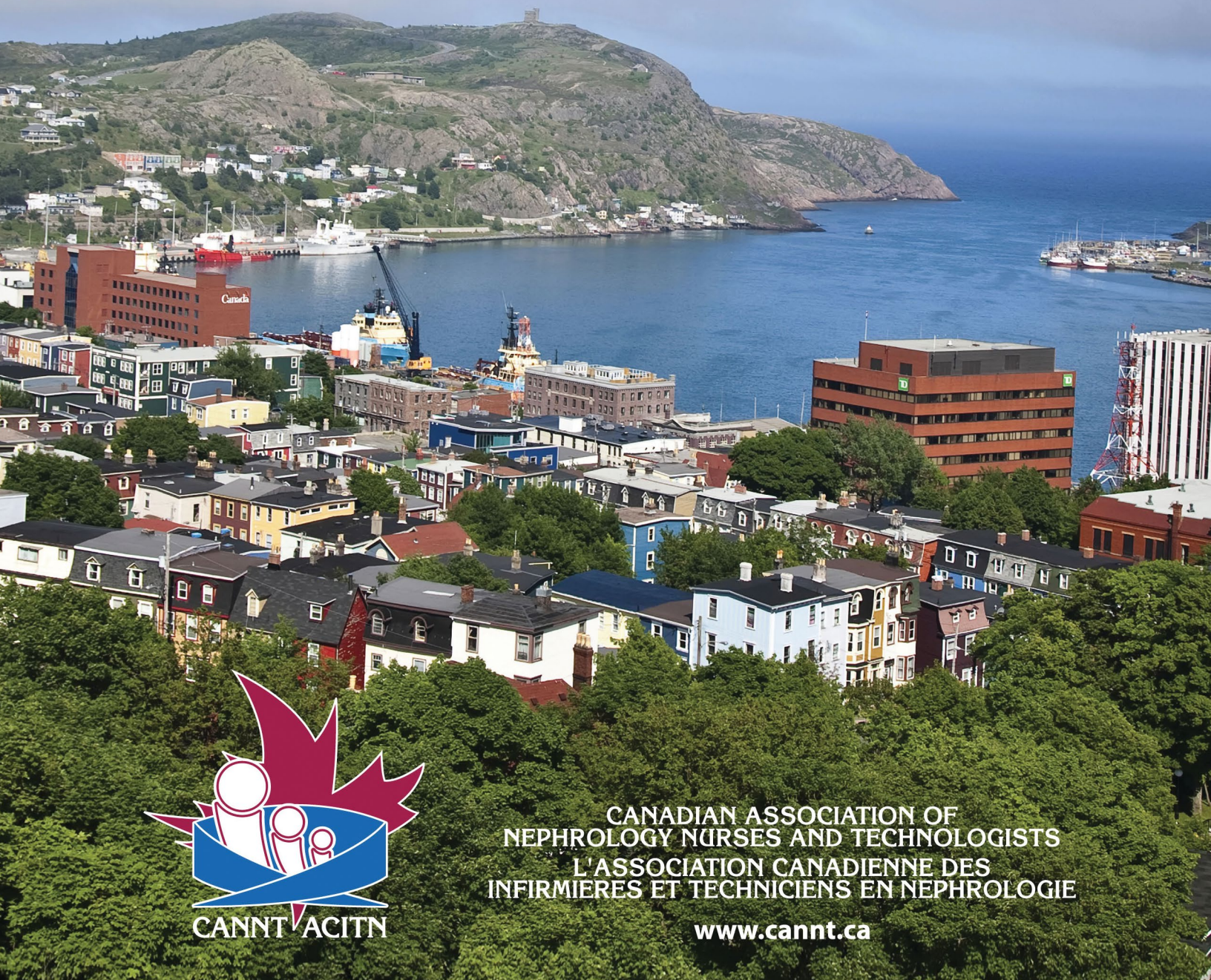
“Stay in the Know” at www.cannt.ca

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 2013 details and updates

Join or renew your CANNT membership online today at www.cannt.ca!





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

www.cannt.ca



RALLY ON THE ROCK AT CANNT 2013!

October 6–8, 2013 • St. John's, NL

This year's conference promises nephrology professionals... nurses, technologists, administrators, researchers, pharmacists and more... many opportunities to learn, share, network, discuss and socialize together.

Experience all that CANNT 2013 has to offer:

- Share in the plenary addresses: be inspired towards peak performance, re-affirm your call to your profession and incorporate leading edge science into your everyday work!
- Choose from more than 50 concurrent sessions and workshops suited to all interests... with topics ranging from nutrition, transplantation, modes of dialysis, infection control, technology, research and much, much more.
- Learn from more than 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 "RALLY ON THE ROCK"! Hosted in Newfoundland and Labrador's capital city of St. John's, this conference will re-energize, motivate and engage you!

Register today! CANNT 2013 information is available as follows:

1. Printed brochure available by contacting Innovative Conferences & Communications: Susan Mason: susanm@innovcc.ca, 519-652-0364 (phone)
2. Downloadable brochure online at www.cannt.ca
3. Program, abstracts, online registration and secure payment online at www.cannt.ca

We are excited to welcome Canadian nephrology professionals to Newfoundland and Labrador! Come and join our RALLY ON THE ROCK!

ABSTRACTS

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

CANNT's annual symposium 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 publish the abstracts for presentation at **CANNT 2013** in both oral and poster format in this 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 519-652-6767 or 1-877-720-2819 or cannt@cannt.ca to receive information regarding how to contact the author about the work.

We encourage you to carefully review these abstracts!

Alison Thomas and Jan Baker
Co-Editors, CANNT Journal

ORAL ABSTRACTS

Identifying Sources of Decisional Conflict in Patients Choosing A CKD Treatment Option

David Landry, MN, RN, NP, CNeph(C), Halifax, NS

Objectives: This study was conducted to determine whether decision-making tools help patients, families and health care professionals align treatment options to individual priorities and preferences.

Methods: A quasi-experimental evaluation study was conducted to examine uncertainty related to choice for ESRD treatment options. Patients with Stage 3–5 CKD were provided with an education program (Standard Care) to help make a decision regarding the best treatment option.

To determine decisional conflict, the SURE tool (four-item scale) was administered, followed by the 16-item Ottawa decisional conflict scale. Answering “yes” to all four questions on the SURE tool indicates no decisional conflict, whereas one or more “no” answers indicates uncertainty. All participants then completed the 16-item Ottawa decisional conflict scale. This second questionnaire contains three subcategories to determine decisional conflict. The three subcategories are decision uncertainty, factors contributing to uncertainty, and perceived satisfaction with decision making.

Results: Overall, 34% of participants experienced conflict when choosing a treatment option for CKD. The longer 16-item questionnaire discriminated that 62% of participants were conflicted about benefits/risks and side effects of available options. The five-item and 16-item questionnaires differ in determining decisional conflict (when compared, the five-item identified 20% conflict whereas the 16-item indicated 40% conflict in same individuals). Study results indicate that there is no association among demographic variables and conflict among treatment choices.

Conclusions: In summary, this study suggests that people make treatment choices without being fully informed about potential risks and benefits. Identifying areas of uncertainty appears to be an important health care intervention that reduces conflict related to treatment options.

Access Challenges: Local Solutions

Richard (Rick) Luscombe, RN, BSN, CNeph(C), Vancouver, BC

Vascular access is the cornerstone of hemodialysis. Patients have limited sites for an access to be created. Maintaining the patency of a vascular access in the hemodialysis patient can be a challenge.

Through the use of case studies, this presentation will review problematic accesses and the use of traditional and unconventional medical, radiological and surgical interventions to maintain patency, resolve complications, and extend the life expectancy of the existing access. Implications to nursing physical and clinical assessment will be reviewed pre- and post-intervention.

Culture Conundrum

Jane Ridley, RN(EC), MSN, CNeph(C), Gail Barbour, RN, CNeph(C), Val Cameron, RN, Carolyn Ingram, RN, BSc, CNeph(C), and Dennis Smith, RN(EC), MN, London, ON

The Ontario Renal Network mandates improved quality of care for and strengthened accountability to patients (Ontario Renal Network, 2012). We consider part of this to be providing the best dialysis environment for each patient.

There are two hospital-based hemodialysis (HD) units and a community-based satellite HD unit in our city. The satellite unit is part of a larger centre, which houses the pre-dialysis clinic, as well as the Home HD (HHD) and Peritoneal Dialysis (PD) units.

The hospital units provide HD to both chronic and acute patients. Stable healthy outpatients dialyze beside less well inpatients. We believe that the satellite unit provides a healthier psychological environment for stable patients; an environment that better promotes independence and self-management. The proximity of this unit to the HHD and PD programs facilitates patients having exploratory discussions with these teams about home therapy.

We have found that many patients—particularly those who begin dialysis on an urgent basis—quickly become attached to the hospital unit and staff. They often respond negatively to transfer to the satellite dialysis unit and are reluctant to engage in learning activities or consider home-based dialysis.

The purpose of this project was to engage in current and future state mapping to identify barriers and facilitators to transfer, learning activities, and referrals to home dialysis modalities. Information obtained from this process will be used to identify how we can promote a change in our unit's culture to provide education and promote the best dialysis venue for patients.

Technology and the Technologist

Rejean Quesnelle, Renal Technologist, ASCt, Oakville, ON

Technology and the Technologist takes a comprehensive look back on 70 years of dialysis technology and the transformation of the role of the technologist. This presentation will highlight key technological innovations of the





past, the effect on present technology, and trends for the future. It will also examine the role technologists played and what future roles may look like. The topics covered are: history of dialysis technology, current dialysis technology, next-generation dialysis equipment (HDF), new home dialysis equipment, wearable dialysis devices, nano-technology and the role of the renal technologist.

On-Line Hemodiafiltration: What Is It, How Does It Work and Do Patients Really Feel Better?

Laurie Tomiuk, RN, BScN, CNeph(C), and Susan Wolfram, RN, Sudbury, ON

Does *on-line* hemodiafiltration (HDF) benefit patients over conventional hemodialysis or hemodiafiltration?

Since the use of hemodialysis for the treatment of renal failure, there have been many changes in dialyzer design and technology, but the underlining principle remains the same—diffusion/convection of “waste products” through a semi permeable membrane. Uremic symptoms in dialysis patients may result from the retention of substances in the middle molecule size range. Conventional hemodialysis does not do a good job at clearing middle molecules. Therefore, uremic toxins persist causing uremic symptoms in some patients.

Today, in this constantly evolving, high-technology world, ongoing development of new ways to deliver hemodialysis for the benefit of hemodialysis patients is a continuous process. One “new found” way to deliver hemodialysis that has recently emerged to clear middle molecule toxins in the hemodialysis patient is on-line hemodiafiltration (HDF).

This presentation will provide an overview of Health Sciences North (Sudbury) dialysis unit’s preliminary findings/experience of on-line hemodiafiltration (HDF), does it really benefit the patient? We will share our experience highlighting our own history with first HDF, and now with on-line HDF. We will include: a definition, how it works, patient criteria, supplies required, staff education, cost, our evaluation process, issues/challenges encountered, patient outcomes, patient testimonials, and will outline some further questions that need to be investigated.

“New Found” Reality Through the Promotion of Professional Practice

Billie Hilborn, RN, CNeph(C), BScN, MHSc, Nicole Di Paolo, RN, BScN, CNeph(C), and Michelle Hladunewich, MD, BSc(med), MSc, FRCP(C), Toronto, ON

A state of status quo and complacency was the driving force to create and systematically develop a series of Best Practice Teams (BPTs) to promote interprofessional practice and quality care grounded in current evidence and CANNT Nursing Practice Standards (2008).

In-depth planning took place to ensure BPTs would operate in very structured and similar formats to enhance effectiveness and maintain consistency. Team design included the support and engagement of nephrologists, pharmacists, social workers, dietitians, and nurses.

Each team had: terms of reference; roles and responsibilities matrix; clear goals; achievable deliverables; target dates; process and outcome indicators; scheduled meetings; and protected time.

Successes, challenges, and shifting priorities occurred as the documentation, vascular access, advance care planning, and policy and clinical practice BPTs were launched. Evaluation and outcomes are monitored by each team in an ongoing manner, primarily for internal, but also for external purposes. For example, as the vascular access BPT was being launched, the timing was right to align the local plan with initial goals set by the Ontario Renal Network (ORN) for 2012-2015. Our VAPBT makes regular performance measurement contributions to the data flowing into ORN’s central repository. Although nurses might be considered primary drivers of performance change, collaboration with members of the interprofessional nephrology team was fundamental.

New-found persistence, perseverance, and passion have enabled members of the interprofessional team to strive for excellence. Deeply rooted in our culture is an insatiable appetite for knowledge; this has contributed to evolving expertise in the delivery of quality care.

Medication Reconciliation—The Dialysis Tsunami

Maryann Gadawski, RPh, PharmD, and Dianne Kimball, RN, Kawartha Lakes, ON

Objectives: To improve the process of medication reconciliation between outpatient dialysis units, as well as following inpatient discharge from a healthcare facility into the community. To demonstrate the impact of involving a nurse and a pharmacist in this process.

Have we covered all the hurdles? That is the question!

Background: Numerous patient safety initiatives have been developed to prevent adverse drug events throughout health care organizations. According to the Canadian Adverse Events Study (2004), medication use was the second most common reason for adverse events. Medication reconciliation at transitions of patient care has been demonstrated to prevent adverse drug events and is, therefore, a “Required Organizational Practice” with

Accreditation Canada. The medication reconciliation process is essential for patients with complicated medication regimens, such as chronic renal failure patients on dialysis, in order to prevent medication-related errors or injuries.

Purpose: To look at the hemodialysis medication reconciliation process on transfer between our unit and other treatment centres, as well as following an inpatient discharge from a health care facility. Specifically, the types of discrepancies occurring most commonly will be looked at, as well as the time associated with resolving these discrepancies. What can we do to prevent medication-related errors? How can the communication process between our community partners, community pharmacies and our patients be improved?

Method: A full chart review of the last 15 patients discharged from a health care facility or transferred from another dialysis unit will be done in order to identify the medication-related discrepancies that were encountered while performing a primary nursing medication history and/or a pharmacy best possible medication history (BPMH). Data will be collected from community pharmacies, long-term care facilities, other dialysis units, and patients, as well as from points of discharge into the community. Data will be reviewed to identify the number and type of discrepancies encountered and the time associated with clarifying these discrepancies. Sections where the process is going well will also be identified in addition to the areas requiring improvement.

Results: Data will be gathered to determine whether the dialysis unit is meeting hospital standards and achieving comparable results with the other hospitals in the regional program. Data will be assessed to determine the impact on patient care, nursing, pharmacist and physician time, and how the medication reconciliation process can be improved upon.

Conclusions: A successful medication reconciliation process not only decreases the rate of medication errors, but also reduces the work and re-work that is associated with the gathering of information during the critical interfaces of care: admissions, transfers and discharges. The quality of any medication reconciliation process needs to be continually evaluated in order to ensure that a hospital gold standard is being met and that positive patient outcomes are being achieved.

Implications for nephrology care: Current practice in our dialysis unit is to review patient medications within two to seven days of a transfer or discharge by a registered nurse followed by a complete review by our part-time pharmacist. All medication-related information is reviewed from points of transfer or discharge, as well as from the patient, community sources and health portals. Are we making full use of the technology available to assist with the medication reconciliation process? Each unit needs to ensure that the quality of their process meets hospital standards, and that we are communicating and using the information appropriately to further enhance the patient care process.

The Power of Youth: A High School Outreach Initiative Educating Youth About Organ and Tissue Donation and Transplantation

Galo Meliton, RN, CNeph(C), Stephanie So, BScPT, Andrea Norgate, RN, BScN, ENC(C), Kathryn Breckbill, David Grant, MD, FRCSC, and Vicky Ng, MD, FRCP(C), Toronto, ON

Background: Social change is driven and achieved by the power of youth. Broadening their exposure to the topic of organ donation and transplantation (ODT) could spark their passion and social conscience and positively impact their support for organ donation. More than 10% of Canada's population is between the ages of 15–24. Most youth lack the needed knowledge about ODT to make informed, personal decisions about registering consent.

Goal: To increase knowledge and awareness about ODT to youth within a large Canadian city through presentations in classrooms and assemblies at secondary schools. To engage teachers in the use of curriculum on ODT within the classroom setting.

Method: A pilot project was initiated in the 2011–2012 school year, as a joint partnership with health care providers (HCP) from three large organ transplant programs within adult and pediatric academic health science centres and the provincial organ donation agency (ODA). Engaging presentations were given by an HCP, an ODA representative and an organ recipient.

Results: More than 90 HCPs volunteered to participate in training sessions to be guest speakers comprising physicians, nurses, and allied health professionals across all organ groups. A total of 55 presentations were given at 35 schools between March and June 2012, reaching more than 6,000 students. Pre- and post-survey results will be discussed in this oral presentation.

Conclusion: Educating youth within the school system increases their awareness about ODT and has the potential to positively impact organ donation rates.





Quantifying Technical Support Requirements for a Home Hemodialysis Program

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

The benefits to patients of home hemodialysis are many and have been proven in several studies. One of the main benefits patients gain is in not having to travel to the local dialysis centre. The travel time benefit for home patients, however, adds additional workload for the technical support team. When starting a home hemodialysis program it is difficult to calculate these support needs, and extrapolation from an in-centre support model may result in inaccuracies that underestimate the resources required to provide a safe and efficient level of support in the home.

This presentation will cover the following areas and provide a range for the required support level and justifications for these requirements: storage space, technical work space, tools, parts inventory, staffing levels, transportation, parking and access, communications equipment and processes, spare equipment and technical skillsets of employees. We also will survey many home hemodialysis providers in Canada and present and discuss the results of that survey. The survey will cover what resources Renal Technologists believe they require versus what resources they actually have.

Dialyzing in the Wild! Supporting Home Hemodialysis Patients in Remote Communities

Mary Lewis, BScN, CNeph (UK), and Sarah Thomas, BSN, CNeph(C), Vancouver, BC

Dialysing in the remote parts of British Columbia (BC) and Yukon Territory (YT) has many challenges. This poster presentation will detail two case studies. It will explore the lives of two spirited home hemodialysis (HHD) patients who live in remote communities and how they have managed their care over the past four years. Patient 1 is from Dawson City, YT. He lives 2,500 km away and requires two days of air travel to the closest dialysis unit. Patient 2 lives in Bella Bella, B.C. She lives 650 km away from the dialysis unit and is only accessible by ferry and land (15 hrs) or by one daily weather-dependent flight.

The experience of developing provincial strategies, policies and procedures to safely and effectively care for remote patients will also be outlined. These include telehealth, home visits, strong vendor support and building relationships with family members and local health care providers.

Their stories are an inspiration to the renal community and highlight the value and importance of offering patient choice. They also help to dispel the misconception that patients who live far away from the dialysis unit are not suitable for home hemodialysis.

Challenges in Peritonitis: Case Reviews

Elizabeth (Betty) Kelman, RN-EC, Med, CNeph(C), Toronto, ON

Purpose: Peritonitis presents a challenge in the care of patients on peritoneal dialysis. Generally, peritonitis is treated by algorithm. However, occasionally, patients do not “behave” the way the algorithm suggests. The purpose of this presentation is to review three cases that posed unique challenges in management.

Description: Three case presentations will be discussed, including one on mycobacterium abscesses and two on polymicrobial peritonitis. The patients’ presentations, courses and outcomes will be reviewed. Alternative approaches to management will be discussed with respect to the overall goals of care.

Evaluation/outcomes: From clinical presentation to resolution, there were many interesting findings, which led the team in different directions, including unusual organisms, hemoperitoneum and yeast. Each finding is discussed, as well as the approach taken and lessons learned.

Implications for nephrology practice: Nephrology nurses and clinicians must remain astute to recognize diversions from the usual pathway for treating patients with peritonitis. The partnership between patient and nurse is the most important link to support and diagnosis. These case reviews will explore alternative approaches to management based on a holistic approach to patient care.

Responsiveness of the Patient’s Perception of Life on Hemodialysis Scale

J. Creina Twomey, PhD, RN, Christine Way, PhD, RN, Patrick Parfrey, MB, BCh, MD Cork, MRCP, FRCPC, David Churchill, BSc, MD, MSc FRCPC, FACP, DABIM (Hamilton, ON), and Brendan Barrett, MB, MSc, FRCPC, St. John’s, NL

Purpose: To assess hemodialysis (HD) patients’ physical health, social supports, and psychosocial health. To examine the interrelationship among patients’ experiences, demographics, illness characteristics, and biochemical indicators.

Methods: Using a longitudinal design, the PPHS’s ability to reflect a change in 85 HD patients’ characteristics at two time periods was examined. Data analysis included measures of central tendency, parametric and nonparametric tests of difference.

Results: Significant differences were noted when subscales were examined in relation to time on HD, reason for admission to hospital, number of admissions, illness severity, number of co-morbid illnesses, age, albumin, patients with congestive heart failure on exertion, new angina, and unstable angina. There were no significant changes in the five PPHS subscale scores between measurement times and no significant differences in the subscale scores when patients were divided into subgroups based on gender, cause of end stage renal disease, living arrangements, hospitalization, hemoglobin, urea clearance or phosphate levels.

Conclusion: Findings from this examination of the PPHS's ability to respond to a change in HD patients' physical health, social supports, and adjustment and the interrelationship among some of the patients' experiences, demographics variables, and physical health was supported. Further research is required to assess the PPHS's sensitivity. The instrument is a reliable and valid tool to measure predictors of quality outcomes in this disease specific population.

Implications for practice: It is imperative that health care professionals assess not only their patients' physical health, but also their psychosocial well-being. The PPHS may be used in practice to estimate changes in various HD patients' characteristics.

"PRICELESS" Gems from the North... Shared Successes in Growing a Home Peritoneal Dialysis Program

Francoise (Fran) David, RN, CNeph(C), and Michelle Hicks, RN, Timmins, ON

Background and purpose: Patients should be provided an opportunity to manage their disease. The move toward independent home peritoneal dialysis has been recognized as a beneficial, patient-focused and cost-effective modality of choice for the renal patient group. Since the establishment of the Kidney Care Services in 1997, at Timmins and District Hospital, Timmins, ON, a strong interest and commitment to the advantages of peritoneal dialysis have made access to this renal replacement modality our vision.

Description: Realizing the "North's" higher rate of diabetes, heart disease, poverty, geographical challenges and the need to maintain wellness and autonomy, while providing high-quality, renal failure management, led to the development and implementation of strategies for the delivery of these services in our northern region.

Early referral to nephrology, initial assessment and triage of referrals, early patient education for making fully informed dialysis modality choices, have been the key factors leading and encouraging patients to use PD; timely PD catheter insertion, early dialysis initiation, and individualized patient support are key to retention.

Outcomes: Innovative utilization of limited human resources (thinking outside of the box) and a dedicated team of nephrology health care professionals have enabled

us to improve and provide safe, quality care at home. Since 2007, we have attained and sustained PD volumes greater than 30%. The provincial expectation for PD/home modality volumes is 40% by 2015.

Implications for nephrology practice: As renal care providers, it is our responsibility to be innovative in our approach to the provision of that care. Once we are familiar with the patient's individual needs, a trusting partnership is established resulting in someone independent, happy and successful at home. Sharing experiences and "valuable gems that have been mined over time" makes everyone richer in their work, as nurses and clinicians.

Dialysis in the ICU

Heidi Ziegler, RN, BScN, CNeph(C), Kitchener, ON

As an educator for a large renal program, it is my responsibility to provide training and education to our nurses who have to perform hemodialysis on our critically ill patients.

This practice could be in the form of a routine inpatient in the ICU or, perhaps, called in as an emergency case during the off hours of our renal unit. In either case, it may provide unwanted stress and anxiety to the nurse doing these types of treatments.

It has been my ultimate goal to alleviate the stress and make our nurses feel as though this is second nature and to provide a clear, well defined role of a hemodialysis nurse, as a whole, not just in an outpatient clinic setting. My role is to provide a presentation that includes more in-depth measures of assessing patients' fluid status. This education program also provides more information with respect to using measurement tools such as CVP readings, MAP readings, and basic understanding of cardiac rhythms and medications. It has been my understanding that most dialysis nurses are neither taught nor expected to learn beyond their scope of simply doing hemodialysis.

I would like to expand their knowledge and provide more education about dialyzing a critically ill patient. The information will not meet the full scope of critical care-trained nurses, but a more basic understanding that hemodialysis nurses could use as a tool to help guide their practice.





The Buried Catheter Challenge

Michelle Donoghue, RN, BScN(c), CNeph(C), Emily Harrison, RN, BHSN, CNeph(C), Whitby, ON, and Sharon Fairclough, RN, BN, CNeph(C), Mississauga, ON

Faced with the decision of which modality option is the right one for them, many of our patients at Lakeridge Health (LH) are proactive in their care and choose to have their access created prior to dialysis being absolutely necessary. A key goal for the Regional Nephrology Program at LH along with the Ontario Renal Network (ORN) is to increase the rate of independent dialysis. Of our 140 patients on independent dialysis, 94 have decided to choose peritoneal dialysis (PD) as their preferred modality. Many of the patients who chose peritoneal dialysis elected to have their PD catheter inserted as a “buried catheter” or sometimes termed “embedded catheter”. Unfortunately, this is not without its challenges.

This presentation will provide the challenges faced by our program from 25/04/5 to 25/04/12. We will provide you with the problems we faced when it came to having a functional buried PD catheter once exteriorized. The discussion will include the type of catheter, the analysis undertaken and the initiatives undertaken by all members of our renal team (nephrologists, directors, surgeons, nurses, and pharmacist) to overcome these challenges. The challenges and strategies for success that will be presented will assist any program that is considering using this technique.

Hidden Treasures of Home Hemodialysis: Dispelling Myths: Educating Renal Staff About Home Hemodialysis

Martin Duffy, RN, Janice Newell, RD, and Ruth Burns, Coquitlam, BC

The Home Hemodialysis team developed an interactive in-service project to educate renal staff in Fraser Health about our program.

The objectives were to promote the benefits and increase patient enrolment to home hemodialysis.

Between Feb 7, 2012, and April 17, 2012, 10 in-services were held at the various renal program sites in Fraser Health educating 110 staff.

The interactive format included:

- A patient sharing personal experiences
- Scrolls with interactive questions and answers to dispel myths about home hemodialysis
- Utilization of props including a treasure chest filled with beads, candy and home hemodialysis pens.

During the six months following initiation of the project there was a 69% increase in referrals compared to the six months prior to in-servicing. Monthly referrals continue to increase suggesting that an interactive in-service format involving home hemodialysis patients is an effective way to engage staff and increase patient enrolment.

Assessing Patients' Perceptions Toward Post-Kidney Transplant Primary Care: A Preliminary Analysis

Olusegun Famure, MPH, Med, CHE, Anna Li, BSc, Laura Rivera, BSc, Myra Caballero, BSc, Lesley Adcock, MD, CCFP, Jeffrey Schiff, MD, FRCPS, and Joseph Kim, MD, PhD, MHS, FRCPC, Toronto, ON

The growing number of long-term kidney transplant survivors has led to an increased demand for resources at transplant centres. As a result, referring stable kidney transplant recipients (KTRs) to their primary care physicians (PCPs) for routine medical care has become more common. However, there have been concerns about insufficient guidelines provided to PCPs from transplant centres to manage the long-term care of these patients.

To ascertain patient perceptions regarding their post-transplant primary care, a survey was developed and administered to a cohort of KTRs at a large Canadian transplant program. The survey assessed patients' views on PCP performance, comfort level with their PCP, support received for health self-management, and barriers to better care.

A total of 237 patients completed the survey (76% response rate). Eighty per cent indicated that a family physician was part of their health care team. While $\geq 75\%$ of KTRs felt comfortable with their PCPs managing non-transplant related issues (e.g., vaccinations, periodic health exams, and specialist referrals), only 21% felt comfortable with PCPs managing transplant-related issues (e.g., immunosuppressive therapy). Fifty-five per cent felt their PCP was above average to excellent in providing health education, encouraging behavioural interventions, and identifying issues related to care. Thirty per cent felt PCPs were above average to excellent in providing referrals to community resources, and psychosocial support. Respondents also gave qualitative feedback on ways their care could be improved.

These initial results provide insight into patients' perceptions of primary care post-transplant. Next steps include the dissemination of a “sister survey” to PCPs involved in the care of KTRs to elicit their views regarding their role in the care of KTRs. The findings from both surveys will inform transplant nephrologists and PCPs on how best to design shared care models that will improve the longevity and quality of life for KTRs.

Thriving, Not Just Surviving: The Move to Home Therapy

Colleen Harrison, RN, CNeph(C), Oshawa, ON

Purpose: Lakeridge Health, in collaboration with the Ontario Renal Network (ORN), work together to increase the uptake of independent dialysis. In order to support this initiative, the “Independent Dialysis Steering Committee” was developed and a new role was added into the program to embark on a successful improvement journey.

Description: The transition nurse role was created April 1, 2012, to play a critical role in ensuring the ORN’s independent dialysis goals and targets are achieved. During the initial phase many projects were identified and small Plan-Do-Study-Act (PDSA) tests were developed and implemented. An ongoing structure and support was required to ensure that the results would be sustained ensuring future successes.

The steering committee continues to oversee several LEAN process improvement initiatives and offers support to the transition nurse. Included in these improvement initiatives were:

- initial meeting with stakeholders
- SIPOC (suppliers, inputs, process, outputs, customers) and value stream mapping event targeting the peritoneal dialysis (PD) catheter referral process
- implementation of order entry for transition nurse
- communication roll out of the project
- educational events for all nephrology staff.

Initially the existing patients on incentre hemodialysis (ICHD) were evaluated. Modality and body access education was offered. Historically the intake to peritoneal dialysis (PD) was 0–2 patients per year transitioning from ICHD. Since the initiation of the role, and the work within the project, 15 patients have transitioned to PD this year from ICHD.

ABO Incompatible Living Kidney Transplantation Using ABO Immunoabsorption Column

Galo Meliton, RN, CNeph(C), Jeffrey Zaltzman, MD, Katerina Pavenski, MD, Ramesh Prasad, MD, Megan Gottfried, RN, Patty Lou Cheatley, RN, and Helen Fanous, PharmD, Toronto, ON

ABO incompatibility is one of the most common barriers to living donor kidney transplantation. Various protocols for renal transplantation of ABO incompatible (ABOi) pairs exist, involving a combination of intense immunosuppression and antibody removal by plasmapheresis, selective immunoabsorption (double-filtration plasmapheresis, protein A immunoabsorption) or antigen-specific immunoabsorption.

We report on the first six cases in North America of ABOi live donor kidney transplantation using Glycosorb ABO immunoabsorption column and immunosuppressive regimen, as per Karolinska University Hospital protocol (Genberg et al., 2008, Kumlien et al., 2006). All six recipients were ABOi, and 1/6 had DSA.

Protocol: Preoperative immunosuppressive regimen consisted of a single dose of Rituximab 375 mg/m² IV on day -28; Tacrolimus, MMF and Prednisone, day -7; a single dose of IVIG 0.5g/kg IV at day -1; Basiliximab 20 mg IV day 0 and +4, and Solumedrol 2mg/kg IV on day 0. Post-operative regimen included: Tacrolimus, MMF, steroids (patient #4 with DSA received thymoglobulin). Immunoabsorption with Glycosorb B column was performed beginning on day -16 with patients requiring between two and five treatments. Procedure was performed on COBE Spectra apheresis system with ~1.5 PV per exchange, over four hours. ABO titres were measured post-operatively with further immunoabsorption only if titres by IAT exceeded eight in post-operative week 1 and/or 16 in post-operative week 2. All patients had immediate allograft function with no documented rejection events. This first in North America has allowed ABO incompatible pairs the option toward renal transplantation with several advantages, which will be discussed in this oral presentation.

“Business as Usual”—Implementation of Advance Care Directives in a Renal Dialysis Unit

Fidye Westgarth, BSc, MPH, Grad Dip, QI, Arthur Larmer, BSN, Grad Cert Nursing (Renal and ICU), and Terri Battese, EEN, NSW, Australia

Background: Advance care directives (ACDs) are designed to empower patients and give them a choice in end-of-life (EOL) care. According to the NSW health policy established in 2004, ACDs are to be present in patients’ medical records for moments when the patients are unable to make decisions for themselves. In 2009, two incidents highlighted the need to implement ACDs as a standard component of the model of care in our unit.

Aim: To normalize the establishment of ACDs for patients in our unit, and to have at least 80% of our renal dialysis patients with up-to-date and easily accessible ACDs in place.

Methods: Project guidance was provided to the Ballina project team via the Advanced Clinical Innovations (ACI) Hemodialysis Models of Care Program. The project involved staff training, patient education, development of an ACD form, and process change within the renal unit and the hospital. The process was adaptable, flexible and responsive, and staff developed confidence in addressing this difficult





issue with their patients. Furthermore, a system was developed to include ACD alerts on the patient's electronic medical record (eMR), making this information available at all access points throughout the health district.

Results: ACDs have been established as a standard component of the model of dialysis care within our unit. As a result of the project, the proportion of our patients with active ACDs rose from <5% to above 85%. There remain some difficulties broaching this topic with some cultural groups.

Discussion: ACDs have the ability to prevent overuse of medical resources and decrease family burden during EOL care. During education sessions it was found that staff had difficulty approaching their patients on these very sensitive and challenging issues, and required considerable training to empower them to support their patients' during advance care planning (ACP).

The successful implementation was due to the patients perceiving it as a normal process that they, themselves, should drive in collaboration with their families and with their clinical careers.

Conclusion: ACP policies require considerable staff training and support to enable successful implementation.

Attitudes and Perceptions of Nephrology Nurses Towards Dialysis Modality Selection

Diane Watson, RN-EC, MSc, CNeph(C), Jay Hingwala, MD, FRCPC, Karthik Tennankore, MD, FRCPC, Joanne Bargman, MD, FRCPC, and Christopher Chan, MD, FRCPC, Toronto, ON

Purpose: There is a paucity of information about the views of dialysis nurses towards dialysis modality selection, yet nurses often have the most direct contact time with patients. We conducted a survey to better understand nurses' attitudes and perceptions and hypothesized that nurses with different areas of expertise would have differences in opinions.

Methods: We administered an electronic survey to all dialysis/predialysis nurses (n=129) at the University Health Network in Toronto, Canada. It included questions about preferred therapy—in-centre hemodialysis (CHD), versus home dialysis (home HD and PD) and modality mix.

Results: The response rate was 69%. There were significant differences in the proportion of nurses with CNA Certification in Nephrology Nursing (84% of home dialysis nurses versus 28% of CHD nurses, $p<0.001$). Physicians were ranked as having the most impact on patient modality selection by 87% of home dialysis nurses and 57% of CHD nurses. Both groups ranked caregivers and dialysis nurses as having the least impact. For all patient characteristics and patient/system factors, CHD nurses felt that CHD was the preferred modality, while home dialysis nurses preferred a home modality.

Conclusion: Dialysis nurses have prevailing views about modality selection that are strongly determined by their area of experience and expertise.

Implications for practice: Nephrology nurses should be key in supporting patients' decisions about dialysis modality. However, this study indicated that they do not reflect this perception. Nurses feel they need more education around dialysis modality, as well as exposure to other dialysis modalities.

Engaging Health Care Providers to Improve the Referral and Evaluation Processes for Potential Transplant Candidates—A Single Centre Experience

Olusegun Famure, MPH, Med, CHE, Heebah Sultan, BSc, MPH(c), Nicholas Phan, BSc, Michael Garrels, RN, BScN, Lee-Ann Hyer, RN, BScN, CNeph(C), and Jeffrey Schiff, MD, FRCPC, Toronto, ON

Purpose of the project: To develop a collaborative framework that engages health care providers at referral sites and transplant centres to (1) optimize the timing of referral, and (2) effectively triage and manage patients with end stage renal disease (ESRD) throughout the referral and evaluation process.

Description: Consultations with transplant coordinators and nephrologists who liaise with health care practitioners (HCPs) at referring sites were performed coupled with a comprehensive literature review to (1) outline the referral and evaluation process; (2) determine the HCPs' attitudes toward transplantation; and (3) identify barriers and strategies to increase referrals and build relationships with HCPs.

Evaluation/outcomes: The "transplant journey" of an ESRD patient consists of various stages from pre-referral to post-transplant care. Patient- and provider-related barriers identified include attitudes of HCPs towards transplantation, influx of late referrals, and inequitable access to the waiting list and transplantation.

Strategies implemented into our program include leading educational workshops at referring sites targeted to HCPs and patients to showcase the benefits of transplantation utilizing current centre-specific patient outcome data; conducting tele-health consultations to assess complicated referrals; increasing our engagement with patients and HCPs through an educational bi-annual newsletter.

Implications for nephrology practice/education: HCPs' positive attitudes towards transplantation can lead to increased knowledge regarding transplantation, early referrals, and improved equitable access. With such positive results, patients' interest in transplantation may increase, thus improving completion rates of transplant work-ups leading to timely access to the waitlist and transplantation.

Future directions include appraising our referral processes for each referring site using evidence-based performance measures. Outcomes generated may serve as a basis for developing nephrology centres of excellence equipped to managing post-transplant patients.

Dreaming Big: One Renal Program's Reality to Adapting a Healthy Work Environment—Best Practice Guideline

Pam Cerqueira, RN, CNeph(C), Kim Hendrick, RN, BScN, CNeph(C), and Susan Talboom, RN, CNeph(C), Kitchener, ON

The Registered Nurses Association of Ontario (RNAO) has, in recent years, published many best practice guidelines (BPGS), more than 50 in total. The Grand River Hospital Renal Program recently implemented the RNAO Healthy Work Environment BPGS in response to its recent change of nursing care delivery model. The implementation of the Collaborative Care Nursing Model had impacted the work environment and it was determined that the RNAO BPG would be the best way to assess and positively impact the work environment throughout the renal program.

This presentation will outline the steps that brought our program a desire to examine the past work environment of our staff. An engaged core of staff wanted to foster the ability to positively affect their work environment to be a healthy one. Creation of a Healthy Work Environments Steering Committee was formulated. The "Dream Big" vision was ignited!

The Healthy Work Environment Collaborative Care BPG implemented by the Grand River Hospital Renal Program will be reviewed. We will demonstrate how the specific guidelines link to a large multi-site renal program, with examination of the challenges, lessons learned and future opportunities. The presentation will reflect on the future commitment and proposed sustainability plan, as well as the evaluation and reflection on the success of our objective.

New Catheter—New Care: Post Op Care for Patients with Newly Inserted PD Catheters

Debra Appleton, RN, MN, CNeph(C), Toronto, ON

Purpose: To review post op care of individuals who have received a PD catheter.

Description: This presentation is a review of nursing best practice for management of patients with a new PD catheter, utilizing accepted guidelines and recent research. Included is assessment, nursing plans and actions, identification and management of potential complications, as well as a review of catheter break-in techniques.

Outcomes: Concepts and interesting cases will be reviewed to illustrate the importance of nursing assessment and management. The focus will be on critical thinking at the bedside to identify clues to potential problems and approaches to management. Additionally, patient education for self-management and recognition of potential problems will be reviewed.

Implications for practice: As we move toward more self-management and less hospitalization for patients, it is essential that we and our patients are able to manage routine care, as well as remain vigilant to the recognition and prompt management of post-op PD problems.

Creating an Environment Characterized by Safety, Respect and Dignity

Donna Vivarais, RN, CNeph(C), and Sandra White, RN, CNeph(C), Cornwall, ON

Patients, family, volunteers and staff have the right to be safe and feel safe in their place of health care and work.

Common sense? Not so simple. The combination of mental health issues, dementia (with subsequent lowering of inhibitions), decreased awareness of rules about appropriate behaviour, and patient's feelings of loss of control due to illness make this a complicated issue. The distressing reality of verbal aggression and inappropriate behaviour became a concern in recent years within our outpatient clinic setting. A clear, concise Code of Conduct was developed in February 2011 to address this issue. Standards of behaviour were introduced, discussed, reviewed and signed. Yearly review with each patient and occasional reminders have facilitated a clear awareness that inappropriate behaviour and language is unacceptable in the clinic.

This tool is invaluable in making patients accountable for their actions and language. The code serves as a vehicle to bridge a potential gap in the nurse/client relationship that occurs when a patient's behaviour escalates. The code gives the nurse a tool to diffuse a potentially unsafe situation.

Since the introduction of the Patient and Employee Code of Conduct, there has been a decrease in verbal outbursts and inappropriate behaviours creating an atmosphere of respect and safety.

This poster presentation will show how our clinic community continually strives to create a NEWFOUND environment in which everyone is held accountable for their conduct.





Central Venous Catheter Complications: A Bi-Directional Relationship between Thrombosis and Infection

Alana Campbell, RN, MN, Calgary, AB

Central venous catheters (CVCs) are frequently used for vascular access in hemodialysis (HD) patients who are not candidates for, or do not have a functioning arteriovenous fistula, graft or peritoneal dialysis catheter. In Canada, approximately 79% of incident HD patients and 52% of prevalent HD patients rely on CVCs, as their dialysis life-line (Moist et al., 2008). Unfortunately, CVCs are highly prone to two frequent problems—thrombotic occlusion and infection, both of which can negatively affect the quality of dialysis and increase the patient's risk of morbidity and mortality. A large body of literature from non-HD and HD patient populations demonstrates that there is a critical bi-directional relationship between CVC-related thrombosis and CVC-related infection. The objectives of this presentation are to review the biological underpinnings of this relationship, its clinical consequences, and the current management strategies used to reduce the incidence of these serious CVC complications.

Slipping off the Rock: Trying to Balance Life and A Chronic Illness

*Kim Turcotte, RN, and Kathy Forbes, RN, CNeph(C),
Kingston, ON*

Depression and anxiety are common co-morbid conditions in those with end stage renal disease. Dialysis patients face many challenges that potentially cause varying degrees of mental illness. Consequently, this can interfere with their ability to undertake health promoting behaviours. A restrictive dialysis schedule, diet, fluid intake and needing a machine to live can create feelings of isolation, vulnerability, and loss of control. Balancing a chronic illness with living life is, indeed, a challenge. The potential for dialysis patients to slip off the proverbial rock is high. In this case study, we plan to examine the life of a chronic hemodialysis patient while exploring coping mechanisms that could help alleviate feelings of depression and anxiety or even prevent them from occurring.

Development of the Expert Nurse Cannulator Mentorship Program

*Elizabeth Petershofer, RN, and Lundy Malfara, RN, Toronto,
ON*

As technology advances, the average age of the chronic hemodialysis patient is increasing (CIHI, 2011). This trend appears to be leading to additional challenges establishing and maintaining the peripheral hemodialysis access—namely the arteriovenous fistula (AVF) or arteriovenous graft (AVG). Therefore, hemodialysis nurses are faced with difficult cannulation scenarios. The Expert Nurse Cannulator (ENC) Mentorship Program was developed at our inner city hemodialysis unit, as part of the Registered Nurses Association of Ontario (RNAO) Best Practice Guidelines Spotlight Organization Initiative. Created to address this challenge and to facilitate the successful cannulation of difficult AVFs and AVGs was an initial cohort of six nurses with expertise in cannulation based on criteria and competencies developed for the ENC Mentorship Program. The ENC Mentorship Program matched ENC with patients with challenging vascular accesses. Along with expertise in cannulation the ENC have developed proficiency with the usage of the beside ultrasound device to assist with access cannulation. The program has since expanded with mentorship to the establishment of 19 ENC, leading to an unbiased and supportive environment for both patients with access issues, and non-expert cannulators, who can defer to the ENC for assistance with challenging cannulations. This presentation will outline one unit's experience with the development and establishment of the ENC Mentorship Program.

Barriers to Peritoneal Dialysis in the Elderly and Strategies to Overcome Them

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

The number of elderly patients needing to start chronic dialysis in Canada continues to increase. Of those patients starting dialysis today who are over age 75, 84% start on hemodialysis, while only 16% start on peritoneal dialysis (PD). These older patients have a much higher disease burden than younger patients. This disease burden often includes multiple comorbidities, as well as impaired vision, poor mobility and cognitive problems. They may also live alone. Home PD is sometimes thought to be contraindicated in these elderly patients. At the same time, our provincial Ministries of Health are strongly encouraging dialysis units across the country to increase the number of patients on home dialysis modalities.

During this presentation, the differences between contraindications and barriers to PD will be discussed. The most important barriers will be reviewed. These barriers include physical, social, and cognitive barriers. Strategies to overcome these barriers, especially the use of home-assisted PD, will be detailed. Also this presentation will emphasize the importance of having dedicated home dialysis nurses or a renal triage nurse to educate patients who have started

hemodialysis urgently about home dialysis therapies. The benefit of a dialysis program holding regular meetings of multiprofessional nephrology team members to review all predialysis patients who are close to needing dialysis and those who start hemodialysis urgently, will be highlighted.

Using the above strategies, our hospital-based dialysis program has been able to keep our rate of new patients starting home PD to about 36% of all dialysis starts, much higher than the Canadian average of 16%.

Integrating Palliative Care into Routine Renal Care in the Northern Alberta Renal Program (NARP)

Betty Ann Wasylunuk, RN, BScN, Edmonton, AB

Patients with chronic kidney disease (CKD) reflect an elderly population with significant comorbidity. Many dialysis patients suffer from substantial symptom burden, and while dialysis prolongs life for most patients, their life expectancy remains poor. The Northern Alberta Renal Program (NARP) has implemented a Supportive/Palliative Care Program that follows the recommendations for a provincial strategy for palliative care for all patients with advanced CKD in Alberta. The aim of the program is to identify patients with high symptom burden (physical, psychosocial, spiritual) and patients with a high risk of death in the coming year. These patients can benefit from supportive and palliative care interventions.

The purpose of this presentation will be to describe the supportive/palliative care assessment tool currently being used in NARP to adequately identify patients experiencing significant suffering and those patients with a high risk of death in the coming year. NARP's supportive care measures to relieve suffering will be briefly shared, as well as NARP's Advance Care Planning program, which is being offered to patients having a high mortality risk.

NARP has a "newfound" reality: palliative care is currently being integrated into routine renal care throughout its program.

POSTER ABSTRACTS

Chronic Disease Management Initiative (CDMI): Impacting Outcomes

Anita Amos, RN, BScN, CNeph(C), and Nancy Ferareza, BSc, Toronto, ON

In January 2011, St. Michael's, in partnership with Baxter Corporation, began the Chronic Disease Management Initiative (CDMI). CDMI is a set of activities aimed at improving the health and outcomes of patients across the continuum of care from referral to end-of-life care.

The focus of this poster discusses the impact of CDMI increasing the utilization of home-based dialysis therapies where medically appropriate. In accordance with the Ontario Renal Network (ORN) Regional Work Plan, St. Michael's goal is that 40% of new patients will be on independent dialysis (ID) by 2015. It is well understood that growth in independent dialysis is dependent upon increasing referrals and decreasing attrition. Attrition is usually associated with death, regained renal function, transplant, transfer to another facility, or dialysis modality. Transfer from peritoneal dialysis to hemodialysis is associated with peritonitis, leaks, and decreased effectiveness of therapy generally due to changes in peritoneal membrane characteristics. To reach this goal, St. Michael's focus on modality education and body access have had a significant impact on growth while, Plan-Do-Study-Act (PDSA) cycles associated with CDMI have targeted patient retention within the program. Work continues, as we strive to exceed expectations.

Assessment of 100% of KCC patients for Independent Dialysis/Modality/Body Access within One year of KCC Clinic Attendance

Mina Kashani, RN, BHScN, CNeph(C), Toronto, ON

The focus of the poster presentation is to introduce the project we did at our centre to align the Kidney Care Centre (KCC) patient education and assessment for body access (BA) with Ontario Renal Network (ORN) targets for independent dialysis (ID). The ORN targets for ID and BA are as follows:

- 40% of all new dialysis patients will be on an independent dialysis option within six months of initiating dialysis
- 100% of patients seen in pre-dialysis clinic (KCC) for at least one year will have been assessed for independent modalities.





ORN targets for body access:

- 100% of patients seen in pre-dialysis for at least one year will have been assessed for appropriate body access prior to starting dialysis.

Baseline metrics were reviewed to align the groundwork for independent dialysis targets for pre-dialysis patient modality education, and for body access.

- Increase ID modality choice to 40% by implementing a clinical pathway for use in KCC
- Decrease hemodialysis (HD) catheter insertion rate by increasing the number of patients assessed for best vascular access of choice
- Increase timely placement of HD Arterial Venous Fistula (AVF)/Arterial Venous Graft (AVG) ensuring access is established prior to dialysis initiation.

A Model for Outpatient Management of Anticoagulation Pre/Post Interventional Radiology Procedures in Hemodialysis Patients

Paula Mossop, RN, CNeph(C), Jo-Anne Wilson, BSc Pharm, ACPR PharmD, Steven Soroka, BMus, MD, MSc, FRCPC EXTRA Fellow CHE, Christine Dipchand, MD, MSc, FRCPC, and Peter Brown, MSc, MD, FRCPC, Halifax, NS

Background: Hemodialysis (HD) patients on long-term oral anticoagulant therapy and at risk for thromboembolic (TE) complications present a challenge to clinicians when they require interventional radiology (IR) procedures to maintain a functional vascular access.

Objective: To evaluate the effectiveness and safety of an HD perioperative anticoagulation protocol for patients at low risk for TE complications who require temporary interruption of warfarin sodium for IR procedures.

Methods: This was a prospective cohort study of HD patients at low risk for TE complications on warfarin sodium who required an IR procedure during a nine-month study period. Patients deemed to be moderate or high risk for TE complications were excluded. A physician pre-printed order was developed to systematically manage the patient pre/post procedure. A patient education pamphlet was provided. Rates of TE complications and hemorrhagic (HE) complications were recorded.

Results: The protocol was used to manage six IR procedures. All patients were treated with warfarin sodium for

atrial fibrillation (AF). IR procedures included: five fistuloplasties and one tunneled line exchange. No rates of TE or HE complications occurred pre or post intervention. One patient required oral vitamin K1 to achieve the desired INR target. There were no delays in performing the IR procedures and no hospitalization was required.

Conclusion: This model of care provided safe and effective anticoagulation management in HD patients in preparation for their IR procedure while reducing unnecessary hospitalization and referral to a hospital-based anticoagulation clinic, which may delay the IR procedure.

Recording Independence

Jane Armstrong, RN, CDE, Orillia, ON

Purpose: To maintain independence and self-management of a visually impaired client.

Description: I was presented with a training challenge. I was to train a visually impaired 47-year-old gentleman, with type 1 diabetes. He was unable to read text without the use of a special magnifier. His brother and a friend were prepared to assist him, however, being independent with his own care was very important to him. He wanted to be able to set up his own home choice cyler independently and manage his self-care. We decided to make a tape recording of the procedure steps for him to listen to and set his cyler up step by step. We did the recording as he set up the cyler and let the tape roll so the timing would be accurate when he sets up at home, without pressing stop and play on the recorder.

Evaluation: He has had great success with this approach—in fact, he thinks all clients should have this to help them at home. This provides a way for visually impaired individuals to maintain their independence.

Implications for nephrology practice/education: This experience has given us the idea to explore new options with technology. We are looking into how we can implement this recording to assist other clients, not just the visually impaired. We are investigating using the recording on personal cell phones, allowing a client to listen to their procedures on their cell phone wherever they are. This technology might also be used by community nurses visiting cyler patients in the home on their computer or cellphone.

CANNT Presentation: Bidding Farewell

Margo Leonard, RN, and Betty Herman, RN, London, ON

Patient-centred care is dependent on building and sustaining strong therapeutic relationships with patients who also receive support from their families. We, as health care professionals, begin this care from our initial interaction with patients until the final days of their lives. Naturally when a patient dies we feel a sense of loss. We all deal with death and dying in different ways. In our poster presentation we'd like to share information about the planning and implementation of our nondenominational memorial service. We hold this service annually for family members of hemodialysis patients who have passed away. The goal of

the memorial is to assist staff and families in dealing with their grief and hopefully provide some comfort and closure in their journey through the healing process. The presentation will outline the various steps in planning the service with special reference to the obstacles that have presented themselves over the years.

The Role of Nurse Navigator (NN) and Peritoneal Dialysis (PD) Access Coordinator In Transitioning Patients To Home Dialysis... One Year Later

Mina Kashani, RN, BHScN, CNeph(C), Toronto, ON, and Sharon Fairclough, RN, BN, CNeph(C), Mississauga, ON

Since the creation of the Nurse Navigator role at St. Michael's Hospital in September 2011, the impact on patient transition to home dialysis has been significant. The key objectives of the role have been to provide a standardized process for referral and modality education to patients within the renal program. This includes patients within the kidney care clinic, in-patient nephrology unit, urgent start and in-centre hemodialysis patients. In 2011, there were two main issues faced within the nephrology program. One was getting patients onto home therapy and the other was keeping patients home.

As a program, we implemented several initiatives to aid in the resolution of these challenges. The two main initiatives implemented between September 2011 and May 2012 were the ability to increase the number of PD catheter insertions and the addition of the nurse navigator. The early results of these initiatives were revealed in a poster presentation during CANNT Ottawa, 2012.

As a follow-up to the data presented last year, we plan to illustrate the program results since that time, the challenges faced, and how the dual role of the nurse navigator and PD access coordinator was able to meet these challenges and provide positive results.

Peritonitis Culturing: Implementing a Change in Protocol Using a Quality Improvement Framework

Matt Phillips, RN, BScN, Joan Tompkins, RN, CNeph(C), and Colleen Wile, RN, BScN, CNeph(C), Halifax, NS

Introduction: A major complication of peritoneal dialysis (PD) is peritonitis. Untreated or recurrent peritonitis can cause permanent damage to the peritoneal membrane resulting in scarring and/or adhesions that can decrease the amount of effective peritoneal membrane surface, which can result in failure of peritoneal dialysis as a long-term treatment option. Culturing of the PD effluent will determine the appropriate treatment required for resolution of the peritonitis.

Purpose of the project: To develop, implement, and evaluate a change in culturing practices in cases of peritonitis in home dialysis patients using the Model for Improvement Framework (MFI).

Description: The home dialysis unit was approached by laboratory services and was requested to decrease the number

of gram stains ordered with cases of peritonitis. By using International Society for Peritoneal Dialysis (ISPD) guidelines and benchmarking information from across Canada, the home dialysis unit has been able to implement and evaluate this change in practice using the MFI quality improvement framework without compromising the safety of PD patients.

Evaluation/outcomes: Outcomes measured included the decrease in burden to peritoneal dialysis patients managing their peritonitis in their own home, a 12-month comparison of the number of cultures sent per case of peritonitis, the number of relapse cases of peritonitis, and the number of catheters lost due to peritonitis.

Implications for practice: Using a quality improvement framework to guide the change process provides rationale for change, an evaluation method, and helps to build capacity of staff to use quality improvement frameworks regularly with change strategies.

Improving Outcomes for Patients with Central Venous Catheters (CVC's)

Frances MacLeod, RN, Laura Hodgson, RN, BScN, Emy Cowlan, RN, and Eduard Iliescu, MD, Kingston, ON

The hemodialysis team at Kingston General Hospital (KGH) implemented a central venous catheter blood stream infection (CVCBSI) prevention initiative, based on Center of Disease Control (CDC) and Best Practice Guidelines.

Purpose of study: Central venous catheters (CVC) have a high risk of infection. The rate of new CVC blood stream infections (CVCBSI) is an important outcome for dialysis programs. This year the team implemented a CVCBSI prevention initiative.

Methods:

1. A formal continuous improvement (CI) program for accurate, electronic monitoring of CVCBSI rates.
2. A switch from Heparin to 4% Citrate CVC locking solution.
3. Changing the CVC access to a "Scrub The Hub" procedure.
4. Application of Polysporin® triple antibiotic to the CVC exit site.
5. Formal staff education and evaluation.
6. Patient education for CVC care.
7. Efforts to increase fistula and graft creation.





Results: After the initial changes were made, we saw a decrease in the CVCBSI rate from 0.46 per patient-year in April 2012, to 0.07 in January 2013. This is far below the target set by guidelines of less than 0.50 per patient year.

Implications for nephrology care: This achievement was the result of every primary nurse and allied health professional working together to achieve a common goal. The process required dedicated work, starting from accurate data collection to rigorous implementation of the procedural changes. The successful deployment of the initiative throughout the many units in the program was a major achievement in nursing teamwork, leadership and education.

Home Blood Pressure Monitoring for Hemodialysis Patients—Development and Implementation of an Education and Recording Tool

Donna Knott, RN, BScN, Betty VanBeek, RN, CNeph(C), Shannon Nielson, RN, CNeph(C), and Eduard Ilescu, MD, Kingston, ON

Purpose: National guidelines recommend home blood pressure monitoring (HBPM) in general. In hemodialysis patients, HBPM is superior to dialysis readings in detecting hypertension and predicting outcomes. This project aimed to develop a HBPM education and recording tool specifically designed for hemodialysis patients.

Description: The tool incorporates key concepts of Canadian national HBPM education programs, adding specific items for hemodialysis patients, including avoiding the fistula arm, HBPM on non-dialysis days, and emphasizing multiple readings, among others. The tool is an 8.5 × 11-inch sheet with instructions on the dos and don'ts of HBPM and advice on the purchase, fitting and maintenance of monitors on one side and a chart for recording the HBPM readings on the other.

Evaluation: The tool was distributed to stable satellite hemodialysis patients for HBPM on non-dialysis days for one week each month. Patient technique, cuff size and monitor accuracy were assessed initially. Staff and patients found the tool easy to understand and use. HBPM completion neared 100% and, in most cases, the recording was done correctly including repeated readings. The results showed poor correlation between HBPM and dialysis readings, consistent with previous studies.

Implications: This HBPM tool can be easily incorporated into the hemodialysis patient education program with a high degree of staff and patient satisfaction. To assess accuracy, comparison of HBPM using the tool with 24-hour ambulatory monitoring is being planned.

2012 Canadian Nephrology Nurse Practitioner Practice and Job Satisfaction Survey

Marsha Wood, BN, RN, MN, NP, CNeph(C), Julie Nhan, RN, MN, CNeph(C), Alison Thomas, MN, RN(EC), CNeph(C), and Sohani Welcher, RN-NP, MN, GNC(C), on behalf of the Canadian Nephrology Nurse Practitioner Group

Purpose: The purpose of the survey was to better understand the context of nephrology nurse practitioner (NP) practice in Canada, to identify perceived facilitators and barriers to nephrology NP practice in Canada and to measure job satisfaction among Canadian nephrology NPs.

Sample: Using the Survey Monkey™ application, the surveys were distributed electronically to all known Canadian nephrology NPs from the Canadian Nephrology Nurse Practitioners (CNNP) distribution list. Fifty-one surveys were distributed to nephrology NPs in Canada with a response rate of 75.5%.

Results: The majority of respondents were female between the ages of 30 and 44 and had a Master's degree. The most common practice settings were hemodialysis, pre-dialysis and inpatient nephrology. Roles and responsibilities of NPs varied, dependent on practice area. The top three facilitators for NP practice were support of the nephrologists (61%), NP role related characteristics (42%) and support from other NP(s), nursing colleagues and allied health team members (26%). The most frequently cited barriers to NP practice were lack of administrative/organizational support (27.5%), lack of role clarity (21%), and lack of time (17%).

NP job satisfaction was evaluated using the Misener Nurse Practitioner Job Satisfaction Survey. Overall, satisfaction scores were high. Eighty-four per cent of responses fell into the *satisfied* category, and 6.9% into the *very satisfied* category. NPs were on average *very satisfied* with their vacation/leave policies, their immediate supervisor, and their sense of accomplishment. Items scoring in the *very dissatisfied* categories included monetary bonuses (35.7%) and compensation for services performed outside of normal activities (28.6%). NPs were on average *minimally dissatisfied* with the amount of time off provided to serve on professional committees (32.1%), and with their amount of involvement in research activities (34.5%).

Implications for practice: The number of nephrology nurse practitioners across Canada has been increasing, particularly since 2005. To date, there has been little information collected or shared on this specialty advanced nursing practice group. The results of this survey provide some baseline information about nephrology NP practice and job satisfaction in Canada.

Conceptualizing Quality of Life in the Context of End Stage Renal Disease (ESRD)

Julie Émilie Boudreau, RN, MN, CNeph(C), and Anik Dubé, RN, PhD(C), Moncton, NB

Purpose of the project: Concept analysis is utilized to examine and clarify ambiguous concepts that may occur in nursing practice. According to Walker & Avant (2010), concepts are a categorization of information into meaningful mental constructs of a phenomenon that occurs within the nursing discipline. This concept analysis was carried out to generate empirical data due to the lack of conceptual clarity of the concept under study.

Description: The eight-step approach of concept analysis by Walker and Avant (2010) was implemented to provide an operationalized definition of QOL for individuals suffering from ESRD. This iterative process enabled an observable reality of the chosen concept providing validity and reliability through the movement of researching and reviewing relevant literature (Walker & Avant, 2010). Twenty-six articles were selected subsequent to the inclusion criteria through the following databases: CINAHL, EBSCO, ERIC, Medline, PsycINFO, and PubMed.

Outcomes: Characteristics most frequently associated with this concept yielded the generation of three defining attributes enabling the broadest insight into this phenomenon; therefore, QOL was characterized by:

- the ability to engage in vigorous activities
- the ability to perform activities of daily living (ADL)
- the ability to engage in familial, social, and occupational roles.

Implications for nephrology practice: A standardized understanding of the concept of QOL in the context of ESRD enables health care providers to work with clients in the elaboration of care plans and implementation of coordinated care for collaborative support along the continuum of renal dysfunction. The relevance of these findings enables dialogue between nurses and health care providers on the importance of identifying the client's perspective of potential health outcomes related to their own experience of renal dysfunction. Registered nurses play the pivotal role within the health care team to advocate for a client-centred approach.

Dietary and Fluid Restriction Compliance for Clients Undergoing Hemodialysis

Karelle Guignard, RN, MSN, Moncton, NB

Purpose of study: This descriptive comparative study was undertaken to determine the individual's stage of change for liquid restriction, as described by Prochaska and DiClemente (1983) transtheoretical model (TTM), and to determine the differences among the perceived benefits and barriers to dietary and fluid restrictions compliance for clients suffering from end stage renal disease (ESRD) undergoing hemodialysis (HD).

Methods: The Dialysis Diet and Fluid Non-Adherence Questionnaire (DDFQ) by Vlamincx et al. (2001) was implemented to measure the perceptions relating to the frequency and intensity of non-compliance. The Decision Tree (Welch, 2001) was also used to determine the client's stage of change for liquid consumption. Likewise, the Belief About Dietary Compliance Scale (BDCS) by Welch et al. (2006) measured the perceived benefits and barriers of clients to compliance by a Likert-type scale.

Results: Based on statistical analyses of sample-based surveys, 31.6% of clients were in the stage of *action*, whereas 23.7% were in the stage of *maintenance*. Frequency of non-compliance was 4.97 days for diet and 3.97 days for fluid restrictions. Intensity of non-compliance for dietary restrictions was 1.32 and 1.18 for fluid on a Likert-type scale. Benefits most verbalized by clients were, "Eating a low-salt diet keeps me healthy" (M = 4.12) and "Salty food is not good for me" (M = 4.09). The most significant barrier was, "Following a low-salt diet is hard to do when I go out to eat" (M = 4.08).

Conclusions: Clients at the stage of *precontemplation* had shown to have a higher frequency and intensity of perceptions of non-compliance. Likewise, the perceptions of benefits was lower for clients at the stage of *precontemplation* and barriers to non-compliance were less influenced by the stage of change. In consequence, clients in the stage of *precontemplation* were less likely to agree with perceptions relating to benefits of compliance.

Implications for nephrology care: Development of a formal protocol to evaluate compliance following the TTM, BDCS, and DDFQ is recommended to enable health care providers to understand where the client is situated in the stage of change, so appropriate interventions can be implemented to improve clients' diet and fluid restrictions compliance.

Innovation and Quality Improvement: Predialysis Cannulation of a Mature Arteriovenous Fistula (AVF) in a Renal Protection Clinic Setting Improves the Patient Experience

Inge Knoche, RN, CNeph(C), and Elizabeth Carvalho, RN, Montreal, QC

Purpose: To explore and describe, from a nursing perspective, the clinical benefits of cannulating mature arteriovenous fistulas prior to the start of clinically urgent hemodialysis treatments.





Project description: Clinical practice guidelines promote the early creation of a native fistula prior to the start of dialysis so as to avoid the insertion and potential complications of a central venous catheter. The start of dialysis is an extremely stressful time for clients and a fear associated with the pain of needling is commonly observed. Clients who have a matured fistula and are approximately eight to 12 weeks from the anticipated start of dialysis undergo progressive needling, coaching and support by the same expert cannulator within a controlled environment. This one-on-one intervention allows the client to gradually adjust to the demands of dialysis and needling, consolidate learning and gain confidence in the care of their fistula. This early cannulation allows time for any issues of infiltration, hematoma formation or functionality to be resolved without the clinically urgent need for dialysis.

We will describe the nursing interventions and patient outcomes observed of 10 patients who underwent pre-dialysis cannulation of their AVF. Through the use of focus groups, comprising hemodialysis nurses having worked within the department a minimum of two years, we will explore and describe the benefits of this innovative approach, as compared to the traditional model of care. This innovative approach to care has the potential to markedly improve the clinical experience of patients with a matured AVF requiring hemodialysis.

Plasmapheresis in Tandem with Hemodialysis

Deb Gottschalk, RN, Kerri Gallo, RN, CNeph(C), and Twylla Dawn Wyton, RN, London, ON

In some instances, patients requiring plasmapheresis may also have renal failure and require hemodialysis (HD). If both procedures are done separately on the same patient, treatment time may be as high as seven to eight hours, making it difficult for patients to get moving to improve their strength and mobility. A tandem procedure will require approximately three to five hours. For the patient in intensive care, the time required to complete both procedures separately prevents them from being available for other testing and/or procedures that may be required. Plasmapheresis and HD can be carried out in tandem for those patients whose medical condition requires treatment with both techniques. Tandem is done with two nurses—one from each area working together. There is only one access required for both treatments. An adapter is used for this access. The main benefit to tandem treatments is the

significant reduction in patient time needed to complete these therapies. There is improved efficiency in scheduling the nurses doing the treatments, as well. Issues that need to be considered are increased serum potassium, lactate dehydrogenase, and bicarbonate and decreased platelets complicate the two treatments alone. In tandem, they can offset each other. This presentation will provide education regarding the procedure itself, as well as the benefits and issues surrounding the use of these two modalities in tandem.

Risk of Hypoglycemia Associated with Hemodialysis Runs

Sharon Kelly, RN, BN, CDE, Ofelia Magat, RN, BScN, CNeph(C), and Pat Holmes, RN, BN, MSc, CDE, Cochrane, AB

Maintenance of stable blood glucose levels involves many factors. Most of these factors are altered with long duration of diabetes. End stage renal disease and hemodialysis runs further complicate the picture. One phenomenon is an increased risk of rapid change in blood glucose level and/or frank hypoglycemia during the hours following each hemodialysis run. The use of continuous blood glucose monitoring has provided documentation of asymptomatic hypoglycemia that occurs up to 12 hours after dialysis runs.

Hypoglycemia is significant not only for the risk of falls, accidents and injury. Hypoglycemia and rapid glucose changes are also associated with cardiac arrhythmias, seizures, stroke-like symptoms and sudden death. Hemodialysis patients are already at risk for major cardiovascular events.

This poster presentation will present data from studies using continuous blood glucose monitoring. We will also discuss factors that predispose people with diabetes to hypoglycemia, factors that impede recovery from hypoglycemia, hemodialysis associated blood glucose patterns and strategies to avoid adverse glucose responses post hemodialysis runs.

A New Start to Dialysis

Michelle Mason, RN, Carolyn Mack, RN, and Dennis Smith, NP, BScN, MN, London, ON

An inconsistent approach to the care of newly started chronic hemodialysis patients creates unpredictable and varying outcomes. Patients who start hemodialysis often feel overwhelmed and burdened with a significant lifestyle change and a vast amount of health teaching. Utilizing a standardized approach and document for the first three dialysis treatments will enhance patient care, safety, identify patient knowledge gaps and build a trusting relationship while assisting patients through this difficult transition.

A retrospective chart audit of the current practice for new chronic dialysis patients occurred to identify the inconsistencies and variability of the nursing practice. With this review, a standardized approach and process map were developed. This process map was then evaluated on 10 new dialysis patients. This new, standardized approach highlighted areas for improvement in the nursing assessment closing patient knowledge gaps and enhanced patient care.

Preserving Our Lifelines

Shelagh Magee, RN, CNeph(C), and Jean Anderson, BScN, CNeph(C), Palmerston, ON

What are the best practices and techniques for caring for and preserving renal dialysis patients' lifelines—their access for hemodialysis? What is the newest and best method for cleaning and caring for a central access catheter? How far are we in our goal of having 80% of our patients with fistula/graft access versus central line access? What needling techniques are best for preserving a fistula/graft while providing the best possible dialysis for our patients? This project will focus on how best to care for our patients' access, their virtual lifeline, particularly in rural settings where travel to the main site for assessment or revision of their access is quite challenging for our patients. We will review the importance of involving patients in their own care and teaching them how to assess their own access and the importance of seeking medical attention at the first sign of difficulties. We will review needling techniques for the difficult fistula/graft including the latest information available on needle placement, and the results achieved with closer placement of needles on those short fistulas. Our patients' access is, indeed, their lifeline, and we need to preserve that access by utilizing the newest and best evidence-based methods and processes at our disposal.

Our Journey Towards Excellence: The Halton Healthcare Renal Experience

Janet Baker, RN, BN, CNeph(C), Oakville, ON

Purpose of the project: In September 2012, the renal program at Halton Healthcare undertook projects that supported four distinct areas of care delivery. Staff identified opportunities for improvement to enhance quality patient care and improve staff satisfaction.

Description of the project: Four teams participated in White Belt training by a Process Excellence Consultant. The project was to evaluate current practices and implement improvements to care processes. Once projects were identified, teams from the kidney function clinic, in-centre hemodialysis, Burlington Dialysis Satellite and independent dialysis used the principles of Lean and Six Sigma to identify short- and long-term goals. Each team evaluated processes used in their distinct area, identified specific concerns and developed a plan to improve.

Evaluation/outcomes: The outcomes have had a huge impact on our program and in many ways changed the way we structure our days and specific components of our program. The kidney function clinic focused on improving the patient experience within clinic through clinic structure, less time spent rounding, and optimizing the interdisciplinary team members' interaction with patients. In-centre hemodialysis focused on improving/streamlining the blood work review process and ensuring timely interventions where required. The home hemodialysis and peritoneal dialysis areas of the program, up until now, functioned as two separate entities. The project to merge the two into

independent dialysis has improved staffing, as well as providing additional support for patients. When our satellite unit opened, our criteria were built on stable mobile patients; as they aged we saw the need to adapt our patient criteria in order to meet needs.

Implications for practice: We streamlined our practice, eliminated waste in time and money, increased patient satisfaction and improved quality of care.

Do Monthly Blood Work Report Cards for Patients Make a Difference in Outcomes?

Betty VanBeek, RN, CNeph(C), Donna Knott, RN, BScN, and Shannon Nielson, RN, CNeph(C), Brockville, ON

Purpose: According to the College of Physicians and Surgeons in Ontario (CPSO) *Independent Health Facilities Guidelines for Chronic Kidney Disease and Dialysis* (2010), education for hemodialysis patients can positively affect outcomes. The Canadian Society of Nephrology (CSN) Guidelines suggest that hyperphosphatemia and an elevated calcium-phosphorus product are associated with increased cardiovascular mortality. As clinicians engaged in patient education, we designed a "report card" that visually reinforces verbal education by including written results of mineral metabolism, nutrition and anemia, and patient guidelines.

Description: For the report card, we chose four indicators: serum calcium, phosphate, potassium, and hemoglobin. The report card is designed so that a patient's blood work results and hemodialysis target levels are readily visible for the current month and the previous month(s). The report card includes guidelines such as the list of foods that affect results, guidelines if levels are outside the recommended ranges, and the side effects of abnormal results. The report card is produced on standard letter paper, with two indicators on each side.

Evaluation/outcomes: The report card will be distributed monthly to all patients, with a copy kept in the nursing progress notes, as evidence of patient education.

Implications: With the report card as reference to their specific levels, patient education is improved and guidelines are reinforced. This has potential to positively affect outcomes. Patient and staff feedback solicitation is planned, which may result in revisions to include additional indicators/guidelines.





“Why Was This Patient Admitted for Peritonitis?”

A Five-Year Review of PD Peritonitis Treated at Home and in Hospital

Elizabeth Kelman, RN(EC), MEd, CNeph(C), and Andrea Heywood, RN, BSc, CNeph(C), Toronto, ON

Background and purpose: The approach of the Home Peritoneal Dialysis Unit, University Health Network (UHN), Toronto, ON, is to support and maintain patients in the home, including treatment of PD peritonitis; yet, a percentage of patients with peritonitis are admitted to hospital for management. The purpose of this study was to determine the differences in PD patients who are managed in the home setting versus hospital admission for the management of peritonitis in a single hospital setting.

Description: We performed a retrospective review of all individuals with peritonitis over a five-year period. We examined patient characteristics, social support, peritonitis course and outcomes to determine factors influencing admission.

Outcomes: Based on the findings, potential barriers to management of peritonitis in the home setting will be identified.

Implications for nephrology practice: In an attempt to understand the rationale for admission, factors contributing to self-management and those requiring hospital care will be discussed with the potential to improve practice and approaches to patient care.

Supporting PD in the Great White North:

The St. Paul's Whitehorse Partnership

Clay Gillrie, RN, BSN, MSN, Lisa Calfa, RN, BSN, Dan Dubenko, RN, BSN, BSc, Kristi Kristensen, RN, BSN, BA, Nathaniel Roxas, RN, BSN, and Teresa Ma, RN, BSN, Vancouver, BC

St. Paul's Hospital (SPH) is a large tertiary care centre located in Vancouver, British Columbia. SPH's nephrology program is a provincial referral centre for patients from across the province and the Yukon. SPH's partnership with Whitehorse General Hospital (WGH) aims to improve access to renal care for patients living in the Yukon.

SPH has provided on-site medical and nursing care for WGH's peritoneal dialysis (PD) patients for the past 30 years. One of the recent needs identified in the Yukon is to

enhance the PD practice capacity of the local practitioners to improve timely access and quality of care for PD patients in remote communities.

In 2012, SPH's PD program initiated an education strategy with the WGH's nursing staff. This strategy aims to provide WGH nursing staff with PD knowledge and skills to increase local access to care for PD patients. The anticipated results of the education strategy are that, as local PD nursing competencies are strengthened, PD patients will be able to access timely local care and have less stress and financial burden (incurred by travelling to Vancouver for care). The ideal outcome is for local health care providers to develop greater knowledge and confidence in supporting their PD population.

Strengthening the practice capacity of nurses in Northern and remote areas has the potential to significantly impact the quality and timeliness of care PD patients can receive. The SPH/WGH educational partnership promotes PD patients in maintaining a high degree of independence and quality of life. This poster presentation describes this enhanced partnership and highlights future opportunities to expand this initiative.

Evaluating the Performance of an Organic Scavenger in the Application of Water Purification for Dialysis

Donna Broley, BSc, DT, and Jose Lloyd, EET, DT, Orillia, ON

The combined effects of high chlorine/chloramine levels and naturally occurring total organic carbon (TOC) levels found in municipal feed water has been found to decrease the life of carbon media used in the application of water purification for the sole use of water for dialysis. Employing the use of organic scavenger resin within a softener has been shown to increase the lifespan of the carbon media resulting in longer periods between exchanges, thus resulting in lower service costs.

The influence for this evaluation has been our technical struggle with premature failure of our carbon media. This evaluation will concentrate on three specific areas, chlorine removal, total organic carbons and RO membrane performance, as related to the installation of organic scavenger resin softener beds.

Chlorine removal data will be collected daily, analyzed and compared to the last 12 months of daily data. The total organic carbon levels will be monitored weekly for the first month to create a baseline of pre and post scavenger media levels. Once established, the testing will be decreased to monthly. If any anomalies occur, sampling rates will be increased accordingly.

Lastly, RO membrane performance will be monitored daily for product flow, feed and product water conductivities and comprehensive water analysis. The data will be collected, analyzed and compared to the 12 months prior to installation of the organic scavenger media.

The assessment of this application's performance will allow the graphical demonstration of its usefulness for in-centre dialysis units and can be applied to those challenging home hemodialysis situations with cost-cutting benefits.

Happy Feet ... A Nursing Feat!

Margaret Ann Mills, RN, CNeph(C), and Donna Pero, RN, CNeph(C), Sydney, NS

Peripheral vascular disease in the renal population is an ongoing problem requiring increased hospitalizations. The risk to the diabetic/renal patient is five times greater than diabetes alone.

Nova Scotia has the second highest rate of diabetes in the country with Cape Breton Island having a higher diabetic rate than the provincial average. The demand for renal replacement therapies continues to grow in Cape Breton.

Our dialysis unit and satellites have incorporated initial foot assessments to be completed on all patients by nursing staff following "The Diabetic Foot Risk Assessment Form". Based on the assessment, wound care specialists were consulted, as required, to initiate individualized plans of treatment. There were, however, a group of patients not necessarily requiring, "wound care" but who did require "foot care". Due to socio-economic or mobility issues, some patients had never received any foot care assessments. Therefore, it was determined that there was a need to have these people assessed to identify potential risks of developing foot complications.

A pilot program was initiated to provide services of a certified foot care professional for the identified group of patients in the dialysis setting. With early assessment, prompt referrals, and patient education, our goal is to decrease the risk of infection and prevent potential lower limb complications in our renal patient population. The prevention of such complications is cost effective and reduces morbidity and mortality rates.

Independent Dialysis—You Can Do It!

Maryanne Nardi, RN, CNeph(C), Roxanne Krystia, RN, Karen Cooper, RN, Elizabeth Grainger, RN, Leila Pausch, RN, Rose Gelinis, RD, and Sonya Solomon, SW, North Bay, ON

Purpose: Development of a peritoneal dialysis program by increasing interest and choice of independent renal replacement therapy (RRT) in our chronic kidney disease (CKD) population.

Description: The kidney care clinic program staff reviewed an article about the randomized trial carried out by Dr. Braden Manns: "The impact of education on chronic kidney disease patients' plans to initiate dialysis with self-care dialysis." The trial concluded that a multifaceted, patient-orientated, educational intervention consisting of dialysis information booklets, video and small group sessions could increase the proportion of patients planning to initiate dialysis with self-care dialysis.

Our kidney care clinic staff adopted this format for a new approach in modality education being offered. We continued to offer patient education resources and one-on-one education sessions with the addition of three CKD education days over the course of the past 18 months.

The education day offered short formal presentations by program staff and presentations by dialysis patients living with renal failure. Following the patient presentations was a question and answer period. This was the highlight of the

education day! The CKD patients were able to ask questions to people living on dialysis, to see and feel a dialysis vascular access and to see a peritoneal dialysis catheter.

Evaluation and outcome: The feedback on the CKD education day evaluation forms was impressive. Participants highly valued the information shared by patients living on dialysis. Follow-up has shown a significant increase in independent dialysis as modality of choice.

Using Lean Six Sigma Methodology to Improve Patient Management

Jennifer Lee, RD, Sushamma Joseph, RD, Mona Rassi, RD, David Mendelsohn, MD, FRCP(C), Ghad Nesrallah, MD, FRPC(C), and Nasuralah Rahaman, RN, Toronto, ON

Background: At our hospital, dietitians review monthly nutritional blood work in order to address and counsel in-centre hemodialysis patients on nutritional issues. Several important nutritional parameters, including intradialytic weight gain and fluid status information, are embedded in nurse assessment forms and require laborious manual data extraction by dietitians.

Methods: Lean Six Sigma Methodology will be used to help understand the barriers and to develop a better process for the dietitians to extract and analyze these data effectively in practice. We will apply the five steps of LEAN methodology: Define, Measure, Analyze, Innovative Improvement, Control (DMAIIC). Nurses, physicians and other allied health members will serve as key informants.

Results: The inability to generate user-configured electronic data reports with our electronic medical record (EMR) Meditech 6.0 has been identified as a major barrier to efficient data use. However our EMR can also be modified by a specialized database programmer to provide the required information.

Conclusions: Working with our information systems department, we will develop a report-generating script that will allow us to export the required information into a spreadsheet format that includes several different parameters including weight gain and fluid status. This will allow for more timely identification of patients requiring changes to their dialysis regimen (dry weight, duration and frequency of dialysis) or more intensive dietary counseling and to be able to successfully apply LEAN Six-Sigma methodology to improve access to clinical data and improve patient management.





Living Donor Paired Exchange Program: An Update

Galo Meliton, RN, CNeph(C), and Maureen Connelly, RN, BScN, Toronto, ON

Purpose: To highlight and provide an update on one of the most innovative initiatives the renal transplant community has implemented in the last several years—an initiative that has positively impacted patients with end stage renal disease (ESRD), and has provided blood group incompatible pairs and recipients with pre-formed antibodies against their identified donors the opportunity to have a kidney transplant.

Methods: This didactic presentation will provide background information and updated statistics on the program.

Discussion: The LDPE Registry began with only three provinces at the end of 2008. It now includes all Canadian provinces and continues to successfully match donors and recipients for transplants from coast to coast. In October 2012, the LDPE Registry ran its fourteenth match cycle. To date, 395 pairs and 46 non-directed donors have participated in at least one of the 14 match cycles. A total of 148 patients have received transplants and an additional 10 patients were scheduled for transplant in November and December 2012.

Conclusion: The LDPE program continues to be a successful program that has allowed transplant candidates the opportunity to receive a transplant despite blood group incompatibility and pre-formed antibodies against their intended donors.

Strategies for New Start Patients in a Rural Nephrology Program

Arlene Deloughery, RN, CNeph(C), Joyce Mulvihill, RN, CNeph(C), Linda Papineau, RN, and Janice Verch-Whittington, RN, BScN, Renfrew, ON

The purpose of our project is to improve Stage 5 CKD patient outcomes by incorporating a new start philosophy into our in-centre chronic hemodialysis program. Our team has been hearing about large urban nephrology programs that have opened “New Start” units to improve the experience for the new hemodialysis patient. This presentation will describe how we took the philosophy of a new start unit and adapted it to fit into our smaller rural regional nephrology program. We will describe our model of care for new

start patients and how it fits into our chronic hemodialysis setting. We will discuss our challenges and successes along the way and how we improved patient outcomes, especially for the patients who had suboptimal starts (unplanned starts). Indicators that we are monitoring include: patient satisfaction, health care provider satisfaction, fistula rate, six months on HD and rate of transfer to a home modality in the first six months on renal replacement therapy. The indicators listed will be measured before the adaptation of the new model and then at three-month intervals post initiation. The work is not yet complete but, if the outcome is positive, as we expect it will be, the model will be easily duplicated in other small rural hemodialysis units.

Reducing Glucose Exposure in Peritoneal Dialysis Therapy

Sharon Fairclough, RN, BN, CNeph(C), Mississauga, ON

In peritoneal dialysis therapy, glucose is the primary osmotic agent in the majority of peritoneal dialysis solutions. Glucose exposure in peritoneal dialysis therapy has been shown to be associated with adverse effects both systemically and to the peritoneal membrane. However, glucose exposure in peritoneal dialysis is a modifiable risk factor associated with cardiovascular risks. This presentation will provide a review of the literature discussing the role of glucose, peritoneal membrane structure and function, and the recent focus on reducing glucose exposure in peritoneal dialysis therapy. Discussion of the *Canadian Society of Nephrology Clinical Practice Guidelines* (2011) for peritoneal dialysis therapy and supporting literature focused in the following areas of (i) volume management, (ii) treatment of hypervolemia, and (iii) glucose sparing strategies for peritoneal dialysis therapy will also be presented.

Home First... A Strong Start to Renal Replacement Therapy

Sharon Fairclough, RN, BN, CNeph(C), Mississauga, ON

In Canada, there is a wide variation in the number of patients who are currently using a home modality (peritoneal dialysis, or home hemodialysis) as their initial modality when renal replacement therapy is required. Multiple factors influence the final modality treatment used in chronic kidney disease, with the majority of people still treated on conventional hemodialysis therapy.

A review of Canadian literature comparing outcomes shows patients treated with peritoneal dialysis have better earlier survival than those on hemodialysis; and better survival than patients on hemodialysis using a central venous catheter. In addition, residual renal function is better preserved in patients on peritoneal dialysis compared to those on hemodialysis and patients with residual renal function have better survival.

Peritoneal dialysis provides a strong start and foundation for patients starting renal replacement therapy due to its clinical benefits and quality of life benefits offered compared to conventional hemodialysis therapy.

This presentation will provide an overview of Canadian market trends, as it pertains to modality distribution, population demographics, key literature supporting the clinical, survival and quality of life benefits of peritoneal dialysis therapy and the support the patient choosing peritoneal dialysis may require.

Navigating the PD LINK Nurse Role: A New Role Promoting Independent Dialysis Success in an Urban PD Program in British Columbia (BC)

Clay Gillrie, RN, BSN, MSN, and Daniel Dubenko, RN, BSN, BSc, Vancouver, BC

The British Columbia Provincial Renal Agency (BCPRA), an agency of the Provincial Health Services Authority (PHSA), plans and monitors the delivery of province-wide kidney care services in British Columbia. In 2011–2012, the B.C. Ministry of Health and PHSA's strategic priorities included ensuring the provision of effective and cost-efficient kidney care with a focus on independent dialysis strategies to promote sustainability.

St. Paul's Hospital (SPH) in downtown Vancouver is a provincial referral centre for renal care known for leadership and innovation. Building on this tradition of innovative care, SPH piloted a new peritoneal dialysis PD LINK Nurse role in January 2012.

The focus of the LINK Nurse role is on increasing awareness and knowledge of the PD home therapy modality with an aim to increase the overall PD population at SPH. To achieve this objective, one of the LINK Nurse's primary strategies is the early introduction of the home therapy PD option (as early as stage 4). The LINK Nurse works closely with the interdisciplinary renal team to coordinate early identification, assessment of patients, and transition of patients to the PD modality.

Following implementation, SPH has experienced solid growth in the number of patients choosing PD as a modality, a decrease in the number of crash starts and increased transitions from hemodialysis to PD. The PD LINK Nurse role has the potential to significantly shift the dialysis delivery model to a more sustainable home therapy model. This poster presentation describes how the SPH PD program has navigated the PD LINK Nurse role to increase and sustain the independent dialysis modality.

What's the Score? An Evaluation Protocol for Vascular Access Creation

Cynthia Bhola, RN, MN, CNeph(C), Bonnie Houghton, RN, and Charmaine Lok, MD, Toronto, ON

It is well appreciated that a *functioning* arteriovenous fistula (AVF) is the best AV access in hemodialysis (HD). In keeping with a "Fistula First" initiative, we have placed AVF in most patients who required HD access. However, many fistulas do not develop once created, a phenomenon known as "failure to mature" (FTM). We have recognized that not all patients are suitable for an AVF, thus have changed our philosophy to "Always Achieve Appropriate Access".

In order to guide our assessment for suitability for AVF versus synthetic grafts (AVG), the team at UHN has adopted a preoperative predictive scoring system developed by Dr. C. Lok that has been rigorously validated in five large centres in North America. This scoring system identifies clinical characteristics that predict AVF FTM. This tool gives points to key factors to generate a "score" to assist in determining if the patient's future AVF would be at high risk for FTM. It is simple and easily reproducible, and can be carried out by the vascular access team, including the vascular surgeon.

In this poster, we review the various components of the predictive tool, and our results over four years. The impact has been positive for patients, by having an objective measure that can increase the success rate by providing a guide to achieving appropriate internal vascular access. Additionally, we have found that by identifying those who have a high risk of AVF FTM and giving them an AVG, we have, ultimately, avoided use of CVC in many patients.

Exercise Counselling Intervention as a Means to Improve Exercise Participation for Hemodialysis Patients

Peggy Kajah, RN, BScN, CNeph(C), Brantford, ON

People with chronic kidney disease (CKD) exhibit reduced functional capacity and physical conditioning as a result of the chronicity of the disease. The sequelae of renal disease include metabolic, structural, and functional abnormalities, which negatively affect patients' health quality of life. Dialysis patients are able to participate at varying levels with a variety of exercise regimens with minimal adverse effects. Despite documented health benefits in prior literature, dialysis patients are sedentary. Therefore it is imperative to understand what influences there are to exercise participation in this patient population. This study examines the effects of a 24-week counselling intervention by nephrologists and primary care nurses (PCN) incorporated into routine plan of care and randomized to 106 patients in a single outpatient hemodialysis unit in Stoney Creek, Ontario. The purpose of this prospective study is to address the hemodialysis (HD) patients' need for improved physical potential and rate of participation in routine exercise activity. Strategies to overcome barriers and motivate patients are needed that target individual needs to ensure sustainability and long-term outcomes with exercise participation. An adjustment in the medical culture is needed with a focus on the prevention and wellness aspect of HD patient care





that includes counselling and recommendations by clinicians to reduce barriers for patient participation in routine exercise. By incorporating exercise as part of the “routine care” plan, expected outcomes include incremental improvements in exercise participation of HD patients and net improvement in health quality-of-life domains.

A “New Found” Strategy to Promote Self-Management Support for Hemodialysis Patients—The Healthcare Diary

Andrea Brown, RN, CNeph(C), Susan Crilly, RN, Wendy Johnston, RN, Irene Knox, RN, CNeph(C), Connie Mark, RN, CNeph(C), Mora MacLean, RPN, Lisa Todd, RN, and Lise Vardy, RN, CNeph(C), Oshawa, ON

Lakeridge Health utilizes a self-management philosophy and experience-based design approach throughout the continuum of care for patients with chronic kidney disease. In an effort to protect residual kidney function and manage other possible chronic diseases facing a patient, it can be daunting for the patient to track and understand the information provided by the interdisciplinary health care team.

In order to enhance self-management, communication and collaboration between the team and the patient, a health care diary was created containing pertinent information specifically related to the renal patient. Information such as:

- Blood test results such as phosphates, potassium, iron studies, lipids, INR, A1C
- Immunization log
- Blood pressure log
- Fluid management log
- Any specific health care events.

The booklet-style diary, first created and utilized for the pre-dialysis population, uses simple language, pictures and graphs in a user-friendly manner, and has proven to be very effective in pre-dialysis. Each patient is provided a health care diary on admission to the program and encouraged to bring their diary to clinic visits in order to collaborate on a mutual care plan. As part of the program’s journey in experience-based design, in order to prove the effectiveness of the diary within the in-centre hemodialysis population, a group of hemodialysis patients were asked to use the diary for a three-month period. We will demonstrate and evaluate the value of the tool from the patient perspective and the tool’s effectiveness in promoting patient self-management of health goals and enhancing the interdisciplinary health team-patient therapeutic relationship.

Solid as a Rock: Building and Sustaining a Nursing Mentorship Program in Hemodialysis

Lori Mehew, RN, BScN(C), CNeph(C), Angele Joliceour, RN, BScN, Sherry Wood, RPN, Andrea Brown, RN, BScN(C), CNeph(C), Carol Murphy, RN, CNeph(C), Shirley Connelly, RN, Judie Peshal, RN, CNeph(C), Sandy Thompson, RN, CNeph(C), Lise Vardy, RN, CNeph(C), Lisa Todd, RN, Connie Mark, RN, Karen Tunney, RN, and Rene Bura, RN, Oshawa, ON

Purpose: Lakeridge Health’s vision is excellence every moment, every day. In order to support this vision, a nursing mentorship program was created in the in-centre hemodialysis unit to nurture a culture of continuous improvement for the client and nurses.

Description: The mentors’ group was formed by asking the nurses in the hemodialysis unit to nominate 10 nurses who they felt would best represent the organizations’ vision of excellence.

Once the 10 mentors were nominated, they were surveyed to determine the top three areas they would like to focus on regarding education and improving patient care delivery.

The survey concluded these top three areas to build on: (1) body access education, (2) the orientation process, and (3) new research, innovations and core competency enhancements.

(1) Body access improvement strategies were identified, tested and implemented.

(2) Several improvement strategies were tested throughout the orientation process for the new nurses and the mentors group. Evaluations were reviewed and the new changes were embedded into the orientation process.

(3) The nursing core competency manual was updated to include research and new innovations with the intent to review and update this manual annually.

Successful Treatment of Calciphylaxis Utilizing Intensive Dialysis and Collaborative Care

Michelle Donoghue, RN, BScN(C), CNeph(C), Gigi Wo, BScPhm, RPh, and Ilan Lenga, MD, FRCPC, Whitby, ON

This case study will highlight and share a successful resolution of calciphylaxis utilizing dual-modality dialysis and collaborative care in the outpatient setting of the regional nephrology program (RNP) at Lakeridge Health (LH). Calciphylaxis is a rare, life-threatening condition characterized by systemic medial calcification of arterioles, most commonly seen in end stage renal disease. It typically manifests as painful areas of ischemic necrosis in the dermis and subcutaneous fat. In April 2012, a 73-year-old male receiving continuous cycling peritoneal dialysis (CCPD) through the RNP at LH developed progressive, excruciatingly painful, bilateral, necrotic skin lesions on the medial thighs. These failed to respond to conservative measures and, in June 2012, a biopsy confirmed the diagnosis of calciphylaxis. Treatment included: discontinuation

of patient's warfarin and calcium carbonate, intravenous (IV) sodium thiosulphate 25 mg thrice weekly, IV pamidronate 30 mg every two weeks, and dual-modality dialysis therapy of home CCPD daily and in-centre hemodialysis (HD) thrice weekly. The care team was composed of a pain specialist, a wound care specialist from a Community Care Access Centre (CCAC), a primary nephrologist, a renal pharmacist and the patient's primary peritoneal dialysis nurse. Pain control was assessed, and lesions were photographed and measured weekly. Obstacles encountered included: 1) procurement and preparation of sodium thiosulphate; 2) patient and caregiver burnout; and 3) access to CCAC resources. Lesions successfully resolved after six months of treatment, and HD and IV medications were discontinued. No lesions have recurred over a three-month follow-up period.

Rally for Change: A Professional Practice Model Revisited

Gail Barbour, RN, CNeph(C), Lori Harwood, RN, PhD(C), CNeph(C), and Linda Downing, RN, CMSN(C), London, ON

Professional practice models provide structure for excellence in nursing practice. Our centre has had a long tradition of working with a Professional Practice Model (PPM) with proven outcomes. The PPM outlined values, practice guidelines, professional relationships, and the care delivery model. Our model has been in place since 1999. In order for the model to continue to be effective, a revision was necessary. In revising the model we needed to address changes in nursing roles, practice environment, corporate requirements and patient care needs. For example, our program has included the RPN role, nursing practices supported by quality assurance unit-based councils, technological advancements, a corporate shift to a learning organization, and supporting patient self-management and independence. This poster describes a revised professional practice model specific to nephrology nursing and methods involved to meet our expected outcomes.

Alteplase: A New Look at an Old Problem

Cathy Ehrhardt, RN, CNeph(C), Martin MacKinnon, MD, FRCPC, and Kristin Armstrong, Saint John, NB

Background: Hemodialysis units struggle with the delicate balance of keeping central venous catheters (CVCs) patent and using alteplase rationally and in amounts that are pharmacologically sustainable.

The purpose of this study was to design, implement, and evaluate the efficacy of a once-weekly alteplase lock algorithm to reduce overall use and associated costs in "high users", defined as hemodialysis patients requiring 16–20 mg alteplase in one calendar month.

Methods: This study first analyzed dialysis alteplase use retrospectively. High users were identified and monitored prospectively for one month. If use of alteplase continued to be above a threshold they were locked with alteplase once

a week. Prospective data including alteplase use, pre-dialysis (advance technique) and post dialysis were captured. This was compared to historical values identified in the retrospective review.

Results: Initial data showed usage dropped from 488 mg alteplase per month to 364 mg in the lowest month.

Conclusion: The study showed that by everyone following the same set of guidelines and specific criteria before choosing to lock CVCs with alteplase resulted in reduction in alteplase use, overall cost saving with no clear increase in catheter malfunction or replacements.

Improving the Quality of Care Delivered and Patient Experience of the First Hemodialysis Treatment

Risa LeBlanc, RN, BScN, Matt Phillips, RN, BScN, Rachel Wells, RN, BSN, CNeph(C), Carolyn Bartol, RN, BScN, CNeph(C), Norma Jean Martel, RN, BScN, CNeph(C), Halifax, NS

Purpose: The purpose of this initiative was to improve the first in-centre hemodialysis treatment experience for patients and to improve the quality and safety of care delivered by staff.

Description: The first hemodialysis treatment experienced by patients and their families can be a stressful and anxious event. When staff have their usual assignments, they may not be able to attend to the additional educational, physiological, or psychosocial needs of patients and their families during the first hemodialysis treatment. Through interviews and surveys, patients identified gaps in communication related to their treatment times, as issues experienced. Staff identified communication, location of first treatments, and staff ratios for the first in-centre hemodialysis treatment as areas that could be modified to enhance patient safety and quality of care delivered. The feedback received from patients and staff resulted in the development of a comprehensive process including communication with patients before the first treatment, a dedicated area for first treatments, guidelines for patient education during the first treatment, an appointment card with the first three hemodialysis treatment times, and a one-on-one nurse to patient ratio.





Evaluation: After the process had been implemented, it was evaluated through post-implementation patient interviews and post-implementation staff surveys. The new process has improved staff satisfaction with care they are delivering.

Implications: This initiative improved the quality and patient safety of care delivered, as well as staff satisfaction of the care delivered during the first hemodialysis treatment.

The Role of Chronic Disease Management Nurses in the Care of Chronic Kidney Disease Patients in the Community

Ofelia Magat, RN, BScN, CNeph(C), Laurel McDonough, RN, BN, and Sharon Kelly, RN, BN, Calgary, AB

According to the National Kidney Foundation, there is an ever increasing growth of patients diagnosed with chronic kidney disease. What are the reasons for this medical concern? The growing epidemic of type 2 diabetes, especially complicated by obesity, comprises 50% of patients with chronic kidney disease. Hypertension, poor lifestyle choices and prolonged lifespan contribute significantly to the increase of CKD patients.

The startling evidence shows that the mere diagnosis of CKD increases cardiovascular morbidity and mortality. As chronic kidney disease advances, the probability of worsening cardiovascular disease can lead to more hospitalizations and cardiac events. People with worsening CKD more often die earlier than the general population. This is a concern. If they live longer, they may choose transplant or dialysis to sustain life. This is also a major health concern socially and financially.

What can we do about this? Where do we start?

This study showcases the partnership bond between chronic disease management and chronic kidney disease programs in Calgary and how they tackled the problem from the grassroots—in the community centres and in the doctor's clinics. Educational sessions were undertaken to better assess high-risk groups and help manage the disease in collaboration with the family physicians. A survey was initiated and results reviewed. Thoughtful recommendations were formulated to address the gaps.

Importance of Reuse in Dialysis and its Environmental Impact

Sudarshan Meenakshi Sundharam, Cdt, and Julio Oliveria (Re-processing technician), Toronto, ON

Dialyzer re-use first started in 1964. Since then, hospitals and dialysis clinics started putting more emphasis on cost reduction, minimizing landfill, and promoting environmental factors.

Additionally, extraordinary clinical outcomes were noted in dialysis patients who use reprocessed dialyzers. The program started experiencing fewer allergic reactions, and improved bio-compatibility without compromising clearance.

Complete reprocessing techniques will be discussed, step by step, practised at the University Health Network (Toronto General site, Toronto, Ontario). Included will be: pressure test, leak test, reverse ultra filtration and proper sterilization techniques. The whole process is monitored by a computer and all safety standards are adhered to.

There is a specific area designated for reprocessing dialyzers. Well trained staff has been carrying out the process without difficulty. A variety of guidelines have been set up to ensure safety and effectiveness of the reprocessing procedure. Not all the dialyzers are fit for reuse; selected dialyzers (based on manufacturer's recommendation) are used in the reprocessing system.

Another important challenge for reprocessing dialyzers is maintaining high water quality standards.

Hemodialysis patients are more vulnerable to contaminants in the water used for reprocessing dialyzers.

This presentation will also discuss the maintenance of water quality. It begins with the proper installation and verification of the water treatment and distribution system according to pre-determined specifications and quality standards recommended by the Canadian Standards Association.

Overall, the presentation will carry out the clear message (across Canada) emphasizing dialyzer reprocessing, which is not only cost-efficient wise, but is environmentally friendly and provides additional employment.

Implementation of a foot assessment program in a regional satellite hemodialysis setting

By Barbara Wilson, RN(EC), MScN, and JulieAnn Lawrence, RN(EC), MScN, CNeph(C)

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ABSTRACT

*Individuals with chronic kidney disease are at higher risk for foot problems (i.e., ulcers, deformities, amputations) than the general population. Research demonstrates that assessment and active monitoring, teaching, and timely interventions can reduce the number and severity of lower limb amputations in the hemodialysis population. This paper reports on a quality improvement project aimed at implementation of a foot assessment program in a regional satellite hemodialysis setting based on the Registered Nurses' Association of Ontario's (2005) best practice guideline (BPG), *The Assessment and Management of Foot Ulcers for People with Diabetes*. Elements of the program include a one-time full assessment of risk for all patients transferring to the satellite program followed by monthly foot checks for those deemed high risk (i.e., people with diabetes). Evaluation of the program has been positive from both patients and hemodialysis nursing staff. There has been a greater emphasis on self-management around the care and management of patients and their high-risk feet. At the same time, the program has resulted in prompt identification of problems and timelier referral to the appropriate services in the patient's local community.*

Key words: foot assessment, hemodialysis, best practice guideline (BPG) implementation

INTRODUCTION

Diabetes mellitus continues to be the leading cause of end stage renal disease (ESRD) in Canada, identified in 35% of incident cases in 2010 (Canadian Institute for Health Information [CIHI], 2012). In the general population,

approximately 25% of individuals with diabetes will develop foot ulceration as a complication during their lifetime (Singh, Armstrong, & Lipsky, 2005). For those with diabetes and ESRD combined, the risk of diabetic foot ulceration and amputation are markedly increased. Ndip, Lavery, and Boulton (2010) describe a "trilogy" (p. 290) of risk factors in the development of foot ulceration and/or amputation in the diabetic population with renal disease including: 1) neuropathy, 2) peripheral arterial disease (PAD), and 3) increased susceptibility to infection. Dialysis treatment on its own has been reported as an independent risk factor for foot ulceration (Ndip, Rutter et al., 2010). A number of other factors may further increase the risk for foot ulceration in this population including poor nutrition, decreased vision, low serum albumin, low serum zinc levels, inadequate dialysis clearances, anemia, renal-associated leg edema, skin disorders specific to renal disease, and lack of proper foot self-care on the part of the patient (Lewis, Raj, & Guzman, 2012; Mahajan, 1989; Ndip, Lavery et al., 2010).

Diabetic foot complications contribute to increased morbidity and mortality and can negatively impact on quality of life through reduced mobility and physical functioning, limitations on social activities, while at the same time placing additional burden on caregivers (Goodridge, Trepman, & Embil, 2005). Given the multitude of complications associated with diabetic foot ulcers, any opportunity for prevention and/or early intervention is essential in the renal population.

The Registered Nurses' Association of Ontario (RNAO) nursing best practice guideline (BPG), *The Assessment and Management of Foot Ulcers for People with Diabetes* (2005), provides an evidence-based framework to guide nurses and other health care professionals in managing aspects of care specific to the diabetic foot. This paper reports on a quality improvement project aimed at implementation of a foot assessment program in a regional satellite hemodialysis (HD) setting based on RNAO's (2005) BPG.

LITERATURE REVIEW

Patient attitudes regarding foot care practices: There is very little research specific to patient attitudes and practices related to diabetic foot care, and even less in the ESRD population. One study by Perrin, Swerissen, and Payne (2009) examined the relationship between patients' foot care self-efficacy beliefs and self-reported foot care behaviour in a sample of 96 individuals with diabetes and clinically determined peripheral neuropathy in Australia. Self-efficacy was defined as the confidence in completing one's foot care activities. Participants completed two survey questionnaires, one to

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determine their foot care self-efficacy beliefs, the other to identify self-reported foot care behaviours. In this case, foot care behaviours were categorized as either preventative or potentially damaging. The authors reported only a small positive correlation between participants' self-efficacy beliefs and preventative foot care behaviour and suggested that having confidence to complete foot care activities would not necessarily result in observable preventative foot care behaviour. Instead, the authors recommended the need to examine personal and environmental variables in more detail, as these may have a greater impact on actual foot care behaviour than one's self-efficacy (Perrin et al., 2009).

In an HD population specifically, Yumang, Hammond, Filteau, and Purden (2009) reported on patients' perceptions of risk for foot problems and actual foot care practices. Using qualitative methodology, nine individuals from a university-affiliated HD centre in Quebec participated in semi-structured interviews. Interestingly, the patients interviewed did not view foot problems as a serious complication and were not concerned about developing foot problems themselves. In addition, participants viewed themselves as being protected from developing foot problems, perceived no link between HD and foot problems, and/or felt they looked after themselves sufficiently and, therefore, did not consider themselves at risk. While all nine participants indicated they did some form of foot care, they identified that fatigue was often a barrier to its completion. Other limitations to completing foot care were also reported and these included back pain, knee problems, and arthritis. Results of interviews also revealed that some participants were involved in foot care practices that could potentially cause harm. The authors acknowledged the importance of HD nurses in the assessment of patients' foot care practices. The results also reinforce that there are opportunities for HD nurses to teach patients about their increased risk for foot problems and reinforce appropriate foot care practices in this patient population.

Outcomes associated with foot care programs in ESRD populations: To date, studies reporting positive patient outcomes following implementation of foot-related programs in ESRD patient populations have been reported in renal transplant (Foster, Snowden, Grenfell, Watkins, & Edmonds, 1995) and peritoneal dialysis (Lipscombe et al., 2003) populations. In HD specifically, McMurray, Johnson, Davis, and McDougall (2002) examined whether intensive diabetes education and care management of diabetes, including foot checks, resulted in improved patient outcomes in a sample of patients with diabetes on HD (n=45) versus a control group (n=38). Patients in the study group were followed by a full-time diabetes care coordinator who was responsible for providing self-management education, diabetes care monitoring and management (including glycaemic control and foot status monitoring), and motivational coaching. After one year of follow-up, the authors reported significant improvements in the study group related to glycaemic control, foot care self-management behaviours, and quality-of-life scores, with a corresponding decrease in hospitalizations and amputations as compared to the control

group that received no intervention. The authors suggested that positive changes in behaviour and improvements in patients' self-knowledge can occur, even in patients with longstanding diabetes.

Results of a small pilot study involving 23 patients with diabetes on HD evaluated implementation of a four-part foot intervention program on patient outcomes (Neil, Knuckey, & Tanenberg, 2003). Patients in the experimental group received foot assessments and individual and group instruction on proper foot care, and special shoes or inserts were provided for each participant. The control group did not receive the intervention. Patient knowledge of foot care practices was measured using a previously validated questionnaire both before and after program implementation. Although not statistically significant, patients in the experimental group who received the intensive education and foot assessment demonstrated higher total foot care scores than those in the control group. Of concern was the fact that almost all of the patients assessed had some degree of sensation loss in their feet and many were found wearing improper or poorly-fitted shoes. Even more surprising was that only two participants in the experimental group were still wearing the special shoes/inserts provided by study end. Once again, the authors suggested that nephrology nurses may provide an important role in the early assessment and intervention of foot problems in the HD population.

Background research to program implementation: Previous research at our HD centre provides the background to program implementation in the regional satellite population. The process began initially with a formal assessment of risk factors predisposing to foot problems in our chronic in-centre HD population and results confirmed the high presence of diabetes (42.2%), peripheral vascular disease (PVD) (27.2%), neuropathy (74.6%), and previous amputation (13.4%) (Locking-Cusolito et al., 2005). Even more surprising were our findings that only 2.6% of our patients demonstrated comprehensive self-care behaviours, only 75% had adequate vision, 60% adequate dexterity, and 55% adequate flexibility to care for their feet properly (Locking-Cusolito et al., 2005).

With the extent of risk factors known, RNAO's BPG, *The Assessment and Management of Foot Ulcers for People with Diabetes* (2005), was implemented and evaluated in our in-centre HD population. The first of two published papers evaluating program implementation examined the impact of introducing the BPG on foot ulcer incidence, recurrence, and amputation rate in a sample of 57 patients on HD with diabetes (Prentice et al., 2009). Data were collected over 15 months at three points in time. Results of the study demonstrated a significant reduction in the number of wounds and the grade of wounds based on the University of Texas Health Science Centre San Antonio Diabetic Wound Classification System (Armstrong, Lavery & Harkness, 1988).

A follow-up qualitative study was also done exploring nurses' perceptions regarding implementation of the BPG (Ritchie & Prentice, 2009). HD nurses, as well as nurses from a community care setting, comprised the sample that

participated in focus groups conducted three to six months after program implementation. A number of themes were identified. First, routine foot assessments represented a change in practice for HD nurses and participants acknowledged that prevention and health teaching were promoted by BPG implementation. Second, participants recognized the positive impact that BPG implementation had for both patients and staff. Third, participants identified challenges to implementation of the BPG including the need for ongoing education for nurses, time constraints and staffing issues that prevented integration of the BPG into practice, and perceived gaps in follow-up related to foot assessment outcomes (Ritchie & Prentice, 2009).

PURPOSE

Given the risk of foot complications for individuals with diabetes and ESRD and positive results achieved in our in-centre HD units, further implementation of RNAO's BPG, *The Assessment and Management of Foot Ulcers for People with Diabetes* (2005), to a large satellite HD population was initiated.

METHODOLOGY

Setting and sample: London Health Sciences Centre Regional Renal Program is composed of nine satellite units located throughout Southwestern Ontario including sites in Chatham, Goderich, Grey-Bruce (Owen Sound), Hanover, London, Sarnia, Stratford, Tillsonburg, and Woodstock. Ongoing medical management for these patients is predominantly carried out via monthly clinics at the respective satellite units and attended by a designated nephrologist(s) and nurse practitioner. During these clinic visits, pertinent patient issues are addressed along with review of medications, dialysis prescription, and overall plan of care. Day-to-day management of issues between clinic visits is addressed via phone and facsimile to a centralized team in London, Ontario, at the Regional Renal HD Program Centre. Criteria for dialysis in a satellite unit include the ability to dialyze consistently in a chair (there are no beds in the satellite), transfer with a maximum of one-person assist, and achieving stable HD treatments consistently.

Goals of the program: This evidence-based program supports a proactive approach to managing foot problems in a high-risk population. The goals of the program were twofold: 1) to encourage patient/family self-management around the care and management of their high-risk feet, and 2) prompt identification of problems and more timely referral to the appropriate services in the patient's local community.

Elements of program: RNAO's BPG, *Assessment and Management of Foot Ulcers for People with Diabetes* (2005) was used as the resource in the design and implementation of the foot assessment program for our satellite patients. This is one of almost 50 BPGs currently in existence through RNAO (n.d.). Originally, BPG development began in 1999, as a multi-year project with funding from the Ontario Ministry of Health and Long-Term Care (Edwards et al., 2005) to develop, implement, and evaluate a number of BPGs in a variety of clinical care areas. The purpose of the

BPGs is to support evidence-based nursing practice with the goal to improving patient care (Edwards et al., 2005).

While the BPG provides a comprehensive review of the topic, RNAO (2005) acknowledges that elements of the document can be applied based on the needs of the specific organization and/or practice setting. For the purposes of our implementation project, clinical leaders were most interested in fostering an environment to enhance patient self-management around the care and management of their high-risk feet in an out-patient HD population over a large geographic area. With these issues in mind, it was determined that a formalized nurse-led program to provide routine assessment of patients with high-risk feet was deemed most appropriate for the patient population served.

Elements of the program included the following:

1. All patients transferring to the regional satellite HD program have a full foot assessment upon transfer that includes: history of relevant health problems (i.e., co-morbidities), general inspection and physical examination of the feet, inspection of footwear, and assessment of self-care abilities.
2. Subsequent monthly foot assessments by HD nurses for patients deemed high risk for foot problems (i.e., diabetics). Individuals deemed low risk receive annual foot assessments.
3. Monthly/annual foot assessments are documented in the clinical progress notes, as required.
4. Patients/families are provided with verbal and written information on how to care for their feet and how to reduce their risk for developing complications through daily inspection, proper foot care, adequate diabetic control, and activity level.
5. Problems that are identified are referred to the appropriate services in the patient's community (i.e., community nursing agencies, family physician/nurse practitioner, vascular surgeon).

IMPLEMENTATION

Request for program implementation to the satellite HD population was initiated by the clinical nursing manager for that area. This request was based on knowledge of program implementation in the in-centre units, as well as recognition of the large number of diabetics in the regional program. At the outset, the clinical manager was asked to identify one nurse "champion" from each of the HD satellite units and this was made through a formal request for volunteers. Once the champions were identified, arrangements were made for all to participate in one 4-hour teaching session, led by a wound care expert. The purpose of the education was to instruct champions on key elements of RNAO's BPG (2005), as well as discussion on strategies to promote successful implementation of the BPG in their respective HD unit. Each nurse champion was provided with a copy of the BPG, a resource binder containing relevant articles and pamphlets, etc., and a DVD geared to patients on proper foot assessment and care.

Once teaching was completed, nurse champions reported back to their respective satellite unit. Over the course of several weeks and using a train-the-trainer model, HD

nurses in each satellite unit were educated on the BPG by their champion and program implementation began. Throughout this process, the two nurse practitioners (NP) responsible for program implementation (B.W. and J.L.) were available as a resource to all nurse champions by phone or email when there were questions or concerns. At the same time, the nephrologist and NP dyad responsible for each satellite were notified regarding program implementation and available during on-site monthly satellite clinic time to address any pertinent issues identified by nurses during their monthly foot assessments.

EVALUATION

Evaluation surveys were developed specifically for this project by the project leads (B.W. and J.L.) and distributed six months after program implementation. Two surveys were developed, one for nursing staff in each satellite unit that participated in the program, as well as a separate survey designed specifically for patients involved. Ethical approval was not sought, as the purpose of this initiative was conceptualized as a quality improvement project. At the time of project commencement, ethical approval was not required in our institution for such activities.

Both surveys comprised a number of statements and respondents were asked to agree/disagree with each statement using a scale of 1 to 4 (1=strongly disagree and 4=strongly agree). Each survey also included a number of open-ended questions to allow respondents the opportunity to provide specific feedback regarding the program itself, both positive and negative.

Review of the literature revealed no survey tool available to guide our evaluation. Items for both surveys (patient and nurse) were, therefore, developed based on a review of related literature and grounded on elements of RNAO's (2005) BPG. Both surveys were subsequently reviewed by two additional renal program NPs who were highly familiar with the BPG. These individuals were asked to review scale items for content and appropriateness, therefore contributing to content and face validity (DeVon et al., 2007). In addition, the NPs were asked to comment on grammar, organization, and flow of questions in an effort to improve readability and optimize understanding of question content. The patient-specific survey was used to evaluate patients' knowledge about the importance of regular foot checks and proper foot care practices, their comfort level in having the nurse perform routine foot checks, and the extent to which they would know what to do if they identified a problem. The survey for satellite HD nurses had questions to assess their familiarity with RNAO's BPG (2005), determine their comfort level in performing foot assessments, and determine the extent to which they perceived they had peer and/or management support to perform routine foot assessments on their patients.

Analysis of both surveys was limited to calculation of a mean score for each Likert-type statement. Reliability of the survey was not calculated, as this was not deemed a research-focused evaluation. Rather, the purpose was to determine how well the foot assessment program was implemented in the respective satellite units. Qualitative

comments provided by participants were collated and reported as a whole, and individually by the satellite unit.

Overall, the results of both surveys were extremely positive. Mean scores for patient responses are presented in **Table 1**. Results demonstrated that patients appeared to understand the importance of regularly checking their feet and proper foot care, as evidenced by the highest mean scores for these statements. Similarly, patients reported a high level of comfort having HD nurse(s) check their feet on a routine basis. From an HD nurse perspective, respondents ranked highest on their familiarity with the long-term effects of diabetes on foot complications, felt comfortable, and recognized value in doing the foot assessments (see **Table 2**). In contrast, HD nurses appeared less familiar with available resources in their local community should patients develop foot problems and did not appear to recognize the link between the foot program and patient self-management as evidenced by lower ranked scores for these items. Responses to the open-ended questions yielded valuable information from participants. Patients' responses were consistently positive, irrespective of the satellite unit. As one patient wrote, "Being visually impaired and lost sensitivity in my feet, I feel that I might miss something and they will catch it". Patients were highly appreciative of any effort to reduce future foot complications and described their nurses as caring and knowledgeable with respect to the program. In contrast, HD nurses' responses to the

Table 1: Patient responses to Likert statements

Highest to lowest score (n=77); Where: 1 = Strongly Disagree, 2 = Disagree, 3 = Agree, 4 = Strongly Agree

Statement	Mean Score/4
I understand the importance of regularly checking my feet.	3.71
I understand the importance of proper foot care.	3.69
I feel comfortable having a dialysis nurse check my feet while I am having my dialysis treatment.	3.55
I feel that the nurses in my unit see benefit to doing routine foot checks.	3.51
I feel that having the dialysis nurses check my feet will help to prevent the development of a future sore or amputation.	3.51
I know what to watch for when I check (or have someone else check) my feet for potential problems.	3.44
I know what to do at home to prevent future injury to my feet.	3.39
From the teaching I have received, I would know what to do if I found a sore on my foot.	3.32
I was taught how to care for my feet at home.	3.30

open-ended questions were both positive and negative. On a positive note, the work of the unit-based nurse champions through organization and implementation of the program was highly valued. On the negative side, HD nurses identified a number of concerns including a lack of patient motivation to follow through with recommendations and/or attend follow-up appointments, as well as the perceived lack of time to do the assessments themselves.

Evaluation results for each satellite unit were distributed to a number of key individuals including, 1) the local administrative leader for the satellite HD unit, 2) nephrologist, 3) nurse practitioner, and 4) nurse champion for each unit respectively. In addition, an overall summary of patient and nurse results for all satellite units combined was shared with the medical director (a nephrologist) and clinical nurse manager responsible for the renal satellite program at our organization.

DISCUSSION

This paper reports on the process of implementing a foot assessment program in a regional satellite HD setting based on RNAO's (2005) BPG. While overall results are extremely positive, this program demonstrates creativity and innovation on a number of levels. First, this program extends beyond the borders of our in-centre HD units to include our nine regional satellite units, thus providing care in patients' local communities. Second, the program

encourages patients and families to play an active role in managing their feet while at the same time helping to promote safety and minimize their risk. Third, it is a nurse-driven, evidence-based foot assessment program based on RNAO's BPG (2005). Despite these positives, we recognize there are a number of issues and/or challenges related to program implementation that must be considered.

Factors affecting the success of BPG implementation.

Since RNAO began implementing BPGs in 1999, there have been a number of studies examining factors influencing guideline implementation in a variety of nursing care areas. One such study by Ploeg, Davies, Edwards, Gifford, and Miller (2007) investigated the perceptions of administrators, health care staff (including nurses), and project leaders following implementation of a number of BPGs in a variety of health care settings. Results highlighted a number of facilitators to successful guideline implementation including group interaction during the learning process, positive staff attitudes and beliefs, leadership support, and the presence of unit-based champions. Conversely, barriers to BPG implementation were also identified including negative staff attitudes, as well as time and resource constraints. More recently, Davis, Edwards, Ploeg, and Virani (2008) reported that hands-on skills practice and the development of new patient education materials were vital in organizations that demonstrated significant improvements in practice following BPG implementation. Once again, the importance of champions and administrative support was acknowledged, while identifying barriers to implementation that included lack of time, workload pressure, and staff resistance.

At this point in time, our program is approximately one year post-implementation. Success of our program through design, implementation, and evaluation can be attributed to a number of factors. First and foremost, administrative support at all levels within our renal program was invaluable to our accomplishment and this is consistent with previous evaluation studies on BPG implementation discussed previously (Davis et al., 2008; Ploeg et al., 2007). This support occurred on a number of levels initially through formal communication about the program to nursing staff in all satellite units, as well as helping to facilitate the identification of a nurse champion for each unit. Throughout the process, administrative leadership was also instrumental in ensuring the availability of necessary resources (i.e., funding) required to financially support nursing education, program set-up, and formal evaluation.

The individual HD nurses who volunteered to lead as champion in their respective units are to be commended for their effort, and their involvement was critical to the success of our program. As indicated previously, each champion attended one four-hour education session led by a wound expert. Following that point in time, these HD nurses went back to their respective satellite units to set up and train their peers on the elements of the program. Ploeg et al. (2010) examined the role of BPG champion using mixed methods design (i.e., qualitative interviews followed by survey distribution) and how these individuals influence BPG

Table 2: Hemodialysis nurse responses to Likert statements	
Highest to lowest score (n=59); Where: 1 = Strongly Disagree, 2 = Disagree, 3 = Agree, 4 = Strongly Agree	
Statement	Mean Score/4
I am familiar with how the long-term effects of diabetes can contribute to the potential for foot complications.	3.74
I am comfortable performing foot assessments.	3.24
I recognize the value in performing monthly foot assessments in our high-risk hemodialysis patients.	3.22
I feel adequately prepared to perform foot assessments.	3.20
I feel that I have peer support to perform foot assessments as part of my nursing practice.	3.17
I feel that I have management support to perform foot assessments as part of my nursing practice.	3.10
I am familiar with RNAO's Best Practice Guidelines on foot assessment.	3.01
I am familiar with available resources in my community should patients develop foot problems.	2.97
I feel comfortable that the foot program reinforces the message of patient self-management.	2.94

recommendations. The authors suggested that best practice champions are instrumental in disseminating information about guidelines through education and mentoring of their peers. Additionally, BPG champions are in the best position to adapt any implementation strategies that best fit the complexities of their own organization. Certainly, our best practice champions were all experienced HD nurses, self-directed in their practice, and highly knowledgeable about the intricacies of their individual work environments and this was likely a significant contributor to their success. Further to that, they are continually among their peers to encourage and promote ongoing accountability around evidence-based practice within each respective HD unit.

On the downside, it was evident from the evaluation surveys that HD nurses had some concerns specific to the foot assessment program itself. The most prevalent concern appeared to be related to a perceived lack of time to do the foot assessments and this concern is consistent with previous BPG evaluation studies in other settings (Davis et al., 2008; Ploeg et al., 2007). In some units, HD nurses voiced concern that removing socks would breach infection control practices in the HD unit. This issue was formally addressed by our hospital infection control nurse and communication was sent out to all units to dispel this concern. Finally, a number of HD nurses who completed the evaluation survey expressed frustration at patients' apparent lack of motivation and/or follow-through with nurses' recommendations and/or appointments. Once again, acknowledging nurses' concerns and reinforcing their abilities in providing education and support to patients was provided clinically by the project leads and by administration, as well.

Perhaps these aspects speak to the perceived high value of the program juxtaposed against time. That is, if the time is spent to invest in patient education and enhancement of self-care to optimize health of the feet, follow-through by the patient is not always actualized. Reportedly, at times, this was frustrating for nurses. Reminders by the project leads that patients and families are capable of self-determination to manage one's own health, was also a key part of this program.

Adaptability by other organizations. Implementation of this type of program is possible in other HD centres. However, a number of resources are needed to ensure program success. From an administrative standpoint, human resource costs must be considered for training and program set-up. As indicated previously, we identified a nurse champion in each unit where the program was implemented. This nurse attended a four-hour workshop dedicated to foot assessment (nine nurses \times four hours each). Using a "train-the-trainer" model, each champion was then responsible for teaching her/his peers about foot assessment and organizing the program in her/his unit. We acknowledge that larger units may require more than one nurse champion per HD unit. Individual programs will also need to identify an expert on foot care and assessment to teach the basics of the program to the staff in their respective units.

Other financial costs apart from staffing needs must also be considered with program set-up. More specifically, HD

units need to ensure there are adequate education materials available, both for nurses, as well as patients. We purchased a locally produced foot care teaching video and organized a resource binder for each satellite unit. Other units may determine their ongoing education needs differently, thus impacting on the resources required. Equipment costs must also be considered specific to purchasing the 10-gram monofilaments for assessment of sensation. In keeping with infection control guidelines at our centre, we gave each patient a single-use monofilament to allow for completion of sensation testing without the potential for cross-contamination. The monofilament was stored in a clear plastic sleeve in the patient's chart to allow for repeated use on the same patient. Finally, dedicated resources were also necessary to design a documentation tool and develop and distribute evaluation surveys. From an administrative standpoint, other centres would need to consider these additional costs in the design, implementation and evaluation of their respective program.

Finally, project leaders had administrative support to liaise with industry representatives with the goal of providing additional support for our patient population. That is, industry sources interfaced with Healthcare Materials Management Services (HMMS) to order samples and supplies that would otherwise be provided at additional cost to our patients. In this manner, transparency of product information met with our institution's guidelines, while at the same time allowing for patients to utilize products to enhance foot health.

IMPLICATIONS FOR NEPHROLOGY NURSES

Implementation of a foot assessment program in our regional HD satellite units highlights a number of implications for HD nurses. Most notable is the recognition that implementation of the BPG represents a nurse-driven, evidence-based foot assessment program that will benefit our patients most at risk for foot problems. HD nurses have an opportunity to play a key role in patient assessment for foot problems, as well as the education of patients and/or families around appropriate foot care practices at home. HD nurses have an opportunity to promote and encourage greater self-management in our patient population, as well. There is no doubt that our regular foot assessments have resulted in timelier detection of problems and referral to the appropriate services. Furthermore, patients can now receive much of this care closer to home, thereby reducing unnecessary travel back to the in-centre HD unit(s).

Program implementation from a distance, in itself, created additional challenges. Most notable was the issue brought forth by HD nurses of not knowing available foot care resources in their local community. Nurse champions appeared to identify this knowledge gap early on and many of them independently gathered their local information and developed a resource binder for future use.

Moving forward, sustainability of guideline implementation through continued education and support will be our focus. The addition of an electronic documentation system is anticipated in the future and it is hoped that this will

improve efficiencies and reduce the time needed for documentation of the assessments. Certainly, sustainability of guideline implementation has been shown previously to be enhanced through implementation of an electronic documentation system (Higuchi, Davies, Edwards, Ploeg, & Virani, 2011).

CONCLUSION

In summary, this paper reports on the implementation of a foot assessment program across a large satellite HD population. This program has resulted in monthly assessment of individuals at high risk for foot problems while providing ongoing education and support for patients regarding appropriate foot care practices. There has been a greater emphasis

on self-management in this group of patients, as well. Efforts to reduce foot complications are one essential step to reducing morbidity and mortality in this patient population.

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DISCLOSURE

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Applying the PARiHS framework in a knowledge dissemination initiative

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ABSTRACT

This paper describes the process of facilitating knowledge dissemination using the Promoting Action on Research Implementation in Health Services (PARiHS) framework, including articulation of findings, barriers, implications, and recommendations. Advanced practice nurses (APNs) are in a unique position to facilitate the dissemination of evidence-based knowledge to front-line staff in health care organizations. At a community acute care hospital in Toronto, Ontario, the collaborative competency of an APN was used to develop partnerships with three units in order to implement interprofessional knowledge dissemination via education sessions. The goal was to increase nurses' knowledge of best practices and, consequently, improve outcomes for nephrology patients under their care. The PARiHS framework was used to facilitate the process of knowledge dissemination. The framework consists of three elements: evidence, context, and facilitation. In order for the implementation of a project to be successful, it is necessary to understand the context of the organization. Implications and recommendations for advance practice nurses will be described.

Key words: PARiHS framework, advanced practice nurse, nephrology

INTRODUCTION

Nephrology patients on dialysis have specific nursing care needs. Due to the complexity of end stage renal disease and its associated co-morbid conditions, these patients can often be found in areas of the hospital outside of the hemodialysis or peritoneal dialysis outpatient units. Specifically, dialysis patients may end up in the emergency department, the intensive care unit (ICU) and the in-patient nephrology unit if admitted to hospital. Nurses working in these units may benefit from additional education about dialysis patients in order to facilitate quality care. To meet requirements for a Master of nursing practicum, the Promoting Action on Research Implementation in Health Services (PARiHS) framework was engaged at a community acute care hospital in Toronto, Ontario. The framework was used to guide the implementation of a knowledge dissemination initiative amongst nurses caring for dialysis patients outside of the outpatient dialysis unit.

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The Canadian Nurses Association's Advanced Practice Nurse (APN) collaboration competency (Canadian Nurses Association, 2008) was used to develop partnerships with three clinical areas with high volumes of nephrology patients—including the emergency department, intensive care unit (ICU) and the in-patient nephrology unit. As part of the project, knowledge dissemination education sessions were delivered by members of the multidisciplinary team and by the author. These sessions were based on learning needs identified by nurses and clinical practice leaders (CPL) related to the care of the nephrology patient in their respective clinical areas.

CONCEPTUAL FRAMEWORK

The PARiHS framework consists of three elements that work together to guide and determine the success of implementation of a project: context, evidence, and facilitation (Stetler, Damschroder, Helfrich, & Hagedorn, 2011). According to the framework, successful implementation depends on three characteristics: achievement of the implementation plan, adoption and maintenance of the knowledge in practice, and attainment of patient or organizational outcomes (Helfrich et al., 2010; Stetler et al., 2011). The context element includes additional sub-elements of culture, leadership, and evaluation. Culture creates the context for practice, character, and the feel of the physical environment; effective leadership provides clear roles, effective teamwork, and effective organizational structures; and evaluation refers to the types of measurement tools and methods of reporting used by the organization (Stetler et al., 2011).

METHODS

The learning needs of the nurses were assessed using a survey distributed in both paper and electronic versions (see [Figure 1](#)). Based on the identified learning needs, partnerships were developed with members of the multidisciplinary team to provide education for nurses. The education sessions were didactic in nature, and discussion was encouraged by the facilitator. In the ICU, small group education was provided that covered hemodialysis vascular access and was presented by the vascular access coordinator. In contrast, topics on the in-patient nephrology unit included chronic kidney disease (presented by the author) and the renal diet (presented by the nephrology dietitian). In order to evaluate knowledge transfer amongst the inpatient nephrology nurses, the author developed and administered two separate tests (see [Figure 2](#))—one test was used to assess knowledge prior to the intervention (pre-test) and the other to assess knowledge after the intervention (post-test). Questions pertained to the learning needs identified with the original assessment. Knowledge transfer was not evaluated in the ICU

due to the limited scope of the initiative. However, the sessions in the ICU and in-patient nephrology ward were evaluated for quality of content and presentation (see **Figure 3**).

Besides the needs assessment and evaluations, the context of the organization was also analyzed. This was accomplished using observation and through discussions with the author's preceptor based on the criteria from Stetler et al. (2011) of the sub-elements of context: culture, leadership, and evaluations. One-on-one interviews were completed with CPLs, managers, and the clinical nurse specialist for dialysis access. These interviews served to gauge the existing contextual readiness for the knowledge dissemination initiative. Lastly, the author's ability to facilitate education sessions was evaluated by the preceptor and reflected on by the author in order to determine the preferred type of facilitation method used.

FINDINGS

The initial learning needs assessment response rates were lowest at 18% in the emergency department, slightly higher at 29% in the ICU, and 35% on the in-patient nephrology unit. However, the information gained was still felt to be valuable. In the ICU, 44% of respondents identified a

desire to increase their knowledge about hemodialysis, and 31% about hemodialysis vascular access. On the inpatient nephrology unit, 45% of respondents wanted to increase their knowledge about the renal diet, and 19% about chronic kidney disease. The emergency department surveys demonstrated that 54% of respondents wanted to increase their knowledge about hemodialysis vascular access.

The results of the analysis of organizational context were consistent with the barriers that were identified early on by the author. Many of the indicators of contextual readiness for targeted evidence-based practice implementation were weak within the organization. There was a lack of appropriate resources—for example, lack of adequate health ministry funding, chronic staffing shortages, and high nursing staff agency and overtime use. In addition, the decision-making process was not always appropriate and transparent, and the degree of receptiveness to change was weak, and was directly dependent upon the individuals making up the team and their years of experience.

The pre and post tests to assess knowledge transfer on the inpatient nephrology ward demonstrated a 51% improvement in average pre-test scores from 36% to post-test scores of 87%. With respect to evaluation of the education provided, 96% of respondents on the in-patient nephrology ward and 95% in the ICU felt that the speaker was knowledgeable and effective, and the content was of high quality. Unfortunately, due to the scope and tight timelines for completion of the initiative, evaluation of nephrology patient outcomes was not completed.

Figure 1: Learning Needs Assessment

- How many years of emergency experience do you have?
- Have you previously worked in a nephrology care area? (i.e. in-patient nephrology, hemodialysis, peritoneal dialysis, ICU with hemodialysis)
☐ Yes ☐ No
- What are some of your knowledge gaps in the care of nephrology patients?
- What would you like to learn about nephrology patients?
- When you are learning something new, do you:
☐ Read about it
☐ Hear someone tell you about it
☐ Try doing it yourself
☐ Like to see diagrams or pictures
☐ Talk to someone about it
☐ Other (please specify)
- What is the optimal time of the day for an education in-service during your shift?
- How long would you prefer the education in-service to be?
☐ 15 minutes
☐ 20 minutes
☐ 30 minutes
☐ 45 minutes
☐ 60 minutes
- Any additional comments:

Figure 2: Pre and Post Tests

- What is the most common cause of Chronic Kidney Disease (CKD)?
- Name one other cause of Chronic Kidney Disease (CKD)?
- Name the function of a nephron?
- Where is 90% of Erythropoietin (EPO) produced?

Figure 3: Education Session Evaluation

- Was the content of the in-service session applicable to your nursing practice?
Strongly Agree ☐ ☐ ☐ ☐ ☐ Strongly Disagree
5 4 3 2 1
Additional comments:
- After completing the in-service, do you know the certification process for accessing dialysis lines?
Strongly Agree ☐ ☐ ☐ ☐ ☐ Strongly Disagree
5 4 3 2 1
Additional comments:
- Was the information discussed easy to understand?
Strongly Agree ☐ ☐ ☐ ☐ ☐ Strongly Disagree
5 4 3 2 1
Additional comments:
- Was the facilitator able to answer questions effectively?
Strongly Agree ☐ ☐ ☐ ☐ ☐ Strongly Disagree
5 4 3 2 1
Additional comments:
- Was the facilitator's delivery clear?
Strongly Agree ☐ ☐ ☐ ☐ ☐ Strongly Disagree
5 4 3 2 1
Additional comments:
- What was most valuable to you with respect to this in-service session?
- How would you improve this in-service session?
Additional comments:

BARRIERS

Initially, challenges were experienced related to the project lead being an external student facilitator, with a lack of established credibility or authority within the organization. During the planning and implementation phases of the initiative, challenges included both unit and organizational barriers. For example, some of the CPLs and multidisciplinary team members were unavailable a good amount of the time due to a hospital-wide technology upgrade initiative, which resulted in delays in the completion of the implementation plan. In the emergency department, education sessions were not provided at all due to above-mentioned competing priorities. Furthermore, staff nurses were often unable to attend education sessions due to time constraints and workload issues. Lastly, on the in-patient nephrology ward, there was a lack of permanent staff available to attend the education sessions. In fact, 54% of nurses who attended the education sessions were employed by an outside nursing (staffing) agency or were nurses from the hospital staffing pool and, thereby, not permanently assigned to the in-patient nephrology unit. This scenario presented a barrier to assessing the knowledge and learning of the permanent staff on the unit.

IMPLICATIONS FOR ADVANCED PRACTICE NURSES

Advanced practice nurses can demonstrate leadership by recognizing the learning needs of nurses, facilitating programs to meet these needs, and demonstrating clinical competency through the development of new or revised standards of care. Moreover, APNs are in a unique position to carry out these roles due to the relevance of their core clinical, research, leadership, and collaboration competencies to the distinct nursing knowledge they possess, as a result of their graduate education preparation. This education is enhanced by their clinical experience in a specialty area (Canadian Nurses Association, 2008).

Frameworks such as PARIHS can be engaged by APNs as a theoretical base with which to ensure the successful implementation of a knowledge dissemination initiative (Rycroft-Malone et al., 2002), as illustrated through this project. Furthermore, this project demonstrates the theory that project facilitation will be successful if it follows an assessment of the contextual readiness for knowledge dissemination and staff's receptiveness to change (Kitson et al., 2008).

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RECOMMENDATIONS

In order to ensure success with education in a health care environment, assessment of the organizational context and learning readiness should be completed by the APN prior to the start of the new knowledge dissemination initiative. Moreover, it is recommended that APNs incorporate the learning needs of nurses (as identified via a needs assessment) into the planning process, and have an understanding of the contextual readiness of those nurses to learn. Sustaining a knowledge dissemination initiative will require leadership support from management and CPLs within the clinical areas with a commitment to addressing the learning needs previously identified. In this setting, when planning education sessions, the members of the multidisciplinary team from hemodialysis, home dialysis, pharmacy, and renal nutrition departments need to be involved and provided with an opportunity to share their expertise and knowledge. This project was implemented in a community acute care setting, so the results may not be generalizable to all nephrology programs. In order to increase the reliability and generalizability of our results, it is suggested that the initiative be implemented and evaluated in these clinical areas in other organizations.

CONCLUSION

In conclusion, the PARIHS framework can be used to guide the implementation of a knowledge dissemination initiative and, thereafter, to evaluate the impact. This initiative was successful in increasing overall knowledge transfer scores by 51% amongst the nurses on the inpatient nephrology ward at this community acute care hospital. However, there were challenges in implementing this initiative in multiple units due to unit and organizational barriers. APNs can endeavour to facilitate a more successful implementation of a change project by assessing the contextual readiness for change in an organization using a framework such as PARIHS. The application of a multidisciplinary approach to planning of educational sessions will ensure involvement of appropriate experts during the implementation phase.

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Review of available intravenous iron preparations in hemodialysis

By Katie Palmer, BSc, BScPhm, Karen Cameron, BScPhm, ACPR, CGP, and Marisa Battistella, BScPhm, PharmD, ACPR

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OBJECTIVES

After reading this article, the reader should be able to:

1. Discuss the pathophysiology of anemia in chronic kidney disease patients
2. Describe the underlying reasons for the development of iron deficiency in hemodialysis patients
3. Compare and contrast the different intravenous iron preparations available in Canada.

ANEMIA OF CHRONIC KIDNEY DISEASE

Anemia is a common condition affecting chronic kidney disease (CKD) patients that has detrimental effects on the body. Common symptoms of anemia include fatigue, dizziness and shortness of breath. However, it is also associated with cardiovascular complications such as left ventricular hypertrophy and congestive heart failure, as well as reduced cognitive function, impaired quality of life and the need for blood transfusions (O'Mara, 2007).

The kidney plays a vital role in erythropoiesis. Erythropoietin (EPO) is released by the kidney and stimulates bone marrow to increase production of red blood cells (RBC). In CKD, the kidney loses the ability to produce and secrete EPO and, therefore, anemia results. The cornerstone of therapy is replacement of EPO with erythropoietin stimulating agents (ESAs) such as darbepoetin (Aranesp®) or epoetin alfa (Eprex®) (O'Mara, 2007). However, ESA use can quickly deplete body stores of important vitamins and minerals, such as iron, folate and vitamin B12, which

are vital to the production of RBCs. Therefore, to ensure adequate response to ESA treatment and to prevent iron deficiency anemia, iron therapy is often recommended in conjunction with EPO (Kalantar-Zadeh, Streja, Miller, & Nissenson, 2009; Kidney Disease: Improving Global Outcomes [KDIGO], 2012).

Iron deficiency is also a common condition associated with CKD, especially in patients receiving hemodialysis (HD). In addition to ESA use, reasons for this include: ongoing blood loss due to retention of blood in the dialyzer and blood lines, frequent laboratory sampling, and surgical procedures such as creation of vascular access. In addition, uremia can lead to platelet dysfunction and cause an increased risk of bleeding, especially in the gastrointestinal tract. Finally, diet restrictions and drug interactions can cause decreased iron absorption. Iron requires an acidic environment to be absorbed. Therefore, acid suppression agents, like proton pump inhibitors or H₂ receptor antagonists, can lead to poor absorption (Nissenson & Strobos, 1999). Furthermore, calcium supplements can also bind to iron leading to decreased absorption of both iron and calcium. According to the KDIGO anemia guidelines (2012), intravenous (IV) administration of iron is the preferred route for patients receiving hemodialysis. This recommendation is supported by many randomized control trials (RCTs) that showed greater increase in hemoglobin levels and/or lower doses of ESAs required compared to those assigned to oral iron therapy (KDIGO, 2012).

INTRAVENOUS IRON PRODUCTS AVAILABLE IN CANADA

There are four IV iron products available on the Canadian market, which are summarized in [Table 1](#). All IV iron preparations share a common central core containing elemental iron, shielded by a carbohydrate shell. The components in the shell, size of the molecules, and rate of release of iron are all factors that influence the side effects, dosing and administration of each product. When doses are given too fast, or if the dose is too high, there is a risk that the iron from the complex will be released too quickly, which can overwhelm the body's natural buffering capacity of the transferrin molecule to bind it. This may lead to free iron reactions, which are anaphylactoid in nature, but should not be confused with true allergic reactions seen with some IV iron products. In anaphylactoid situations,

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the dose or the rate of infusion needs to be adjusted to avoid such reactions in the future. The size of the iron-carbohydrate complex is inversely proportional to the rate of release of iron (Macdougall, 2000). Therefore, smaller molecules should be given in smaller doses and/or over a longer period of time to avoid free iron-related reactions.

Iron dextran is a ferric oxyhydroxide-dextran complex and is indicated for the treatment of patients with iron deficiency when the oral forms are unsatisfactory or impossible (e-CPS, 2012, Infufer). Iron dextran was the first IV iron product available on the market, and is most known for the higher rate of anaphylactic reactions, which have been fatal in some

Table 1: Comparison of intravenous iron products available in Canada

		Iron Dextran	Iron Sucrose	Iron Gluconate	Ferumoxylol
Availability*		Infufer® 50 mg/mL in 2 mL and 5 mL vials Available in Canada since 1997	Venofer ® 20 mg/mL in 5mL vials Available in Canada since 2001	Ferrlecit ® 12.5 mg/mL in 5mL ampoule Available in Canada since 2005	Feraheme ® 510 mg/17 mL vial Available in Canada since 2012
Contraindications or Precautions		<ul style="list-style-type: none">• Hypersensitivity to product• Anemia unrelated to iron deficiency• Acute kidney infection• Concomitant use of oral iron products• History of asthma or significant allergies• Severe liver dysfunction• May exacerbate rheumatoid arthritis, or cardiovascular complications	<ul style="list-style-type: none">• Hypersensitivity to product• Anemia unrelated to iron deficiency• Patients with iron overload	<ul style="list-style-type: none">• Hypersensitivity to product• Anemia unrelated to iron deficiency• Patients with iron overload• Not for use in neonates—contains benzyl-alcohol in formulation	<ul style="list-style-type: none">• Hypersensitivity to product• Anemia unrelated to iron deficiency• Patients with iron overload
Adverse Events	Serious Hypersensitivity /Anaphylactoid Reactions	0.6–0.7% of patients	0.006% of patients	0.1% of patients	0.02% of patients
	Important monitoring during administration	Increased risk of adverse effects with large IV doses (i.e. total dose infusion [TDI] technique) Symptoms of arthralgia, backache, chills, dizziness, fever, headache, malaise, myalgia, nausea and vomiting may occur within 24–48 hours, generally subsiding in 3–4 days (3–7 days with IM administration)	Hypotension	Hypotension associated with light-headedness, malaise, weakness or severe pain in the chest, back, flanks or groin More common with rapid administration and generally improve over 1–2 hours after administration complete	Hypotension, injection site swelling
	Other	Reported in > 10% of patients Hypotension, headache, pruritus, rash, urticaria, abdominal pain, diarrhea, nausea, arthralgia, arthritis Reported in > 2% of patients Brown skin, chest pain, tachycardia, syncope, hypertension, leukocytosis, seizure, hematuria, dyspnea, respiratory arrest	Reported in > 10% of patients Muscle cramps, nausea, headache Reported in > 2% of patients Abdominal pain, diarrhea, nausea, vomiting, chest pain, arthralgia, muscle cramps, hypertension, dizziness	Reported in > 10% of patients Hypertension, tachycardia, headache, dizziness, vomiting, nausea, diarrhea, muscle cramps, dyspnea, injection site reaction Reported in > 2% of patients Chest pain, syncope, edema, fever, fatigue, agitation, pruritis, rash, abdominal pain, pharyngitis, upper respiratory infections	Reported in > 2% of patients Edema, dizziness, headache, diarrhea, nausea, constipation, vomiting
Test dose		Required IM: 0.5 mL (25 mg) one hour before rest of dose IV: 0.5 mL (25 mg) over 5 minutes one hour before rest of dose *at the beginning of every new course	Not Required	Not Required	Not Required
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cases (Macdougall, 2000). The mechanism of this reaction is not completely understood. However, the dextran component is suspected as the likely culprit. This is supported by the improved safety of newer agents lacking the dextran component in the carbohydrate shell (Fishbane & Kowalski, 2000).

Iron sucrose is an iron (III) hydroxide sucrose complex and is indicated in the treatment of iron deficiency anemia in CKD patients and dialysis patients (e-CPS, 2012, Venofer).

The largest experience in the published CKD literature is with this formulation, and has shown the best safety profile in terms of severe and/or anaphylactoid reactions with rates less than 0.06% (Auerbach & Ballard, 2010).

Iron gluconate is a sodium ferric gluconate complex in sucrose and is indicated for the treatment of iron deficiency in dialysis-associated anemia in patients receiving erythropoietin therapy (e-CPS, 2012, Ferlecit). Iron gluconate

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	Iron Dextran	Iron Sucrose	Iron Gluconate	Ferumoxytol
Administration	IM: 100 mg daily **preferred route unless valid reason for IV administration** IV Infusion: ≤1g in 500 mL NS over 3–4 hours. [TDI method] Hemodialysis patients: 100mg in 100 mL NS over the last hour of dialysis IV push: 50 mg/min (100 mg over 2 min)	IV Infusion: 100 mg IV in 50–100 mL NS. Run over 15–30 minutes IV push: 20 mg/min (100 mg over 5 min) Larger doses can be administered in peritoneal dialysis and non-dialysis CKD patients (300–500 mg over 2–6 hrs). Larger doses require a longer administration time to prevent free iron reactions	IV Infusion: 125 mg in 100 mL NS over 1 hour IV push: 12.5 mg/min (125 mg over 10 min)	IV push: 510 mg × 2 doses separated by 2–8 days (510 mg push over minimum of 17 seconds [30 mg/mL per second]) Administer at least one hour into HD and blood pressure is stable.
Monitoring duration	Monitor for 60 minutes after administration	Monitor for 30 minutes after administration	Monitor for 30 minutes after administration	Monitor for 30 minutes after administration
Cost **Market cost as of April 2013	100 mg dose: \$28.62 1g elemental iron load: \$286.20	100 mg dose: \$37.50 1g elemental iron load: \$375.00	62.5 mg amp: \$26.36 1g elemental iron load: \$421.76	510 mg: \$396.78 1g elemental iron load: \$793.56
Timing between administration and iron studies	3 weeks	48 hours	24–48 hours (potentially up to one week)	2–8 days
Other Benefits	Available for IM or TDI technique		8 doses (vs 10 doses of iron sucrose) to reach 1,000 mg elemental iron load	2 doses (vs 10 doses of iron sucrose) to reach 1000 mg elemental iron load
Other Concerns			<ul style="list-style-type: none"> • 2 snap ampoules need to be broken for each dose • Monograph does not include bolus infusions for peritoneal dialysis or pre-dialysis patients (Doses > 125 mg have been associated with greater adverse events) 	<ul style="list-style-type: none"> • May interfere with MRI for up to 3 months (max effects 1–2 days post dose) due to superparamagnetic properties • May interfere with the assays for bilirubin (↑), uric acid (↑), triglycerides (↑), BUN (possible ↓), calcium (possible ↑) and cholesterol (possible ↓). Max effects during first 48 hours post dose.
IM = intramuscular, IV = intravenous, NS = normal saline *As per Health Canada Drug Product Database http://webprod5.hc-sc.gc.ca/dpd-bdpp/index-eng.jsp . For iron dextran, varying products were available with different molecular weights. Availability stated for specific brand of iron product, and may not be when the first IV iron of that iron salt was available in Canada. **Market cost determined by telephone and comparing hospital and community pharmacy cost from distributors and drug company advertised costs				

has the smallest particle size of the products available and, therefore, has the potential to release free iron at a greater rate. Consequently, it requires a longer administration time to ensure the release of free iron does not overwhelm the body's natural transport mechanisms (Auerbach & Ballard, 2010).

Ferumoxytol is the newest IV iron product available in Canada and is indicated in the treatment of iron deficiency anemia in adults with CKD. Ferumoxytol is an iron oxide-polyglucose sorbitol complex with a carboxymethylether coating (e-CPS, 2012, Feraheme), and is the largest molecule of the products available. Its large size allows for slow release and, therefore, large doses are able to be given over shorter periods of time with minimal side effects (Auerbach & Ballard, 2010).

EFFICACY

IV iron therapy in patients taking ESAs has shown favourable results in raising iron status indices, including hemoglobin levels, ferritin and TSAT. The efficacy of iron dextran has long been established from many clinical trials dating back to the 1980s. Since then the newer IV iron agents have demonstrated at least comparable efficacy to establish their place in the market (Bailie, Johnson, & Mason, 2000). In a study of 665 hemodialysis patients receiving epoetin alfa and iron sucrose, hemoglobin levels increased by 8.2–9.0 g/L, ferritin increased by 278–326 ng/mL, and TSAT increased by 9.60–9.79%. The degree of change from baseline depended on original iron stores and number of cycles of iron received (Reed, Charytan, & Yee, 2007). A trial by Nissenson et al. (1999) examined low-dose (500 mg load) and high-dose (1,000 mg load) iron gluconate in iron deficient hemodialysis

patients receiving epoetin alfa and concluded that high dose achieved a more optimal response. In the 44 patients who received high-dose iron gluconate, hemoglobin levels increased by 10–13 g/L, ferritin increased by 134–320 ng/dL and TSAT increased by 5.5–9.0% (Nissenson, Lindsay, Swan, Seligman, & Strobos, 1999). Finally, similar results are seen in a study with the use of ferumoxytol in 114 hemodialysis patients on stable ESA therapy. Hemoglobin levels increased by 7.1–10.2 g/L, ferritin increased by 233–356 ng/mL and TSAT increased by 6.22–6.44% (Provenzano et al., 2009). Although head-to-head trials comparing the different IV iron products in terms of efficacy are lacking, results from individual clinical trials show similar results.

CONCLUSION

There are many different aspects to consider when deciding which IV iron product would be best to use for your patients. Generally, the choice of product in any institution ultimately comes down to practical aspects including drug administration, cost and patient safety. For example, ferumoxytol is a very attractive option in peritoneal dialysis or pre-dialysis patients. The fast administration time and limited number of doses makes it a convenient option requiring fewer administrative resources. However, this must be balanced with less clinical experience, a less clear long-term safety profile and an increased cost compared to other products on the Canadian market. On the other hand, hemodialysis patients spend extended periods of time in dialysis units, therefore cost and the known safety profile of the older agents such as iron sucrose and iron gluconate may be a more important factor compared to administration time.

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Review of available intravenous iron preparations in hemodialysis

By Katie Palmer, BSc, BScPhm, Karen Cameron, BScPhm, ACPR, CGP, and Marisa Battistella, BScPhm, PharmD, ACPR

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- Which of the following statements is FALSE?
 - common symptoms of anemia include fatigue, dizziness and shortness of breath
 - therapy for CKD associated anemia includes erythropoietin stimulating agents (ESAs)
 - erythropoietin (EPO) is released from the bone to stimulate red blood cell production
 - anemia is associated with cardiovascular complications such as left ventricular hypertrophy, and congestive heart failure
- The most common cause of iron deficiency in hemodialysis patients is due to the use of:
 - antihypertensive agents
 - erythropoietin stimulating agents (ESAs)
 - anticoagulants
 - proton pump inhibitors
- Which of the following generic and brand name pairs is correct?
 - iron sucrose, Venofer®
 - iron dextran, FeraHeme®
 - ferumoxytol, Ferrlecit®
 - iron gluconate, Infufer®
- Which IV iron product requires a test-dose before initiation of therapy?
 - iron sucrose
 - ferumoxytol
 - iron gluconate
 - iron dextran
- Which IV iron product has the highest incidence of anaphylactoid reactions?
 - iron dextran
 - iron sucrose
 - iron gluconate
 - ferumoxytol
- Which IV iron product can be given over the shortest length of time?
 - iron dextran
 - iron sucrose
 - iron gluconate
 - ferumoxytol
- Which of the following prescriptions would give you approximately 1,000 mg elemental iron load?
 - Venofer® × 8 doses
 - FeraHeme® × 1 dose
 - Infufer® × 1 test dose, then 800 mg IV over 4 hours
 - Ferrlecit® × 8 doses
- Which IV iron product can be given via the intramuscular route?
 - iron dextran
 - iron sucrose
 - iron gluconate
 - ferumoxytol
- Ferumoxytol can interfere with MRI imaging for how much time after the last dose?
 - two weeks
 - one month
 - eight weeks
 - three months
- Complete the following sentence: Ferumoxytol has the _ size, and therefore _ doses can be given with minimal side effects because of the _ release of iron from the carbohydrate shell.
 - smallest, large, slow
 - smallest, small, fast
 - largest, large, slow
 - largest, small, fast

CONTINUING EDUCATION STUDY
ANSWER FORMCE: 2.0 HRS CONTINUING
EDUCATION

Review of available intravenous iron preparations in hemodialysis

Volume 23, Number 2

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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

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Medical equipment donations

Rejean Quesnelle, ASCT

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March Madness is not just for NCAA basketball. At the end of the fiscal year all government organizations are in a spending frenzy until March 31 to make sure their budget is expended. Everyone is lining up to get those items on their wish list that Santa forgot to deliver to their dialysis unit last Christmas. Taking inventory of what you have, what needs repair, and what needs replacement are the considerations. March also turns our thoughts to spring cleaning—particularly discarding older, unused, and unwanted medical devices. There are three choices for removal of older equipment: i) equipment that is no longer functional may be disposed of appropriately; ii) equipment with some residual value may be sold off to recover costs; and finally, iii) medical equipment can be donated.

This article will discuss both the merits and shortcomings of donating medical equipment.

If philanthropy is your goal, then giving the equipment away is an option. Donating medical devices is not a new idea and according to the World Health Organization's *Guidelines for Health Care Equipment Donations*, donated medical equipment is an important way to support health care programs in developing countries. However, our goodwill and warm hearts can often cloud the true benefit and usefulness that "donations" can provide to those in

need. Errors can occur in the donation process that result in both the recipient and the donor falling short of a win. In order to make donations worthwhile, the World Health Organization (WHO) has developed a *Good Donation Practice Guideline* (World Health Organization, 2000).

The *Good Donation Practice* guidelines are composed of four core principles:

1. A health care equipment donation should benefit the recipient to the maximum extent possible;
2. A donation should be given with due respect for the wishes and authority of the recipient, and in conformity with existing government policies and administrative arrangements;
3. There should be no double standard in quality: if the quality of an item is unacceptable in the donor country, it is also unacceptable as a donation;
4. There should be effective communication between the donor and the recipient, with all donations resulting from a need expressed by the recipient. Donations (solicited) should never be sent unannounced.

Upon review of the above four principles, one can appreciate where the majority of mistakes might occur. Scenarios like unsuitable donations, lack of key equipment, poor project planning, and lack of knowledge regarding building infrastructure or

a lack of support and funding result in disappointing project outcomes. Unsuitable donations start with donors hoping to meet a need in a particular community, but end up being a burden to the recipient. There is no valid reason to donate an item if it is non-functioning or obsolete. If it is no longer suitable for use at your hospital, then it is likely unsuitable for use elsewhere. Shipping unusable equipment to a developing country becomes a huge burden, as they will be faced with its disposal and, unfortunately, due to a lack of resources, this could be done in an unsafe manner.

A 20-year-old ventilator could be a useful item if it is currently supported by the manufacturer, but the key concern should be how long the manufacturer plans to continue supporting this product. If you consider that manufacturers of dialysis equipment will typically produce their current model for at least 10 years and will provide ancillary product support such as maintenance kits for roughly another 10 years, it's quite feasible to expect a minimum life expectancy of 20 years. It is important to note, however, that manufacturers quite often make more aesthetic changes to their new models while incorporating many existing components from a previous model. This means many parts are still available for older machines beyond the 20 year mark, which extends the

lifespan of the product. Any donated equipment must be supported for a minimum of two years, but preferably four years in order to meet the donation suitability criteria.

Another common issue is a lack of proper communication. Effective communication between the donor and recipient is key to bringing a project to fruition. Sadly, you can potentially donate equipment that never sees a day of use—thereby wasting time, resources, and efforts. Situations such as the shipment of machines to a recipient without proper electrical infrastructure or vital supplementary equipment such as a water treatment system are problematic. This exact scenario nearly occurred to a colleague. He was approached with a request to donate medical equipment. After some minor communication, it was agreed upon to donate some dialysis machines. Assumptions were made by both parties and it was not until further discussion took place that they realized that there was more to the project than just shipping of the machines. The project was subsequently abandoned, as the resources did not exist in the recipient's environment to support the ongoing maintenance requirements of the equipment.

The initial implementation of any project can be accompanied by an influx of momentum and support from the benefactor. However, a problem can develop when there is a lack of foresight regarding the sustainability of a program. The short- and long-term funding needs

of the project should be recognized including ongoing equipment maintenance costs, staffing costs, building of infrastructure, and waste disposal. Consideration should be given to the procurement of parts and supplies locally, and whether or not the project could expand based on demand. Therefore, it is clear that lengthy discussions and detailed planning from the beginning will result in a more successful project. In order to make the donation process successful, consider the three-stage approach below:

Step 1: Project planning

The plan should identify the recipient of the equipment and what the equipment will be used for. There should be a project committee formed, with key players from both the donor and recipient teams, whose roles are clearly defined. The plan should also indicate what the short- and long-term objectives are, outlining dates of delivery and receipt of equipment, potential infrastructure requirements, and related timelines.

Step 2: Project implementation

Proper project implementation requires excellent communication. On-site, face-to-face discussions (at least one) should occur to truly capture the vision of the project. This approach will help to determine the support strategies needed, the training of support staff and super-users required, what—if any—infrastructure deficiencies exist, and what is required to remediate them. It is important to understand the program delivery plan and what that vision looks like. This process

provides you with key information regarding potential additional costs well in advance of delivery. If additional funds need to be generated, one can look at various fundraising streams to help support the venture. It is also very beneficial to the donor, as it facilitates modifications to the current donation plan's timeline, as needed.

Step 3: Project support

Once machines have been delivered and commissioned, staff have been trained, supplies have been ordered and patients are ready, the donor role is not complete. Maintaining good communication with the recipient is important to ensure the long-term viability of the project. If additional support is required, outlining what that support would entail is important. Documentation of the project from start to finish provides a great blueprint for others to follow. Finally, a post-project debriefing session with your donor team will assist you in determining any deficiencies or changes you might have made in retrospect, and to provide guidance moving forward.

Donating medical equipment is a complex task, but is ultimately rewarding. However, careful planning is the key to success with this type of initiative.

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DILEMMA

In our inner city hemodialysis unit we often deal with difficult patients. This one patient who is really causing us problems right now is over 65 years of age. He recently started hemodialysis (within the past year). He seems to be quite needy and tells us frequently how hard it is for him to make ends meet. He often worries about having enough money to feed his cats. However, every dialysis he brings in treats for the staff. He insists he has to thank us because “he owes us his life”. Usually it is just a chocolate bar or a box of cookies, but we cannot help but think that this adds up and he would be better using this money to better his home situation and purchase groceries. If we challenge him with this behaviour, he will usually tell us, “I got some money from a friend” or “I had a free coupon from the store”. We don’t believe him, and don’t want to hurt his feelings, but we are frustrated when he comes in at the end of the month and asks us if there is any food around or if we can order him a sandwich because he has no groceries and no money. We also wonder if the gift-giving comes with strings. Does he expect a certain level of care as a result of this? How can we get across to him that there is no need to bring a gift every dialysis for the staff and that he needs to focus on looking after his own needs?

ANSWER TO DILEMMA

That is an excellent question. It brings out many issues that we encounter in the complex environment of the dialysis unit, highlighting the fact that there is no such thing as “routine” dialysis therapy. It is almost as if each patient brings his own puzzling adjustment to the therapy. These adjustments become confusing when we are pulled into these situations, without actually understanding the logic of it. As a start, I try to keep in mind that each “puzzle” has a uniquely

individual context. This is a major departure from how we commonly approach clinical issues in nephrology and specifically, dialysis. We normally try to understand and deal with issues, e.g. elevated serum phosphate levels, in a causal manner. That is to say, we think of the limited number of causes, such as dietary indiscretion, lack of medication adherence, elevated PTH levels and then we try to delineate which factor is responsible and try to provide the appropriate therapy. Although there is patient interaction in this determination, most of the communication is limited to strictly defined questions and topics. We have the possibilities in mind and we ask pinpoint questions to figure out the cause(s). There is a hierarchical approach in this also, with us as experts with knowledge, and the patients providing answers, which are then fitted into our schema. To be fair, at times this may be a collaborative process, but more often the patient is held responsible, in our minds, for the perturbation and our recommendations are then handed down to be followed. When the expected serum phosphorus level does not materialize we return to our previously defined questions and start afresh.

Trying to understand the patient’s issues and how they affect us requires a different approach, one that does not come naturally to us in our clinical work. Part of the difficulty is that these are not simple questions with common answers that ring true from patient to patient. There is very much a “local” context, which has to be discovered. As well, the route for that discovery is more complex than the route to discover the cause of hyperphosphatemia above. It almost means switching to a “right brain” activity, where cause and effect situations take circuitous routes, seemingly without rhyme or reason. It is an activity that requires listening patiently, without resolution

of the issue in one discussion. That is a very hard process for us, as we are used to identifying the problem and then solving it on the spot, or at least having a schema which will lead to a solution. This way of listening is different in that the discussion takes place over many patient encounters. What makes this more complicated, is that the encounters accomplish two very different things. On the one hand, we gather factual information, which helps us understand the specific situation better. For example, what does the dialysis therapy “mean” for this patient. In our mind, we know that it is keeping him alive, that it is routine, that hopefully he will adjust well and do well for the limited time that he will receive this treatment. Most assuredly, there are other meanings, which only the patient is privy to. For example, how does the therapy change his social interactions? What are his significant social relationships? How does the “inner city” designation enter into the equation? Is this an isolated individual, leaning on government subsidies, whose sole social relationships are those with his pets and the renal staff and fellow patients? What relationships has he developed with the other patients? What is his life story? Where was he born? What was his family’s origin like? What were his early relationships like? Along the way, what relationships did he develop? What employment did he pursue?

At this point we are also discussing a process of “discovering” the patient. The patient will quickly appreciate that the connection he is making with a staff member who has taken an interest in his unique individuality. That “connection making” is in many ways much more important than the factual information obtained. It makes the patient feel that someone cares about him, beyond a perfunctory task oriented connection. Establishing that connection engenders trust, which

allows for sharing of information. Beyond it, connecting with an empathetic nurse will make him feel less vulnerable, less feeling that he owes his life to the staff. This enhancement of his resilience may, not surprisingly, allow him to stop feeding the nurses. At that point, the staff may feel less conflicted, less feeling trapped in a disturbing and continuously repeating piece of theatre. As such, focusing on both process and content are important aspects of psychosocial care.

Another topic brought up in the question above is how these situations make us feel. Again this is different from the hyperphosphatemia problem. These latter clinical issues remain purely intellectual topics, with very little emotional impact on us. With this patient's chocolate gifts, which leave him financially and nutritionally depleted, we are left with disturbing feelings. We may be grateful for the gift but feel that it comes with a price. Certainly we feel guilty that he has no

food after we "feasted" so grandly on the chocolates. Do we become trapped in a "dance" not of our own choosing? On the surface, it is an innocent act, gifts from a grateful patient for the care he is receiving. Yet it becomes more than that. His gift for being kept alive, paradoxically, may cost him his life at the end of the month. It is this that leaves us disturbed, not understanding the senselessness of it all. I agree, he does seek a level of care with his gifts, but the care is again patient specific, beyond the actual dialysis care. It is seeking a specific kind of relationship with the staff that he is dependent on. He oscillates between being a "provider" and then becoming "depleted", with us very strongly feeling his "depleted" state and wondering how to provide for him. I wonder whether the comment, "he needs to focus on looking after his own needs", expresses our frustration with how we are made to feel and our desire that he leave us alone with his gifts.

In summary, it is useful to recognize that the approach to psychosocial issues are more complicated and require a different kind of attention from what we are normally used to. As well, these issues affect us more profoundly than the usual kind of problems we deal with. It is similar to the numerous issues we deal with in our home life, involving a spouse or children, which should be simple yet often leaves us confused and disturbed. With this patient, providing an empathetic approach, which is open ended, not seeking a quick solution, spanning many dialysis sessions would allow him to feel more secure and less needy in making sure the nurses remained "attached" with his gifts. In all this, we see a wonderful demonstration of the richness of the human condition, the myriad of ways that we cope with vulnerability, which goes a long way in explaining why we chose this profession.

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✓ Article

- Page titre incluant les renseignements suivants:
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 - Nom de chaque auteur (incluant prénoms au complet)
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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

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☐ Hemodialysis

☐ Peritoneal

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