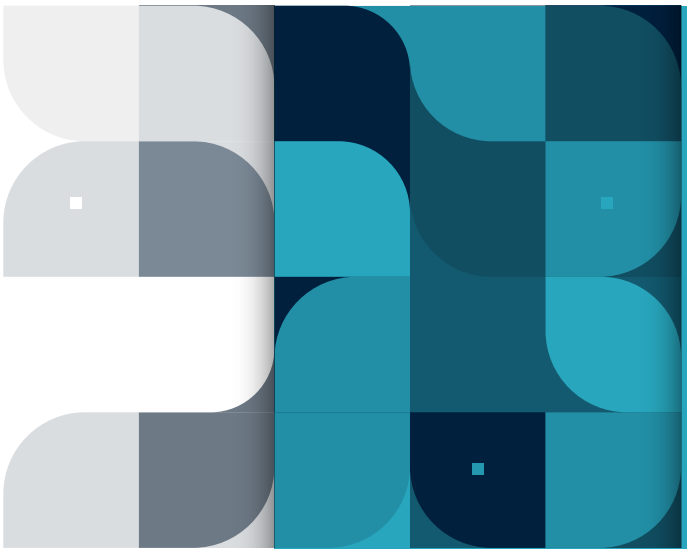
npcurrent
Canadian Journal for Nurse Practitioners



APRIL/MAY 2018
VOL.1, NO.1

Hypertension Update

Is the clinical approach to target BP changing?

Key Concepts

Sleep in Children

DIRECT Trial

Weight loss and sustained remission in type II diabetes

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*Comparative clinical significance unknown.

REFERENCES: 1. McNeil SA, Qizilbash N, Ye J, *et al.* A retrospective study of the clinical burden of hospitalized all-cause and pneumococcal pneumonia in Canada. *Can Respir J.* 2016;2016:3605834. **2.** Prevnar® 13 Product Monograph. Pfizer Canada Inc., December 22, 2015.

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A Canadian Journal for Nurse Practitioners

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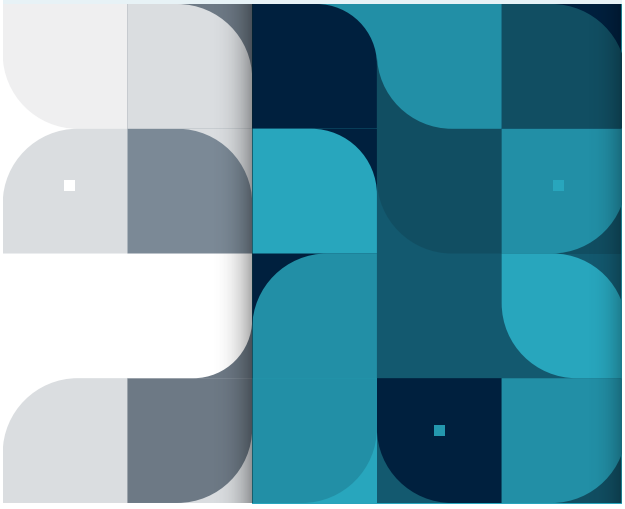

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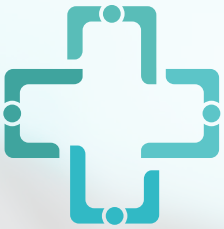

npcurrent

Canada's Journal for Nurse Practitioners

Welcome to the first issue of the NP Current, a Canadian journal developed specifically for nurse practitioners.

Our goal is to build a journal that is a forum for research and knowledge translation for NPs across the country and reflects the breadth of NP roles in Canadian healthcare.

Who are the people behind the NP Current? We are a medical communications company with experience in medical writing and publishing who saw a gap in what was available to Canadian NPs.

How did we see the gap? Where all good things come from – family. Between family in the profession and family pursuing graduate nursing studies, the idea for the NP Current was born.

Future issues of the NP Current will deliver a mix of original, peer-reviewed clinical content and healthcare information with a focus on prevention, diagnosis, treatment and collaborative wellness.

It is our sincere hope that this journal provides you with information at the current edge of diagnosis, treatment and prevention that is clinically important to your practice. We look forward to hearing from you with ideas for topics and welcome your submissions.

Melissa Lamont
Managing editor
melissa@npcurrent.ca

The NP Current will only accept advertisements for products and services that are consistent with our goal of providing accurate and relevant information to NPs. To that end, all advertisements in the NP Current must comply with Health Canada guidelines for advertising to Canadian healthcare providers.

Hypertension Update

Guidelines have been updated, but does this mean changes in your clinical approach to target BP?

Hypertension, well-known in the popular press as the 'silent killer', affects nearly 25% of the adult Canadian population.[1] Although the treatments for hypertension have evolved over the years, it remains the case that the higher your blood pressure, the higher your risk and thus the greater benefit treatment will offer.

In February 2018, Hypertension Canada released the 2018 Guidelines for the Diagnosis, Risk Assessment, Prevention and Treatment of Hypertension in Adults and Children.[1]

Hypertension is a silent killer affecting an estimated 25% of Canadian adults.[1]

Diagnosis of hypertension

A key feature of the 2018 Guidelines is the importance of correct diagnosis. Automated BP (ABP) measurements are recommended and ways to ensure an accurate reading are outlined, including using the proper cuff size, and patient position. A new addition to the guideines is the recommendation to use validated wrist devices to measure blood pressure in people with large arm circumference where upper arm measurement methods cannot be used.[1]

Following an abnormal BP reading in office, the ideal is to have ambulatory ABP readings. If this is not possible then at least 1 out of office ABP reading is recommended as out of office BPs are typically lower. If these readings are not possible prior to the second HCP visit, serial office BP measurements can be used. For patients with demonstrated white coat effect, ambulatory monitoring or home BP is the recommended follow-up. The guidelines recommend that electronic upper arm devices are preferred over auscultation for measuring BP.

For all patients with hypertension, routine lab tests are recommended, including urinanalysis, blood chemistry, fasting glucose, lipid panel, and 12 lead electrocardiograph.

Treating to target

Once a diagnosis is made, the next key step in the guidelines is treating to target blood pressure.

Essentially, the greater the risk, the greater the potential effect of treatment. This calls on clinicians to tailor their treatment to individual patients based on the guidelines. Baseline risk and co-morbidities must be considered along with patient preferences when making decisions about treatment. Patients that require additional considerations include those with diabetes mellitus, those with chronic kidney disease and the elderly.

Particular care is needed when treating the elderly, remembering that BP naturally increases with age and then begins a decline

Continued on page 5

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The product monograph is also available by calling Cipher Pharmaceuticals Inc. at 1-888-361-7207.

Reference: 1. Cipher Pharmaceuticals Inc. Ozanex™ Product Monograph. May 11, 2017.

Pr ozanex™
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Hypertension Update

Guidelines have been updated, but does this mean changes in your clinical approach to target BP?

Continued from page 3

again. It is important to not only reassess BP regularly but also to always assess standing BP. Any SBP of less than 110mmHg increases the risk of falls and caution needs to be used when treating to not drop BP too low.

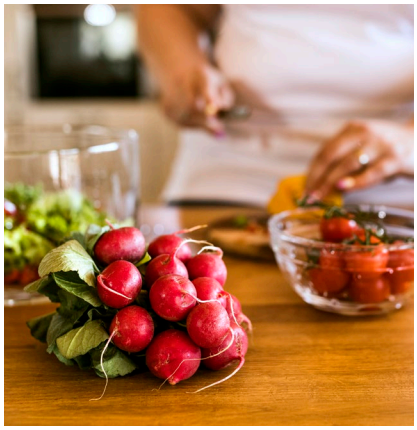
"Hypertension Canada continues to recommend a risk-based approach for treatment thresholds and targets, placing a strong emphasis on cardiovascular risk assessment not only for the purpose of therapeutic decision-making but also to engage and educate patients in risk reduction strategies."[1]

Treatment

One of the new guideline recommendations added for 2018 was the need to help engage patients in conversations about health behaviour to encourage changes to lower BP.

The second new guideline concerns the treatment of hypertension in association with heart failure. The recommendation is to use an angiotensin receptor-neprilysin Inhibitor combination instead of an ACE inhibitor or ARB for patients with symptomatic heart failure and a reduced ejection fraction (EF <40%).

Summary



In summary, diagnosis of HTN requires attention to BP monitoring technique and out of office readings are preferred. A patient's baseline CV risk must be assessed and considered when deciding on treatment and shared informed decision making is integral to the process.

For medication therapies, comorbidities must be considered when choosing a treatment regimen. The goal should be to treat to target BPs but clinician common sense must be used and treatment in the elderly requires particular attention and nuance to for optimum effectiveness. Lifestyle changes such as diet and activity are very important and should always be discussed and encouraged.

1. Nerenberg K et al., Hypertension Canada's 2018 Guidelines for diagnosis, risk assessment, prevention and treatment of hypertension in adults and children. Can J Cardiol, published Feb 24, 2018 online, doi: 10.1016/j.cja.2018.02.022

The DIRECT Trial

Can a weight loss program in the primary care setting lead to sustained remission of type II diabetes?

Background

Diabetes is a growing concern both globally and locally. The prevalence of diabetes in Canada in 2015 was estimated at over 3 million and predicted to increase 44% by the year 2025.[1]

Diabetes has a significant impact on both morbidity and mortality. The public Health Agency of Canada estimated in 2008/2009 that 1 in 10 adult deaths could be attributed to diabetes.[1] Morbidity rates are also striking. When compared to the general population those with diabetes were found to have a three fold increase in risk for hospitalization for cardiovascular disease, to be twelve times more likely to suffer end stage renal disease requiring hospitalization and to have a dramatic twenty fold increase for hospitalization for lower limb amputation.[2]

While type II diabetes represents a significant health burden, it is responsive to lifestyle interventions. To date studies have shown remission rates of between 11% and 20% in patients with newly diagnosed type II diabetes with intensive weight loss intervention

What is a cluster RCT?

In a randomized controlled trial (RCT), individual patients are randomized to either the intervention group or the control group. In a cluster RCT, a group of patients – a cluster – is randomized. These clusters of patients could be everyone in a household, a clinic or a school for example.

Cluster RCTs are useful when there is concern of contamination between control and intervention groups whether by being in close proximity (patients in the same community) or through a common clinician or clinic.

Cluster RCTs are often used for public health intervention studies when decisions will be made for groups of patients.

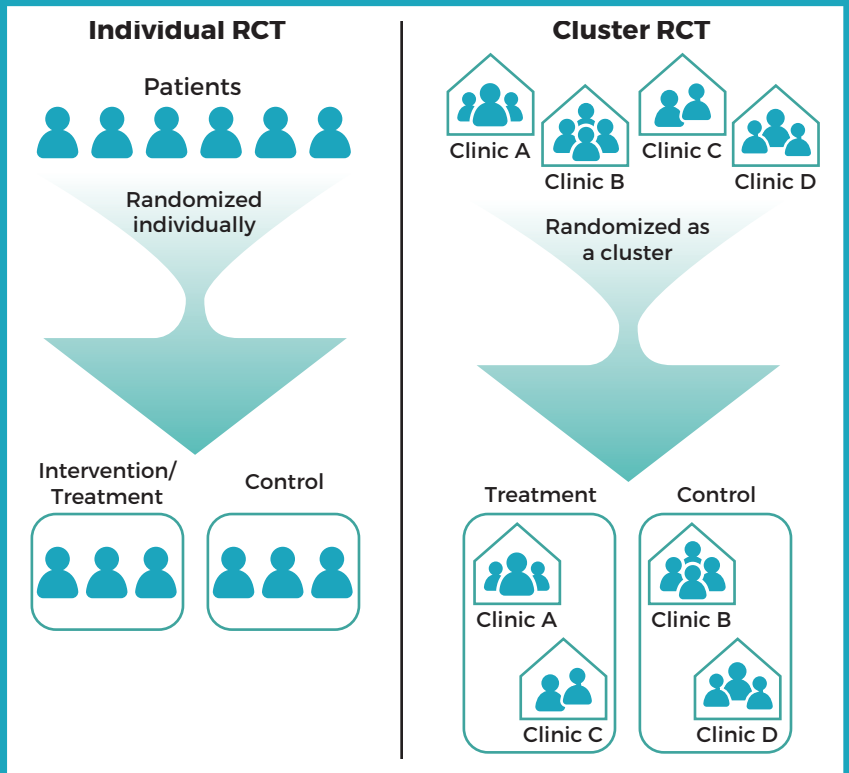


Figure 1: Individual RCT vs. Cluster RCT

programs delivered in speciality settings (eg. AHEAD trial).[5]

These intervention programs however can be potentially difficult to manage in a primary care setting.

DIRECT Trial

The DIRECT trial is the first study to set diabetes remission as the primary study outcome in a weight loss program delivered in a primary care setting.[5] Inclusion criteria were people diagnosed with type II diabetes within the past 6 years who had not yet achieved target glycemic control as determined by glycated hemoglobin (A1C) values, a BMI of 27-45 and not on insulin.

This cluster randomized trial involved 49 primary care practices across Scotland and the Tyneside region of England randomized to either the intervention or control group.

The DIRECT trial had two primary outcomes: weight reduction of 15kg or more and remission of diabetes (A1C below 6.5%). Secondary outcomes measured included quality of life, serum lipids and physical activity at 12 months.

The intervention involved an evidence-based weight management program (Counterweight-Plus). The control clinics managed patients per standard UK Diabetes guidelines.

Each intervention clinic appointed either a nurse or dietician (as available) to administer the intervention. This nurse or dietician was provided with an 8-hour training session on the Counterweight-Plus program and mentored throughout each phase of the intervention by the study team's research dieticians.

The Counterweight-Plus weight management program consisted of an initial total diet replacement of 825–853 kcal/day (59% carbohydrate, 13% fat, 26% protein, 2% fibre) to induce weight loss for 3 months. Participants

were then guided in "structured food reintroduction" (50% carbohydrate, 35% total fat, and 15% protein) over 2 to 8 weeks and followed for monthly visits to support long term weight loss maintenance. Participants discontinued all antidiabetic and antihypertensive medication on day 1 of the weight management program.

Results

Final analysis included 149 participants in each of the control and intervention groups. The primary outcome of weight reduction of 15kg or more was acheived in 26% of the intervention group and 0% in the control group ($p<0.0001$). The co-primary outcome of diabetes remission was reached by 46% vs. 4% in the intervention and control groups ($p<0.0001$).[5]

The greatest remission rates were seen in those who lost 15kg or more with 86% achieving remission of their type 2 diabetes. For those who lost between 5 and 10kg, 34% were in remission and with a 10-15kg loss, 57% were in remission. (Table 1). No remission was observed in patients who lost who lost 0kg.

Quality of life scores improved significantly in the intervention group vs. control group as did triglyceride levels which were 20% lower in the intervention group than the control group ($p<000.1$).

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The DIRECT Trial

Can a weight loss program in the primary care setting lead to sustained remission of type II diabetes?

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Reliance on anti-hypertensive shifted dramatically with 68% of intervention participants remaining off antihypertensives at 12 months.

Similarly, 74% of participants in the intervention group compared with 27 (18%) of the control group discontinued antidiabetic medication (p=0.0032).

Conclusion

While this is the first study of the kind and has some limitations, the strength of the study design, coupled with the very pragmatic real life intervention, is notable.

Further, participant willingness to be involved in the program supports earlier research which found that remission of diabetes is a primary goal for patients.[5]

The DIRECT trial results boldly offers that diabetes does not have to be a lifelong sentence. Sustained weight loss supported by primary care clinicians with a structured weight loss management program can achieve remission.[5]

Table 1. Dose dependency of weight loss to remission

Weight Loss at 12 Months (kg)	Remission Rate (%)
0	0
0-5	7
5-10	34
10-15	57
≥15	86

Key Findings

- 46% of patients in the intervention group achieved remission of type II diabetes at 12 months
- In patients who lost ≥ 15 kgs, remission rate was 86%
- 74% of patients in the intervention group remained off antidiabetic medication

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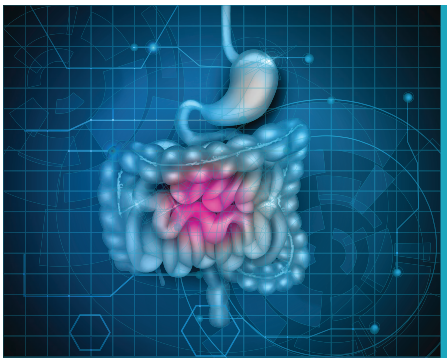


TIME TO TALK ABOUT...

Opioid-Induced Constipation

The Hidden Complication of Opioid-Based Pain Management

What is opioid-induced constipation?

Opioid-induced constipation (OIC) is a side effect from opioid analgesia.

Opioids provide pain relief primarily via their action on mu receptors in the central nervous system.[1] They also however bind to the mu-receptors in the gut.

Opioid-induced constipation (OIC) is caused by this activation of mu-receptors in the gut by opioids. The downstream effects of mu-receptor binding cause altered GI motility, increased fluid absorption, decreased intestinal secretions and sphincter dysfunction.[2] This constellation of effects contributes to OIC.

Opioid-induced constipation has been estimated to impact 40-90% of all patients on opioid therapy. In a meta-analysis that included randomized, controlled trials in patients with chronic non-cancer pain receiving opioid analgesia, OIC was the most common side effect (41% of patients) followed by nausea (32%) and somnolence (29%).[3] Patients on opioid therapy were 3.6 times more likely to experience constipation compared to placebo treated patients (RR=3.6, 95% CI 2.7-4.7).[3]

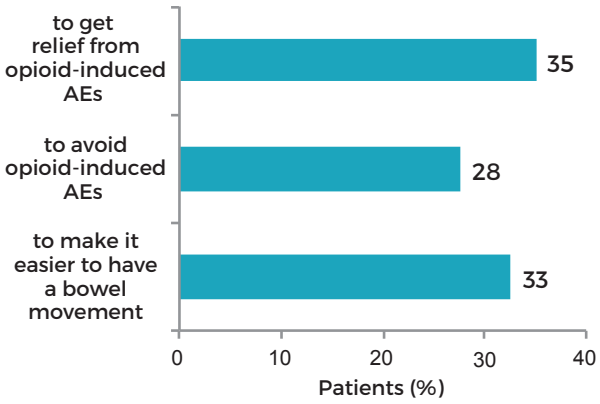
Who is affected?

Anyone taking an opioid medication can experience OIC; it is one of the most common side effect of opioid therapy.[2]

Patients usually develop tolerance to the sedation, nausea and vomiting that may be associated with opioid pain management.[2] OIC, however, usually begins with therapy initiation and persists for the duration of opioid therapy.[2]

Does it impact pain management?

Opioid-induced constipation can be debilitating.[4] Patients report symptoms of constipation that limit their activities of daily



Bell TJ et al. *Pain Med.* 2009;10:35-42.

OIC can compromise pain management

living, work productivity and overall health-related quality of life.[4]

More concerning, OIC symptoms can interfere with pain control. Almost half of patients (49%) report a moderate to complete interference with pain control resulting from their constipation.

Patients may alter their opioid treatment due to constipation. In a survey of 322 patients with chronic pain taking opioids, one-third of patients had missed, decreased, or stopped using opioids specifically in order to have a bowel movement. This resulted in increased pain in 92% of cases.[5]

What can be done to help patients with OIC?

OIC can often be overlooked. The presentation of OIC varies by individual patient and patients may be embarrassed to bring up the topic and talk about constipation. As a result, OIC may be under-recognized and sub-optimally managed. Asking patients on opioid analgesia therapy direct questions about their bowel habits can open up the conversation and provide them with the care required. Assessment, ongoing monitoring and active management of OIC are essential components of a comprehensive pain management strategy.

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3. Kalso E, Edwards JE, Moore RA et al., Opioids in chronic non-cancer pain: systematic review of efficacy and safety. Pain. 2004;112:372-380.
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- Constipation is one of the most frequent side effects of opioids.
- While other opioid side effects such as nausea and sedation tend to decrease over time, constipation persists.
- Constipation has a significant impact on patients' quality of life and pain control.
- Asking patients specific questions related to constipation and how they are coping are important in helping manage this side effect.

NP PROFILE

NICOLA BRYANT

Primary Health Care NP at Guelph CHC
BSN Laurentian '84
NP Family – McMaster 1998
MSN – Western 2011

What was your path to becoming an NP?

I began my career as a RN in Cardiovascular surgery and ICU at then called Toronto General Hospital, and then the Emergency Department at Trillium Hospital in Mississauga.

After 6 years in the ED I asked myself, do I see myself here in 10 years? As much as I loved the work in the ED I knew that it wasn't a level of intensity that I could maintain between the shifts and the physical load of the work. And so I was starting to look at alternatives when I met a NP in the ED and I asked to shadow her.

She worked at a Community Health Centre (CHC) and when I saw the work she did I thought, wow, I'd really like to do that.

I went to McMaster for my NP certificate and graduated a year before the legislation for NPs in Ontario.

How have you seen the role change over the past 20 years?

Year after year I have seen the scope expand. And the expectations of our knowledge, skill and expertise has likewise increased.

Can you tell me about your practice?

I work at a Community Health Centre (CHC). The model at the CHC is that each NP carries their own patient roster, of close to 700 patients each. We care for patients across the lifespan from newborn to the elderly. We have a mandate to provide care for vulnerable populations and currently a particular focus on patients with addictions and mental illness. We see how a lot of our patients are impacted by the social determinants of health. Housing, poverty and food insecurity often need to be considered in our practice.

We also see a lot of young families and provide prenatal care up to 32 weeks gestation and then transfer to OBGYN for delivery. Women and their newborns then come back to us postpartum and we work together to not just provide well baby care but to help with the transition to parenthood.

What is it about the NP role that you are most passionate about?

The level of autonomy we have as NPs is very satisfying; both very challenging and rewarding.

As NP I really value the time we are able to spend with our patients and the relationship building; we have a unique opportunity to engage people with their care and help them build skills to reach their personal health goals. I feel I am able to build collaborative relationships as we manage their chronic disease or help them parent.

BE A PEER REVIEWER

If you would like to act as a reviewer for submitted content, please contact our managing editor, Melissa Lamont at melissa@npcurrent.ca.

NP PROFILE

MELISSA DANGERFIELD NP(F)

BSN – UBC
MN, NP(F) UBC 2010)

What was your path to becoming a NP?

I worked as an RN in the NICU at BC Women's Hospital for 7 years. I loved the team there but was looking for a change. I considered either moving to another specialty area or completing my masters to become a NP. I was looking for a challenge, more independence and a change of pace. So, I applied to the MN/NP program at UBC and was lucky enough to get in, and graduated in 2010!

Have you seen changes in the NP role since you began?

I have been a NP for 8 years now and the NP scope of practice in BC has expanded exponentially since I graduated in 2010. However implementation of NPs into primary care remains slow. I have seen the NP role evolve from working in clinics where we had to have a GP on staff in order to sign off on insurance forms, or write opioid/controlled substance prescriptions, to now being able to sign off on the majority of government, insurance and WBC forms, and to prescribe more medications including controlled substances and opioid reduction therapy. Today we can work pretty much completely independently. A stumbling block remains though with lack of funding for NP positions and our inability to bill MSP (BC's provincial health plan) directly. This limits where we can work. I would say the majority of NP's in BC are employed by the various health authorities. The number of NPs in BC continues to increase and we have more NPs than ever. More and more there seems to be positions for NPs with a focus on speciality areas such as cardiology, oncology, primary care-mental health/addictions, and chronic complex disease clinics. It remains a challenge to find positions that are general primary care designed to provide care across the lifespan.

Can you tell me about your practice?

I have worked in a variety of settings as it was initially quite difficult to secure permanent employment in the primary care setting. I worked in a travel medicine clinic, with a physician treating infectious diseases, in a primary care practice, at a private clinic with a focus on primary care & functional medicine,

in primary care oncology role, and in a primary care-addictions/mental health role.

My current practice is "primary care, vulnerable families and youth". I am employed by the Vancouver Coastal Health Authority and I work out of 4 separate programs in a full time position. I work as a primary care provider at the Raven Song Community Health centre, my work at Raven Song has a focus on mental health and addictions.

The second program I am a part of is the Youth Pregnancy and Parenting Program. This program provides prenatal, postnatal and well child care as well as primary care. The program serves women under the age of 25 and children up to the age of 18 months.

Third, I work with the Public Health Youth Clinics. Theses clinics have a NP present to provide primary care to youth (not just contraception/STI counselling); they are able to see NP for any issues that present.

And lastly, I am part of youth intensive case management team. The team does outreach visits to a home, funded by BC housing and the Ministry of Children and Family Development, created for youth 16-19years (sometimes up to the age of 20/22) who are homeless/street entrenched. They are able to stay for up to 1 month. Our team provides low barrier care on site and we work to connect youth with resources and try to re-engage them with primary care.

What are you most passionate about within your practice/your role as a NP?

I really enjoy getting to know my patients and working closely with them to empower them and encourage positive health changes and improve their health outcomes. I enjoy working with women and children/youth the most; I find it really rewarding to connect with people and see changes as they grow as a family.

I like the challenge of being a NP. I feel like I am doing detective work to get to the bottom of things sometimes! I also really enjoy working independently and learning something new everyday.

Is there a career highlight you want to share?

Not sure if I have a career highlight yet, I have moved positions a lot!! Helping a mom to get past her traumatic birth experience and postpartum depression has stuck with me as a highlight and she had a good outcome.

CALL FOR CONTRIBUTORS

If you would like to share your perspective and be interviewed for this column, please contact us at info@npcurrent.ca.

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In the News

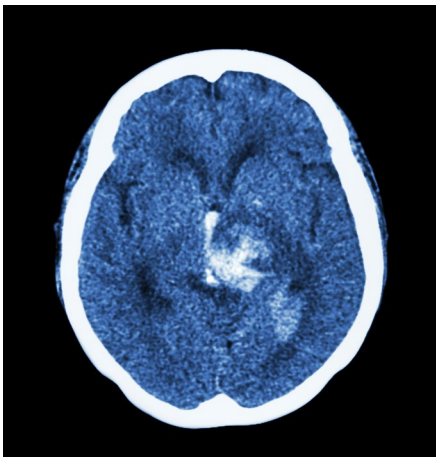
Canadian Healthcare Research

Higher mortality risk from stroke in rural Canadian hospitals

Patients treated for stroke in a rural hospital have a higher risk of death (18.3% to 21%) than those treated in an urban setting (14.1% to 16.8%), a difference of approximately 25%. These findings come from a new study published in PLOS ONE by Université Laval researchers led by Dr. Richard Fleet, who looked at mortality rates in 286 rural and 24 urban hospitals across Canada between 2007 and 2011. A rural hospital was defined as one in a community of 10,000 residents or less with 24/7 emergency department (ED) coverage and inpatient beds for acute admissions.

The researchers thought that the difference could be resource-based. Only 21% of rural hospitals have an intensive care unit and 11% have a CT scanner, depriving healthcare providers of a means to quickly diagnose a stroke and begin the recommended treatment.

Quebec hospitals were not included in the analysis because the province did not provide data. A previous study by Dr. Fleet's team found that rural Quebec hospitals were well-equipped compared to those in the other provinces and territories; 74% of Quebec's rural hospitals have an ICU and 78% have a CT scanner.



In Canada, rural EDs have over 3 million visits per year. With stroke a leading cause of death, this study raises questions about equal access to health care.

Choosing Wisely Canada launches "Opioid Wisely"

Choosing Wisely Canada has launched a new campaign to raise awareness of the role of clinician-patient conversations to reduce harms associated with opioid prescribing. The campaign is based on a set of 14 specialty-specific recommendations for when it is unsafe to prescribe opioids. For example, the College of Family Physicians of Canada says that patients should not continue on opioids beyond the immediate period after surgery. This period is typically three days or less, and rarely more than seven days.

To learn more about the Opioid Wisely campaign, and to view the complete set of recommendations and patient materials, visit www.ChoosingWiselyCanada.org/opioid-wisely. Choosing Wisely Canada is organized by the University of Toronto, Canadian Medical Association and St. Michael's Hospital.

Continued on page 18

In the News

Canadian Healthcare Research

Continued from page 17

Talking about pets may improve patient care

The value of therapy animals to relieve stress in hospitals and hospices has long been recognized, but a recent study by Dr. Alan Monovvari of Markham Stouffville Hospital and veterinarian Dr. Kate Hodgson shows that simply asking patients if they own a pet can help improve patient care.

Their recent study began with a pilot survey of 225 healthcare professionals (HCPs) to determine if they routinely asked patients about their pets. Participants then agreed to ask patients about the number and species of pets in their home and requested that the patient share their veterinarian's contact information.

The study impacted clinical practice and provided comprehensive information for medical assessment and treatment: 70% of HCPs reported that patients told them more about themselves, 83% learned more about their patients' physical activity, and 48% developed a better rapport.

The second stage of the study generated materials from the study's findings for patients to offer their physicians. "The patient's response was overwhelmingly enthusiastic," says Dr. Monavvari, who sees no downside for healthcare providers. "Thirty seconds of questions to a patient is a no brainer to adopt."

Dr. Monavvari is seeking funding for the third phase of the study, a population-based study focusing on overall well-being and health measured through quality of life scores and chronic disease management.

1 in 4 Canadians may be affected by liver disease

An estimated 8 million Canadians may be affected by liver disease. Recent indicators gathered by the Canadian Liver Foundation (CLF) show that an increased prevalence of liver diseases including non-alcoholic fatty liver disease (NAFLD), chronic hepatitis B & C, and liver cancer are why in just ten years, the statistic risen from 1 in 10 Canadians with liver disease to now 1 in 4.

"The reason we are seeing this increase in liver disease is partially due to lifestyle choices we don't always associate with causing us a tremendous amount of harm," says Gary Fagan, President of the Canadian Liver Foundation (CLF). "From supersizing your meal, to binge-watching a television series, these ordinary activities can seriously compromise the well-being of your liver."

In March the CLF launched the Check Your Engine campaign, comparing the body to a high-performance vehicle and the liver to the engine. The campaign encourages the public to visit *www.liver.ca/CheckYourEngine* for practical tips and stories by those affected with liver disease.

News from the NIH:

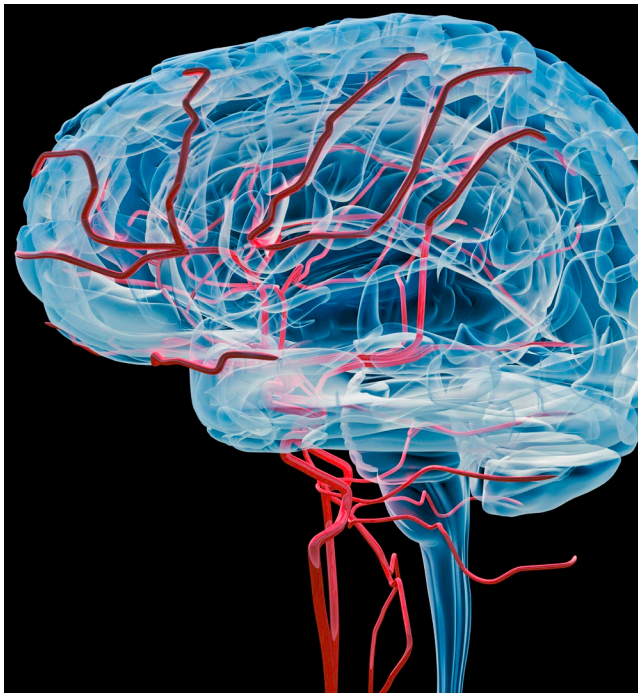
A Different Kind of Brain Drain

For years, how the brain eliminated waste and fought infection was unknown. Anatomy and physiology textbooks taught that the brain did not have a lymphatic system to perform these functions as it does in the rest of the body.

This thinking was challenged a few months ago, when a group of researchers from the National Institute of Health's (NIH) National Institute of Neurological Disorders and Stroke (NINDS) found evidence of lymphatic vessels in the dura of the brain. Using MRI techniques, Dr. Daniel Reich and his team were able to scan the brains of five healthy individuals and identify lymphatic vessels and the fluid draining into these lymphatic vessels.

The discovery of these lymphatic vessels also provides evidence of a pipeline between the brain and the immune system – what was previously a missing link.

Dr Reich is optimistic this new discovery may be able to provide insight and open up new avenues of research for autoimmune



neurological diseases such as multiple sclerosis since the lymph fluid in the lymphatic system "is very important for teaching our immune system how to recognize what it should and should not attack."

Dig deeper

Absinta M et al., Human and nonhuman primate meninges harbor lymphatic vessels that can be visualized noninvasively by MRI, October 3, 2017, available online at: https://elifesciences.org/articles/29738

NIH YouTube channel: Scientists discover drain pipes in our brain

www.ninds.nih.gov

Caught on the Web

This column monitors consumer advertising and social media for what your patients are seeing and reading about disease, treatments and vaccines in Canada. Currently, the word “shingrix” was a top search on Google this spring with commercials and advertisements widespread.

What is it?

Shingrix is indicated for the prevention of shingles in adults aged 50 years of age or older. This is a new vaccine that was released at the beginning of 2018 by GlaxoSmithKline.

The antigen in this vaccine is made from an inactivated glycoprotein from the varicella zoster virus and is combined with an adjuvant solution to trigger an immune response upon injection.

How is it given?

Shingrix is given in two doses; the second dose must be given 2-6 months after the first dose.

How efficacious is Shingrix?

The Shingrix product monograph reports on two phase III trials of efficacy. These multicentre, randomized, observer-blind, placebo-controlled trials enrolled patients over 50 (n=15,405) and patients over 70 (n=13,900). Median follow up was 3.1 years in the over 50 year old trial and 3.9 years in the over 70 year old trial. Shingrix significantly reduced the risk of developing shingles by 97.2% compared to placebo in patients over 50 and by 91.3% in patients over 70.

What does it cost?

The cost of the Shingrix vaccine is approximately $310 dollars.

Of the publicly funded immunization programs, only Ontario pays for shingles vaccination in people aged 65-70 years old with Zostavax II.

What are the recommendations for shingles vaccination?

Herpes zoster vaccination is recommended by the National Advisory Committee on Immunization for people aged 60 and older and may be given between 50-59 years.

Where can I get more information?

The following sites are reliable sources of information...

- Patient information from Mount Sinai's Granovsky Gluskin Family Medical Centre

  "What you need to know about shingles and the new vaccine"

  http://www.mountsinai.on.ca/care/fammed/quick-links/shingles-vaccination.pdf

- Health Canada fact sheet on shingles

  https://www.canada.ca/en/public-health/services/infectious-diseases/fact-sheet-shingles-herpes-zoster.html

- Public Health Agency of Canada, Immunization Guide

  https://www.canada.ca/en/public-health/services/publications/healthy-living/canadian-immunization-guide-part-3-vaccination-specific-populations.html

- Shingrix product monograph

  http://ca.gsk.com/media/1350788/shingrix_pm-2017-10-13.pdf

Why are they advertising directly to consumers?

Under Canada's Food and Drugs Act, vaccines are allowed to be advertised directly to consumers.

Isn't direct to consumer advertising of prescription medications restricted in Canada?

Yes, in Canada, direct to consumer advertising of prescription medications is restricted to name only. Vaccines however, are not considered to be prescription medications and can be advertised in the same way as other consumer products.

KEY CONCEPTS

Key Questions about Sleep in Children

Does sleep in children really matter?

Yes, it really does. While we intuitively know that children need a good night's rest, empirical evidence has shown that lack of sleep in children and teens has been associated with negative outcomes including increased risk of obesity, diabetes, mental health and behaviour problems.[1]

How much sleep do children really need?

The Canadian Pediatric Society and the CSEP recommend that children who are between the ages of 5-13 require 9-11 hours of sleep per day. This requirement goes down slightly with teenagers (14-17 years old) who require 8-10 hours of sleep per day.

How much sleep are children getting?

The CDC recently released the results of data analysis showing 3 out of 4 teenagers do not get the minimum recommended amount of sleep.[1] While the percentage was slightly lower in school aged children, nearly 60% did not have adequate amounts of sleep on a daily basis. While these statistics are based on USA children, there is no reason to believe that Canadian children are not following a similar pattern.

What do my patients need to know?

Patients and by extension, their parents, need to be made aware of the amount of sleep required at each stage of childhood. Good sleep habits are a cornerstone of healthy sleep and parents play a crucial role in developing these habits and ensuring they are maintained.

Where can my patients go for more information?

Buildyourbestday.com
A website developed by CHEO, the CSEP and Health Canada to promote active living including healthy sleep for Canadian children.

Tips for better sleep habits
https://www.cdc.gov/sleep/about_sleep/sleep_hygiene.html.

Wheaton AG, Jones SE, Cooper AC, Croft JB. Short Sleep Duration Among Middle School and High School Students – United States, 2015. MMWR Morb Mortal Wkly Rep 2018;67:85-90. Available online at: https://www.cdc.gov/mmwr/volumes/67/wr/mm6703a1.htm?s_cid=mm6703a1_e#suggestedcitation

Practical suggestions that can be offered to patients:

- Keep the same bedtime and awake time during the week and on the weekends
- Limit screen time, especially in the evening before bedtime

1. Wheaton AG et al. MMWR Morb Mortal Wkly Rep 2018;67:85-90.

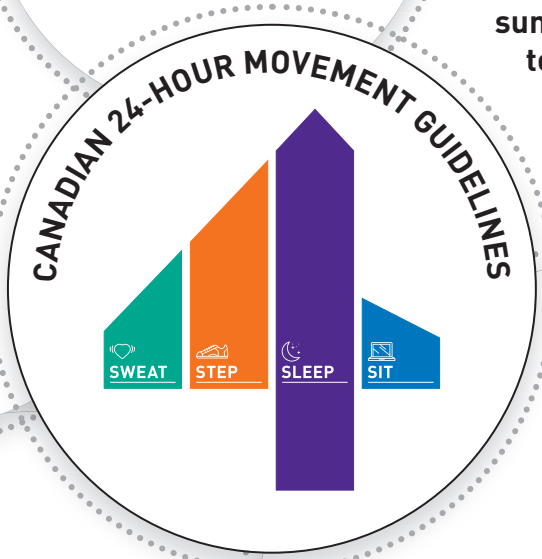
FACT SHEET

Here are some facts about the Canadian 24-Hour Movement Guidelines to help you make every day a best day!

Too little sleep can cause hyperactivity, impulsiveness, and a short attention span.

Walking, biking, and playing outdoors increase exposure to sunlight, which helps to regulate sleep patterns.

Kids who are tired from running around sleep better, and those who have slept well have more energy to run around.



Children and youth need a combination of high levels of physical activity, low levels of sedentary behaviour, and sufficient uninterrupted sleep each day to be healthy.

Meeting the guidelines can help children:

- Improve their health
- Do better in school
- Improve self-esteem and confidence
- Maintain a healthy body weight
- Improve their fitness
- Grow stronger
- Have fun playing with friends
- Feel happier
- Learn new skills

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PARTICIPACTION

Paging Doctor Google?

In the reality of 24/7 connectivity it should be no surprise that people turn to the internet for health information. Seeking health information could be seen as advantageous and the sign of an engaged motivated patient, yet online health information is often greeted with skepticism and even derision.

How prevalent is online health information seeking?

The Pew Research Centre tracks trends in internet use including on-line health information access. In 2013, 72% of Americans had searched for health information online.[1] In Canada, we are no less internet dependent with 87% of Canadian households having internet access and leading the world in number of internet page views.[2] The most recent Statistics Canada numbers from 2010, found 70% of internet users reported seeking health information online.[3]

But isn't it just millennials?

The Pew dataset found that internet users seeking health information cross all age groups. Women, adults with post-secondary education, adults with high incomes and those with chronic illness were among the most common users.[1] Statistics Canada found a nearly two-fold increase in the number of internet users over the age of 50, a demographic more likely to face chronic illness and subsequently have greater health information needs.[13] Recent research is also revealing that the information people seek online also impacts their health behaviours.[9]

Interestingly, women outnumbered men in both online health information seeking and overall number of hours spent online.[1,6] Women also tend to seek online health information for family and friends and not just for themselves.[1]

7 out of 10 internet users went online seeking health information

Additionally, women are turning to the internet when faced with medical decisions.[5,7] A study of women's decision making during pregnancy found that over 90% of participants accessed the internet for information to help inform their decisions.[8]

The internet in the room?

Patients may be reluctant to share with their care provider what they have learned online. One study found that nearly half, (47%) of patients did not disclose their online health information searches to their care provider, even when the patient was a health care professional (HCP) themselves (38%).[14] And yet, patients often

seek information online to supplement the knowledge gained from their HCP, to prepare for a clinic visit and to clarify what was discussed with their HCP.[14] Reasons for not disclosing online health information with HCPs include fear of being seen as difficult, of having the information dismissed, and of negative impact on the relationship if seen as undermining the HCPs authority.[15] In contrast, when the information is disclosed and discussed in supportive ways, it has been shown to improve the patient-provider relationship and result in a more well-informed and engaged patient.[12]

But how do we talk about it?

Studies have found that clinicians are ill-prepared for these new conversations and the changes this could bring to the patient-provider relationship.[7,10,11]

In a Canadian qualitative study of the ways in which patients and providers engage with online health information, Silver identified barriers and facilitators to communicating online health information seeking.[13] Four barriers to patients communicating their online health information to physicians were (1) concerns about embarrassment, (2) concerns that the doctor doesn't want to hear about it, (3) belief that there is no need to bring it up, and (4) forgetting to bring it up. Three facilitators to communicating this information to their physician included: (1) having a family member present at doctor visits, (2) doctor-initiated inquiries, and (3) encountering an advertisement that suggested talking with a doctor.[13]

Continued on page 26

Key Tips

Tips to help educate your patients to distinguish the good from the bad

1. Look for sources from known, reputable centres (eg. SickKids), national associations (eg. Canadian Pediatric Society), national organizations (eg. Heart and Stroke) and government sources (eg. Public Health Agency of Canada)
2. Cross reference
   - check at least 3 sources
   - are they all telling you the same thing?
3. Is it current, less than 3 years old?
4. What are the credentials of the authors?

For nurse practitioners[16]

1. Ask your patients about their online use; they may not disclose otherwise
2. Have a list of trusted online sources you can recommend
3. Use the opportunity to improve your patients' health literacy

Paging Doctor Google?

Continued from page 25

But can we trust the internet?

There are valid concerns as to the credibility and reliability of online sources of health information. Discussing with your patients the information they have learned online creates the opportunity to assess their health literacy and to provide education on discriminating valid and trustworthy sources.[15] Providers are also in a key position to direct patients to known reliable sources.

Synergism not antagonism

Patients are online, and it is reasonable to anticipate that the number of those who seek health information online will only continue to grow. In order to build strong therapeutic relationships, it is important to be open to discussing the information patients are reading online. Not only does this present a unique opportunity for patient education and engagement it also can foster the patient-provider relationship.

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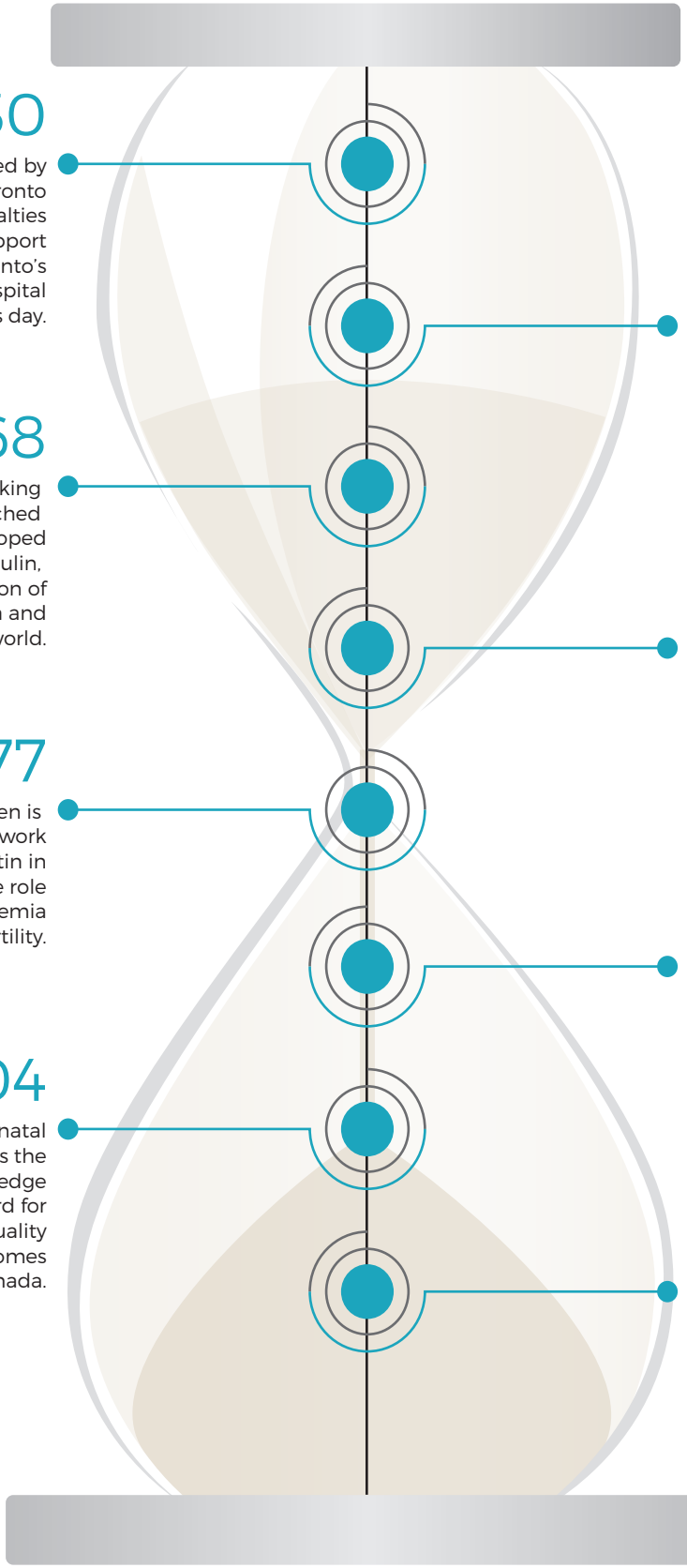
Milestones in Reproductive and Perinatal Health



1930

Pablum is invented by University of Toronto researchers. Royalties continue to support research at Toronto's Sick Kids Hospital to this day.

1957

The FDA first approves "the pill", but only for severe menstrual disorders, not as a contraceptive. An unusually large number of women report severe menstrual disorders. Three years later it is approved for contraception.

1968

Dr. Bruce Chown, working in Windsor, researched and developed Rh immunoglobulin, leading to the reduction of Rh disease in Canada and other parts of the world.

1971

The first Perinatal Intensive Care Unit in Canada opens at Toronto's Women's College Hospital. It went on to be declared the Regional High-Risk Pregnancy Unit in 1981, another Canadian first.

1977

Dr. Henry Friesen is recognized for his work isolating prolactin in humans and the role of hyperprolactinemia in infertility.

1978

The first baby is born after in vitro fertilization, in Oldham, England. Louise Brown has gone on to have two children of her own, conceived naturally. Almost half a million babies have been born through IVF since that time.

2004

The Canadian Neonatal Network receives the CIHR Knowledge Translation Award for improving the quality of care and outcomes for newborns in Canada.

2014

The first live birth after uterine transplantation and subsequent in vitro fertilization, in Gotheberg, Sweden. The uterus was transplanted from the recipient's mother, and a healthy baby boy was born.

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Format	1 x 280 g bottle	4 x 70 g sachets	1 x 278 g bottle	2 x 70 g sachets; 3 x 5 mg tablets
Volume intake	4 L		4 L	2 L
Flavour	Fruit		Pineapple	Fruit

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*According to the total fluid intake (solution and other liquids). Data from separate Prescribing Information. Comparative clinical significance has not been demonstrated.

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References:
1. PegLyte® Prescribing Information, Oct 5, 2015. **2.** Bi-PegLyte® Bowel Prep Kit Prescribing Information, Oct 22, 2015. **3.** CoLyte® Prescribing Information, March 16, 2012.

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Dear Mom,
You were my rock. My best friend.
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Then suddenly, I was alone.
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But you steadied me. As you always did. Thousands watched...
except the one I wanted most.
But we did it mom. I wish you were there. Almost as much as I wish you were here.

Joannie

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