npcurrent
Canadian Journal for Nurse Practitioners

2018
ISSUE 2

Breast Density
What are the implications for cancer screening?

Key Concepts
Fever in children returning from travel

Choose Wisely
Deciding on tests and treatments using the evidence base

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References: 1. Bayer data on file. **2.** Xarelto® (rivaroxaban tablet) Product Monograph. Bayer Inc. May 9, 2018.

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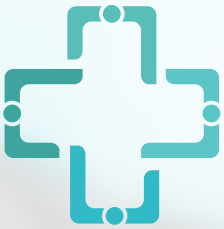
Welcome to…



npcurrent

Canada's Journal for Nurse Practitioners

There's at least a slight feeling of trepidation at the start of something new. It's easy to recall, especially at this time of year, the feeling of that first day of school, whether it's kindergarten or grad school. We certainly felt that way when the first issue of NP Current was heading to the printer. After months of planning and hard work, what sort of reception would this new journal get? It was nerve-wracking to say the least!

We were thrilled when the comments and feedback on our first issue started rolling in! We want to thank all of you who contacted us with words of support and encouragement, suggestions for future topics and offers to participate as contributors and reviewers.

As the role of the nurse practitioner changes and grows in Canadian healthcare, we hope that NP Current will continue to grow as well, and deliver credible clinical and professional content to reflect your profession. We're excited to present the second issue of NP Current – we hope you love it.

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.

Choose wisely

Deciding on tests and treatments

A report by the Canadian Institute for Health Information (CIHI) and Choosing Wisely Canada found that Canadians may have up to 1 million medically unnecessary medical tests and treatments every year.[1,2]

> "… more isn't necessarily better and unnecessary interventions and treatments may cause harm, increase anxiety and lead to more testing to rule out false positives."

Key findings from the report included:

- In Alberta, 30% of patients with lower back pain without any red flags underwent at least 1 unnecessary imaging test (X-ray, CT or MRI)
- 1 in 10 Canadian seniors regularly uses a sedative-hypnotic drug (benzodiazepine) despite expert recommendations against this
- In Ontario and Alberta, 30% of emergency department patients presenting with low-risk, minor head trauma had a CT head scan

Choosing Wisely Canada is a campaign led by the University of Toronto, the Canadian Medical Association and St. Michael's Hospital and is in partnership with over 50 national colleges, societies and associations. The purpose is to help health care providers and patients to make effective decisions that avoid unnecessary tests and treatments and provide excellent care and outcomes using evidence-based decision making.

Their engaging video and waiting room posters (Figure 1) aim to educate patients that when

Continued on page 5

Waiting room posters aim to educate patients

Figure 1

NURSE PRACTITIONERS' ASSOCIATION OF ONTARIO

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NURSE PRACTITIONERS: CLOSING THE HEALTHCARE GAP

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September 20-22, 2018

Choose wisely

Deciding on tests and treatments

Continued from page 3

Table 1. Choosing Wisely Canada

Nine things nurse practitioners and patients should question
1. Don't prescribe any medication to patients over the age of 65 without conducting a thorough medication review.
2. Don't prescribe vitamin B12 injections to clients with low vitamin B12 levels as first line therapy.
3. Don't routinely measure Vitamin D levels in low risk adults.
4. Don't do annual complete physical examinations on asymptomatic adults with no significant risk factors.
5. Don't order screening chest X-rays in asymptomatic patients.
6. Don't order chest X-rays in patients with acute upper respiratory tract infections.
7. Don't order thyroid function tests as screening for asymptomatic, low risk patients.
8. Don't prescribe prophylactic antibiotics to prevent travellers' diarrhea.
9. Don't screen women with Pap smears if under 21 years of age or over 69 years of age.
September 2017

it comes to healthcare, more isn't necessarily better and unnecessary interventions and treatments may cause harm, increase anxiety and lead to more testing to rule out false positives.

In association with the Nurse Practitioner Association of Canada, Choosing Wisely has developed recommendations for many areas, including family medicine, pediatrics and NPs (Table 1).

1. Canadian Institute for Health Information, April 6, 2017 press release.
2. Canadian Institute for Health Information. Unnecessary Care in Canada. Ottawa, ON: CIHI; 2017.

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Canadian Journal for Nurse Practitioners

Call for Contributions

At NP Current we want to reflect the needs and interests of nurse practitioners across Canada. We are seeking your ideas and contributions on any topics that would be of interest to the NP community. In each issue we will strive for a mix of content that addresses diagnosis, treatment, prevention and management of patients from the NP perspective.

We invite you to submit your ideas for new articles such as case studies, research, reports or newsworthy information from your practice or area of expertise or interest. Contact NP Current at info@npcurrent.ca and your contributions can help to inform and educate your peers.

TREATMENT

The Portfolio Diet

Real world confirmation of the power of diet to impact high blood cholesterol

What is the Portfolio Diet?

Created by Dr. David Jenkins and his team at the University of Toronto (U of T) in 2002, the Portfolio Diet is a plant-based diet designed to lower blood cholesterol.

The portfolio consists of 4 categories of foods that have not only individually been recognized as reducing blood cholesterol and/or cardiovascular risk, and together have been noted to reduce blood cholesterol, specifically LDL-C, by approximately 30%. The 4 food groups in the portfolio are: nuts, plant proteins, viscous or sticky fibre and plant sterols.

Individual studies of the Portfolio Diet have demonstrated impressive results including a randomized control trial where a head to head comparison to 20 mg lovastatin resulted in similar LDL-C lowering, approximately 30%.[1] In a longer-term trial, under a more natural, day to day environment (dietary advice vs controlled intake) a 14% reduction in LDL-C was still observed.[2]

Why a systematic review and meta-analysis now?

While the Portfolio Diet has been endorsed by clinical guidelines including those of the Canadian Cardiovascular Society (CCS), Diabetes Canada, European Atherosclerosis Society (EAS), and Heart UK, a meta-analysis of the body of evidence had not yet been completed.

The research team at U of T was commissioned by the European Association for the Study of Diabetes to do so in preparation for an update to their clinical practice guidelines.

In July this year, the results of the systematic review and meta-analysis were published in *Progress in Cardiovascular Diseases*.[3] The analysis was undertaken using the Cochrane Handbook for Systematic Reviews and Interventions, the results reported using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines and the evidence qualified using the Grading of Recommendations Assessment, Development, and Evaluation (GRADE) method.

The reviewers identified studies in which the portfolio dietary patterns were compared to an energy matched diet that did not include portfolio foods. The primary outcome was identified as LDL-C lowering and multiple secondary outcomes were also included in the analysis: alternate blood lipid targets [non-high-density lipoprotein cholesterol (non-HDL-C) and apolipoprotein B, other blood lipids [(total cholesterol (TC), HDL-C, triglycerides (TG)], adiposity (body weight), inflammation [(C-reactive protein (CRP)], systolic blood pressure (SBP) and diastolic blood pressure (DBP), glycemic outcomes (fasting blood glucose, fasting insulin and HbA1c) and 10-year coronary heart disease (CHD) risk estimated by the Framingham risk score.

What were the outcomes?

Following the literature search, 7 study comparisons with a total of 439 participants, met criteria for the meta-analysis. The studies

included in the analysis had participants, who were similar in baseline characteristics, and were all conducted in outpatient Canadian settings. All studies used the National Cholesterol Education Program (NCEP) Step II diet as a comparator. 5 trials were 4 weeks in length and 2 trials were 24 weeks. Cochrane risk of bias assessment was conducted and overall no serious risk of bias was detected.

A significant effect was seen in the primary outcome. When participants on a NCEP Step II diet were compared with those using a NCEP Step II diet plus the Portfolio Diet, a 17% reduction in LDL-C was seen ($p < 0.001$). Reductions were also noted in the identified secondary outcomes, including alternate blood lipids, SBP/DBP and an overall 13% reduction in estimated 10-year CHD risk. No difference was noted in weight loss.[3]

The reviewers noted that the benefits of the individual components of the Portfolio Diet had all been well studied and shown to have significant lowering effects, further supporting the evidence of the Portfolio Diet overall.

Continued on page 8

What foods make up the Portfolio Diet?

1. NUTS

- 45g daily (about a handful)
- Expected LDL-Cholesterol lowering: 5-10%
- Food suggestions: mixed nuts, almonds, peanuts, nut butters, pistachios, walnuts

Seeds can be substituted for peanuts or tree nuts if an allergy exists.

2. PLANT PROTEIN

- 50g daily
- Expected LDL-Cholesterol lowering: 5-10%
- Food suggestions: chickpeas, peas, tempeh, veggie burger, tofu, soy beans, lentils, beans, veggie dog, soy milk, soy deli slices

Advise patients to aim for 25g and work their way up to 50g

3. VISCOUS (STICKY) FIBRE

- 20g daily
- Expected LDL-Cholesterol lowering: 5-10%
- Food suggestions: apple, eggplant, psyllium, strawberries, oatmeal, oat bran cereal, barley

Easy ways to begin are a bowl of oatmeal in the morning or cereal enriched with psyllium or oat bran or changing from white bread to whole wheat.

4. PLANT STEROLS

- 2g daily
- Expected LDL-Cholesterol lowering: 5-10%
- Food suggestions: margarine made with plant sterols and plant sterol fortified foods such as oils, juices, yogurt

While plant sterols occur naturally, to reach the 2g target, patients will likely need fortified foods such as margarine spreads, juices, yogourt or supplements.

The Portfolio Diet

Real world confirmation of the power of diet to impact high blood cholesterol

Continued from page 7

Clinical applications

While pharmacotherapy is the cornerstone of care in hyperlipidemia, the Portfolio Diet pattern offers the opportunity for an add-on therapy to help people meet their lipid targets.

> It's NOT about one big change. It's NOT all or nothing. Just start by introducing one component to your diet and build from there.
>
> – Portfolio Diet Infographic

Additionally, there are patients who are unable to take statins. This recent meta-analysis provides a strong evidence base for providing clients with education and support to adopt a Portfolio Diet or to incorporate elements of the Portfolio Diet in their diets. The U of T department of Nutritional sciences and St. Michaels' Hospital have an infographic available for download that clinicians can use to introduce their clients to the Portfolio Diet food groups including food choices and alternatives. As the creator of the diet Dr. Jenkins is quoted, "The Portfolio Diet is for 'real people in the real world'."

1. Jenkins DJ et al. Effects of a dietary portfolio of cholesterol-lowering foods vs lovastatin on serum lipids and C-reactive protein. JAMA 2003;290:502-510.
2. Jenkins DJ et al. Effect of a dietary portfolio of cholesterol-lowering foods given at 2 levels of intensity of dietary advice on serum lipids in hyperlipidemia: a randomized controlled trial. JAMA. 2011 Aug 24;306(8):831-9.
3. Chiavaroli L et al. Portfolio dietar pattern and cardiovascular disease: a systematic review and meta-analysis of controlled trials, Prog Cardiovasc Dis. 2018 May - Jun;61(1):43-53.

Resources for patients:

An infographic of the Portfolio Diet was developed by St Michael's Hospital, the Canadian Cardiovascular Society and the University of Toronto.

It can be found online at: http://www.childnutrition.utoronto.ca/sites/default/files/Portfolio%20Diet%20Scroll%20editable_eng2.pdf

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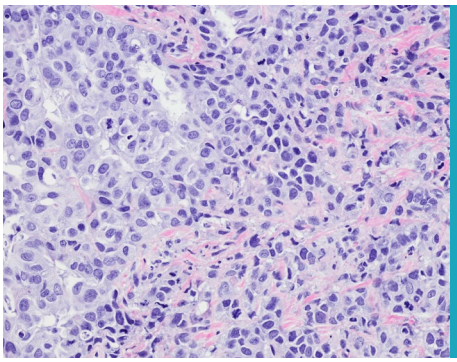

TIME TO TALK ABOUT...

Microscopy of a high-grade infiltrating ductal carcinoma

Breast density

Implications for breast cancer screening

What are the implications for breast cancer screening?

The American College of Radiology has recently updated their screening recommendations for women at higher than average risk of breast cancer and this includes recommendations on screening for women with dense breasts.[1]

Why does breast density matter?

Breast density is a reflection of the ratio of fatty tissue to the more dense fibrous and glandular tissue of the milk glands, ducts and supportive tissue. Higher breast density is an independent risk factor for cancer and also makes detection more difficult since the tissues appear similar using radiography.[1]

In a population-based, case-control, cohort study of 202,746 women, breast density was the most prevalent risk factor for the population-attributable risk proportion among those women diagnosed with breast cancer.[2] The authors concluded that breast density and other risk factors should be incorporated into risk-based cancer screening strategies.

- **Breast density can be determined on mammography**
- **~ 40% of women have dense breasts**
- **Mammography is less sensitive for breast cancer detection in women with dense breasts**

How will patients know if they have dense breasts?

With breast density identified as a significant independent risk factor for breast cancer, there is a clear need for women and their healthcare providers to know if their breasts are dense.

Breast density cannot be determined by breast size or physical examination. Breast density is determined by mammography. In a study of over 1.5 million mammograms taken between 2007 and 2010 at US sites, researchers found that 43.3% of women between 40 and 75 years of age had heterogeneous or very dense breasts.[3]

In the United States, almost half of all states have laws mandating the reporting of breast density with mammography. In Canada however, the reporting of density on mammography results is widely variable both in how it is reported and whether that density score is then reported to the primary HCP and the patient.

Results for breast density from screening mammograms may be reported as a category level (A through D), whether the percentage of dense breast tissue is above or below 50 or 75%, or as the actual percentage of dense breast tissue. Follow up also varies across the country with some provinces having automatic annual recall of patients with more than 75% dense breast tissue. Check with your provincial ministry of health to determine the practice in your area.

What type of screening is recommended for women with dense breasts?

Whole breast ultrasound has been shown in studies to improve cancer detection in women with dense breasts, with incremental detection rates around 3.2 per 1,000, although there is an increase in false positive results.[1] The American College of Radiology nonetheless concluded that for women with increased cancer risk due to breast density, ultrasound can be considered for adjunctive screening to standard mammography, after considering the benefits and risks.

Depending on the province in which you practice, you and your patient may need to advocate for both reporting of density and additional screening. The advocacy group densebreastscanada.ca has more information on provincial reporting and ongoing efforts to advocate for women at higher cancer risk due to dense breasts.

1. Monticciolo DL et al, Breast Cancer Screening in Women at Higher-Than-Average Risk: Recommendations from the ACR. J Am Coll Radiol 2018;15:408-414.
2. Engmann NJ, Golmakani MK, Miglioretti DL, Sprague BL, Kerlikowske K, for the Breast Cancer Surveillance Consortium. Population-Attributable Risk Proportion of Clinical Risk Factors for Breast Cancer. JAMA Oncol.2017;3(9):1228–1236. doi:10.1001/jamaoncol.2016.6326.
3. Sprague BL, Gangnon RE, Burt V, et al. Prevalence of Mammographically Dense Breasts in the United States. JNCI Journal of the National Cancer Institute. 2014;106(10):dju255. doi:10.1093/jnci/dju255.

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Peer Reviewers

Be a peer reviewer for NP Current

Your professional experience and knowledge can help NP Current to ensure the quality, validity and relevance of submitted content. We are seeking nurse practitioners to act as reviewers for submitted content, to:

- ensure the accuracy and relevance of submitted content
- help to maintain a high scientific standard for the NP Current
- support the nurse practitioner community by sharing your knowledge

If you would like to be considered for a peer review role, contact our managing editor, Melissa Lamont at melissa@npcurrent.ca.

Health supplements are used by the majority of Canadians:

Where can NPs go for credible information? Where can we direct our patients?

Canadians are avid consumers of natural health products, spending over $1.4 billion dollars on these products. Statistics Canada's Community Health Survey found that 45% of Canadians aged 1+ were using nutritional supplements. This percentage increased to 60% in Canadians over the age of 71.[1]

Clearly, Canadians are choosing to use nutritional supplements but where can we send them for credible information to support their decision making?

The Dietitians of Canada provide a hand out for patients that offers guidance on when a supplement may be needed, the importance of food as a source of minerals and vitamins and suggestions on patient groups who may be more likely to need supplements to support their health.

One important misconception patients sometimes have around the use of supplements is that if taking some is good, taking more will be even better. The Dietitians of Canada recommend that patients should be made aware that vitamin A, D, niacin, calcium, iron and selenium "are particularly toxic in high doses."

For information on herbal supplements, the National Institute of Health has recently launched HerbList, a mobile app that gives health care practitioners and consumers unbiased, research-based information on over 50 herbal supplements.

HerbList

- Unbiased information on 50+ herbal supplements
- Free app can be downloaded from Apple App Store or Google Play
- Developed by the National Institute of Health's National Centre for Complementary and Integrative Health

For each herb listed, easy to understand information is provided under headings such as:

- How much do we know?
- What have we learned?
- What do we know about safety
- Key references

This reference allows health care practitioners and consumers to easily access information needed to make evidence-based decisions on which herbal supplements to take and possible interactions with any current medications.

How are supplements regulated in Canada?

Health Canada regulates vitamins, minerals, herbal remedies, traditional medicines, probiotics and amino acids and essential fatty acids under the Natural and Non-prescription Health Products Directorate. All products licensed by Health Canada will have a natural product number NPN number on their packaging.

Information on natural health products can be found by searching in the licensed natural health products database. This database provides information on the recommended use and health claims approved by Health Canada as well as information on contraindications, cautions and common side effects.

Resources for patients:

HealthLink BC

Choosing a vitamin and mineral supplement

https://www.healthlinkbc.ca/health-topics/ud3713

Dietitians of Canada handout for patients

Do I need a vitamin or mineral supplement?

Available to download as a PDF at: https://www.dietitians.ca/getattachment/c37bc4b5-4b14-48a3-b281-e624f6511685/FACTSHEET-Do-I-need-a-vitamin-or-mineral-supplement.pdf.aspx

Resources for NPs:

Health Canada's licensed natural health products database

https://health-products.canada.ca/lnhpd-bdpsnh/index-eng.jsp

- Information on every licensed natural health product in Canada
- Provides recommended use or purpose and information on risk (cautions, warnings, contraindications and known side effects)

1. Statistics Canada, Use of nutritional supplements, 2015 https://www150.statcan.gc.ca/n1/pub/82-625-x/2017001/article/14831-eng.htm

Understanding crying reduces Shaken Baby Syndrome

Shaken Baby Syndrome (SBS) results from violently shaking an infant and typically results in death for 1 in 4, and lifelong disabilities for those who survive. Rapid acceleration and deceleration associated with shaking causes the brain and skull to move at different speeds in different locations, leading to bleeding in and around the brain and eyes. Pressure on the ribs may also lead to bony injuries. The leading trigger of SBS is crying, especially inconsolable crying.

A new study out of British Columbia showed a 35% reduction in admissions of children under 2 years to B.C. hospitals with signs and symptoms of SBS after implementation of a parent education program that helps new parents to understand and cope with crying.

The Period of PURPLE Crying is an initiative delivered through teaching by a maternity nurse or midwife with follow-up from a public health nurse. It helps parents to understand

The Period of PURPLE Crying is an evidence-based program for preventing shaken baby syndrome. The acronym PURPLE describes a normal developmental phase in babies:

- Crying **P**eaks between two and three to five months of age
- Crying is **U**nexpected and **R**esists soothing
- Babies look like they are in **P**ain even when they are not
- Crying may be **L**ong-lasting and occur more in the **E**vening

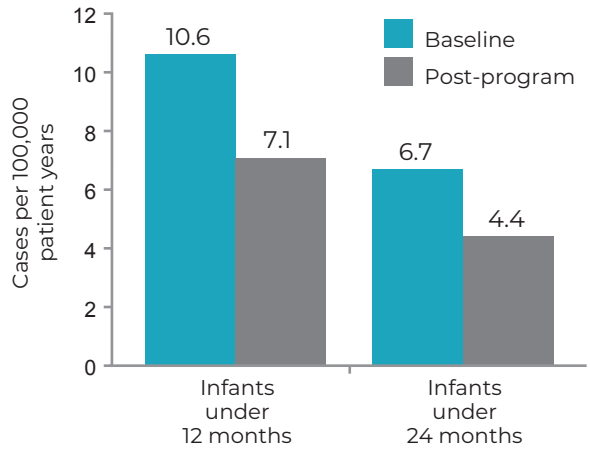
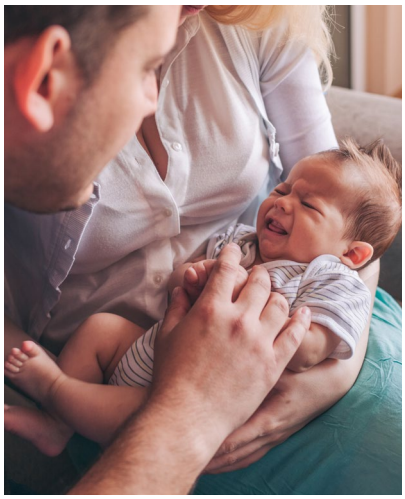


Figure 1

that babies go through a stage where they may cry for extended times and not be responsive to soothing, and to assist parents to develop coping skills to deal with these periods.

Researchers, led by Dr. Ron Barr of the University of British Columbia, tracked relevant hospital admissions of children with abusive head trauma from 2007 to 2016.[1] Between January 2009 and December 2016, nurses discussed crying and shaking with the parents of all newborns, providing a pamphlet and DVD, with follow-up talking points reinforced by public health nurses during phone and/or home visits post-discharge. In addition, province-wide annual community education was instituted.



The program was delivered to 90% of mothers during admission, with 74% of fathers present. By 2-4 months post-partum, 71% of mothers and 51% of fathers had watched the DVD and/or read the booklet.

Abusive head trauma admissions decreased for infants under 12 months of age from 10.6 (95% CI: 8.3–13.5) to 7.1 (95% CI: 4.8–10.5) and, for those under 24 months, from 6.7 (95% CI: 5.4–8.3) to 4.4 (95% CI: 3.1–6.2) cases per 100,000 person-years (Figure 1). Relative risk of admission was 0.67 (95% CI: 0.42–1.07, P = 0.090) and 0.65 (95% CI: 0.43-0.99, P = 0.048) respectively (Figure 1). These results show a statistically significant reduction of ~35% in abusive head trauma admissions in children under 24 months associated with the implementation of the PURPLE crying education program.

1. Barr R et al. Eight-year outcome of implementation of abusive head trauma prevention. Child Abuse and Neglect, October 2018:84;106-114. Epub 2018 Aug 1.

Resources for parents and HCPs

Prevent Shaken Baby Syndrome BC
www.dontshake.ca

The Period of PURPLE Crying
www.purplecrying.info

Thrombosis Canada
Thrombose Canada

Point of Care Clinical Guides

Thrombosis Canada provides concise and reliable clinical guides on common topics in thrombosis, anticoagulant, and antiplatelet management.

Education

Visit the Thrombosis Canada website to participate in engaging and interactive educational programs such as Recognizing Cancer Associated Thrombosis CPD program, Evans' Lab Whiteboard videos and REEL Talks video series.

Point of Care Tools

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- Perioperative Anticoagulant Management
- Direct Oral Anticoagulant (DOAC) Followup Checklists for Clinicians and Pharmacists

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- Anticoagulant-related Bleeding Management

Other Resources

- Patient Handouts
- Awareness posters
- Patient videos

www.thrombosiscanada.ca

Download the app from:

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Email: info@thrombosiscanada.ca **Address:** 128 Halls Rd, Whitby, ON

Access these and more thrombosis-related materials at www.thrombosiscanada.ca

In the news

Current healthcare research

HPV screening versus the Pap test

A study published this summer in JAMA, involving 19,000 Canadian women over 6 years, has found that human papillomavirus testing was an earlier and more accurate detector of cervical precancer than the standard Pap test. Researchers from the University of British Columbia, BC Cancer and the BC Centre for Disease Control, led by Dr. Gina Ogilvie, say that the automated HPV test provides a more accurate alternative to the Pap test and would not need to be done as frequently.

Women in the US are currently screened using both the HPV and Pap tests, while only the Pap test is used to screen most women in Canada.

(Ogilvie G, van Niekerk D, Kraiden M et al. JAMA. 2018;320(1):43-52. doi:10.1001/jama.2018.7464)

Medical cannabis in pediatric patients

According to the results of a survey in the 2017 Canadian Paediatric Surveillance Program, half of the responding paediatricians (419/835) had encountered patients who had used cannabis for medical purposes, with the majority seeing 5 or fewer cases in the preceding year.

Roughly one-third reported being asked by a parent to authorize cannabis for medical purposes in the preceding year, but only 34 paediatricians reported authorizing it for a patient in the preceding year.

Almost half of the paediatricians who responded thought that there are appropriate indications for use such as palliative care, epilepsy, chronic pain and spasticity, but many also felt they needed more information on efficacy, dosing and toxicity, and the potential for long-term effects and dependence.

(Belanger R, Grant C, et al. Canadian Paediatric Surveillance Program, Canadian Paediatric Society. CPSP 2017 Results:37-38. Ottawa, 2018)

Treating hypertension aggressively reduces the incidence of mild cognitive impairment

A study presented at the Alzheimer's Association International Conference in July showed for the first time in a randomized, controlled trial that aggressive blood pressure control reduced the incidence of mild cognitive impairment (MCI) and the combined risk of MCI and all-cause dementia.

Continued on page 18

In the news

Current healthcare research

Continued from page 17

The SPRINT MIND study looked at hypertension management that targeted 120 mm Hg systolic versus the more traditional 140 mm Hg systolic in over 9,300 older adults. A statistically significant 19% lower rate of MCI and 15% lower rate of MCI plus all-cause dementia was seen in the intensive blood pressure treatment group.

These results agree with population-based studies showing similar dementia reductions in Western populations with improved management of cardiovascular disease risk factors.

Researchers suggested that reducing dementia may mean adopting an approach similar to that seen in cardiovascular health, with both medications and lifestyle modifications to reduce dementia risk. This study highlights the importance of blood pressure control, especially in patients over 50 years of age.

Kennyah's love for singing developed at a young age. With big dreams of living the life of a superstar, the talented 12-year-old's wish soon came true. From having her very own recording session and music video to experiencing a professional photo shoot and performing before hundreds of adoring fans, Kennyah was able to smile at a time when she needed to most. Wishes like Kennyah's come true through the compassion and generosity of people like you.

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makeawish.ca

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NP Perspective

A look at the big picture for Canadian nurse practitioners

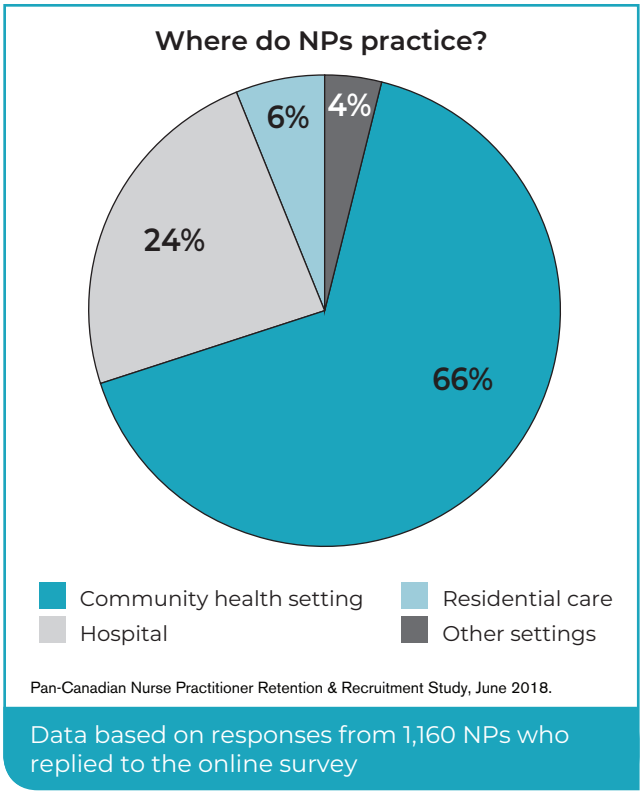
In each issue of NP Current we profile nurse practitioners across the country but this time we are presenting some of the results of the Canadian Federation of Nursing Unions (CFNU) Pan-Canadian Nurse Practitioner Retention & Recruitment Study. Released in June 2018, the study was undertaken to provide some understanding of why Canada hasn't taken advantage of NPs' full potential, and the barriers to recruitment and retention.

The following information was gathered in part with an online bilingual survey of NPs. Additional information was obtained through targeted email surveys to Principal Nursing Advisors and nurses' unions, and an analysis of data from the CFNU's annual contract comparison documents.

The online survey component of the study had an overall response rate of 22%, with 1,160 NPs (1,038 English and 122 French) responding to the online survey from all provinces and territories except Yukon, and provides a comprehensive overview of the demographics of NPs across Canada. Response rates varied by province from highs of 40% in Manitoba and 50% in PEI to lows of 14.6% in Ontario and 14.8% in BC.

Demographics

The study provides some interesting insights into the demographics of NPs in Canada, and their overall career experience. The majority of survey respondents were female (94%) between 30 and 59, with most licenced in "family/all ages" and primary care. Nationally, 83% fell into this category, while in Alberta this number was much lower at 55%, and 32% designated as "NP: Adult". Most respondents (92%) are currently working as NPs, and 97% work in a clinical setting.



Data based on responses from 1,160 NPs who replied to the online survey

NP satisfaction

Overall, Canadian NPs expressed a high level of satisfaction, with 80% satisfied with their main NP position. The top sources of satisfaction were:

- Patient/client/resident mix: 88%
- Respect from other colleagues (non-physician): 90%
- Proportion of time in provision of care: 92%

NP Perspective

A look at the big picture for Canadian nurse practitioners

Continued from page 19

The top sources of dissatisfaction were:

- Opportunities for professional development, tied with the amount of paperwork and time required to complete documentation: 47%
- Input into organizational practices/policies: 49%
- Salary and benefits: 52%

Compensation

The Pan-Canadian NP Study reported median full- and part-time salaries across Canada.

Table 1. Median total income for main NP position by province (for unionized and non-unionized NPs, including overtime and on-call premiums (part-time and full-time)

Province/Territory	Full-time ($)	Part-time ($)
British Columbia	105,353	77,000
Alberta	112,000	73,000
Saskatchewan	114,200	60,000
Manitoba	110,000	82,500
Ontario	103,822	60,000
Quebec	85,000	45,000
New Brunswick	100,000	44,000
Nova Scotia	103,000	82,500
Prince Edward Island	96,500	N/A
Newfoundland and Labrador	101,622	45,000
Northwest Territories	106,000	N/A
Nunavut	126,000	N/A
OVERALL*	**103,000**	**70,000**

* Overall salary is the average total income (including overtime/on-call premiums) for all 1,160 respondents, including those who did not identify their province or territory.

Table 2. Median total income for main NP position by setting (part-time and full-time)

	Full-time ($)	Part-time ($)
Community Health	103,000	70,100
Hospital	107,000	62,500
Residential Care	106,500	55,000
Other	106,500	232,000*

* Caution must be exercised with this number due to very low number of NPs in this unique employment situation.

According to the survey results, unionized and non-unionized NPs had the same median total income (including overtime and on-call premiums) for their main NP position, at $103,000 for full-time and $68,000-70,000 for part-time positions. The study also reported the median salary by practice setting.

Overall, 44% of NPs were not satisfied with their total compensation, feeling that it is not in line with their level of training, accountability and responsibility. The rate of dissatisfaction was higher in Alberta (57%) and Quebec (60%), and among NPs working in community health (48%). Eighty percent of NPs reported that they receive benefits and all reported working 3 to 4 hours of unpaid overtime each week.

The Pan-Canadian NP Study provides a comprehensive overview of the NP experience and makes recommendations to further enhance the degree to which NPs can fully participate in the healthcare system. To read the entire study report go to https://nursesunions.ca/research/untapped-potential/ to download the study PDF.

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OZANEX™ Safety Information[1]

Indications and Clinical Use:

OZANEX™ (ozenoxacin) is indicated for the topical treatment of impetigo in patients aged 2 months and older.

To reduce the development of drug-resistant bacteria and maintain the effectiveness of OZANEX™ and other antibacterial drugs, OZANEX™ should be used only to treat infections that are proven or strongly suspected to be caused by susceptible bacteria. When culture and susceptibility information are available, they should be considered in selecting or modifying antibacterial therapy. In the absence of such data, local epidemiology and susceptibility patterns may contribute to the empiric selection of therapy.

Geriatrics (≥65 years of age): A limited number of subjects aged ≥65 years have been treated with OZANEX™ in clinical trials.

Pediatrics (<2 months of age): The safety and efficacy of OZANEX™ in pediatric patients younger than 2 months of age has not been established.

Contraindications:

OZANEX™ is contraindicated in patients who are hypersensitive to this drug or to any ingredient in the formulation.

Warnings and Precautions:

- Do not ingest.
- There are very limited efficacy data in subjects with impetigo affecting more than 50 cm^2 total surface area.
- Safety and efficacy has not been established in subjects with impetigo affecting more than 100 cm^2 in total surface area. In patients <12 years: total surface area treated should be no more than 2% of the body surface area.
- Do not use on mucous membranes (oral, intranasal, or intravaginal).
- OZANEX™ contains propylene glycol which may cause skin irritation.
- OZANEX™ contains stearyl alcohol which may cause local skin reactions (e.g., contact dermatitis).
- OZANEX™ contains benzoic acid which may be an irritant to skin, eyes and mucous membranes and may increase jaundice in pre-term and full-term jaundiced neonates because of its absorption through the skin.
- Do not use in the eyes.
- Discontinue in the event of sensitization or severe local irritation, and carefully wipe off cream.
- Prescribing in the absence of a proven or strongly suspected bacterial infection risks the development of drug-resistant bacteria.
- Prolonged use may result in overgrowth of non-susceptible microorganisms, including fungi.
- **Pregnant Women:** No studies with OZANEX™ have been performed in pregnant women. No effects during pregnancy are anticipated since systemic exposure to ozenoxacin is negligible.
- **Nursing Women:** Avoid applying to the breast area to protect nursing infant from unintentional oral drug uptake.

For more information:

Please consult the product monograph at http://www.cipherpharma.com/products/dermatology for more information relating to adverse reactions, drug interactions, and dosing information, which have not been discussed in this piece.

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.

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Pr ozanex™
ozenoxacin

KEY CONCEPTS

Assessing fever in children returning from travel

With the summer months of increased travel, one clinical concern is the potential for travel-related infections. With the increased risk of mortality associated with travel-related illnesses such as malaria if they are unrecognized or improperly managed. The Canadian Pediatric Society recently released a new practice point with guidance for health care providers on fever in the returning child traveller with highlights below.

Ask about travel

- Be sure to ask about travel outside of Canada in the last 12 months
- Determine travel details (dates and places, timing of symptom onset)
- Where did they stay and what did they do? (rural vs urban, living conditions, activities, rainy or dry season)
- Potential exposures (food, water, contact with sick people, insect or animal bites)

Physical examination

- A complete physical examination, including vitals, is essential
- The absence of localized findings does not rule out a serious infection
- Exam findings that can be diagnostic clues when taken into account with travel history and incubation period are outlined in Table 1

What are the most important travel-related causes of fever to rule out?

- Malaria,
  - Accounts for 20-30% of cases, onset within 6 months of return
  - Is a medical emergency with up to a 20% mortality rate
  - Risk of being infected is highest in Africa but endemic in many other areas
  - If a child with fever has travelled to an area where malaria is endemic in the last 6 months, a diagnosis of malaria must be specifically excluded

Table 1. Findings on physical examination that may provide diagnostic clues

Symptom/Sign	Viral	Bacterial	Parasitic
Jaundice	Hepatitis A, B, E Viral hemorrhagic fever (VHF)	Typhoid fever Leptospirosis	Malaria
Lymph node enlargement	Epstein-Barr virus (EBV)	*Rickettsiae* Brucellosis	Visceral leishmaniasis Trypanosomiasis
	Cytomegalovirus (CMV) HIV	*Mycobacterium tuberculosis* (mTB)	
Diarrhea	Rotavirus	*E. coli* *Shigella* *Salmonella* *Campylobacter* *Yersinia*	*Giardia* Amebiasis
Hepatomegaly	Hepatitis A, B, E	Typhoid fever Leptospirosis	Malaria Amebiasis
Splenomegaly	EBV	Typhoid fever	Malaria Visceral leishmaniasis
Hemorrhagic Rash	Dengue VHF	Meningococccus Rocky Mountain spotted fever (RMSF)	
Fever and rash	Dengue Chikungunya Acute HIV Measles Zika Viral exanthems (i.e., Roseola)	*Rickettsiae* Enteric fever (*Salmonella*) Leptospirosis	
Fever and low WBC count	Dengue Chikungunya	*Rickettsiae* Enteric fever (*Salmonella*) Leptospirosis	Malaria
Fever and eosinophilia			Acute schistosomiasis Fascioliasis Strongyloidiasis Toxocariasis Trichinellosis Other parasites, particularly if child is immunocompromised
Fever onset >2 weeks	EBV CMV Acute HIV	Enteric fever (*Salmonella*) Brucellosis Toxoplasmosis Q fever mTB Leptospirosis	Malaria Visceral leishmaniasis Amoebic liver abscess
Fever onset <2 weeks	Viral upper or lower respiratory tract infections Viral gastroenteritis Arboviruses Hepatitis A	Acute otitis media Pneumonia Urinary tract infection Enteric fever Leptospirosis	Malaria

Key Concepts

Assessing fever in children returning from travel

Continued from page 23

- Typhoid fever
  - Accounts for 2-7% of cases, onset within 60 days of return
  - Caused by infection from water or food contaminated with feces (Salmonella typhi or Salmonella paratyphi)
  - Endemic in Indian subcontinent Southeast Asia, South and Central America, Africa and Eastern Europe
- Traveller's diarrhea
  - 10-20% of cases, onset within 60 days of return
  - Symptoms can be acute (if onset is < 2 weeks, rotavirus or bacterial infection are usually the cause) or chronic (onset > 2 weeks, post-infectious diarrhea or giardiasis)
- Dengue fever
  - Accounts for 5% of cases, onset within 14 days of returning
  - Areas at high-risk include Southeast Asia, especially Thailand, South Pacific, Central America and the Caribbean

Full recommendations from the Canadian Pediatric Society can be found online at

https://www.cps.ca/en/documents/position/fever-in-the-returning-child-traveller

What tests are essential to rule out malaria and other life-threating or serious infections?

1. Complete blood count with differential: liver enzymes; electrolytes; creatinine
2. Malaria smears ± antigen detection testing, when available
    i. immediately and at least 2 subsequent samples over 24 to 48 hours when the child has visited a malaria-endemic area
3. Blood culture
4. Urinalysis ± urine culture

What management should be considered if the child's travel history includes time spent in a malaria-endemic area?

The CPS recommends:

> "When travel history includes a malaria-endemic area and the child is unwell or lab diagnosis may be delayed, empiric treatment for *P falciparum* malaria should be initiated presumptively, including broad-spectrum antibiotics with gram-negative coverage.
>
> Remember that a well-appearing child with *P falciparum* malaria can deteriorate quickly, and malaria can also present as a co-infection with pneumonia or bacteremia."

Key resources recommended by CPS:

Centers for Disease Control and Prevention (CDC)
http://wwwnc.cdc.gov/travel

Committee to Advise on Tropical Medicine and Travel (CATMAT)
http://www.phac-aspc.gc.ca/tmp-pmv/catmat-ccmtmv/index-eng.php

Public Health Agency of Canada (PHAC) travel health information
https://travel.gc.ca/travelling/health-safety/travel-health-notices

Canadian Paediatric Society Global Child Health Curriculum, module 3: Fever in Returning Child Traveller
http://www.cps.ca/curriculum

Caring for Kids New to Canada (CKNC)
http://www.kidsnewtocanada.ca

Canadian Malaria Network
http://www.phac-aspc.gc.ca/tmp-pmv/quinine/index-eng.php

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.

SpeakEndo is an awareness campaign that is running heavily in the United States and spilling over into Canada on social media, the internet and television.

What is it?

SpeakEndo is an industry-sponsored campaign using internet ads, TV and social media to raise awareness of endometriosis and associated pain.

The campaign was created based on research with more than 1,000 women with endometriosis or symptoms of undiagnosed endometriosis.

The television ads and website are based on the concept that women may hold back in talking about their symptoms with their health care providers, under the belief that menstruation is painful and their symptoms are "normal" and to be expected.

In each ad, there is a HCP, a patient and the patient's "voice of truth" whom the HCP cannot see or hear. For example, the actor who is the patient says "Some days are better than others" when describing symptoms while the second "voice of truth" actor exclaims "What about the 'some days' the pain is so bad I want to stay in bed!?"

Why is this campaign running now?

The sponsoring company, Abbvie, has recently had a new treatment for endometriosis associated pain approved in the US.

Orlissa is an oral tablet, approved for the management of moderate to severe endometriosis associated pain.

Is Orlissa available in Canada?

At this point in time, Orlissa is not approved by Health Canada for sale in Canada. It is not uncommon for medications to first be approved by the FDA with the submission to Health Canada lagging behind.

N

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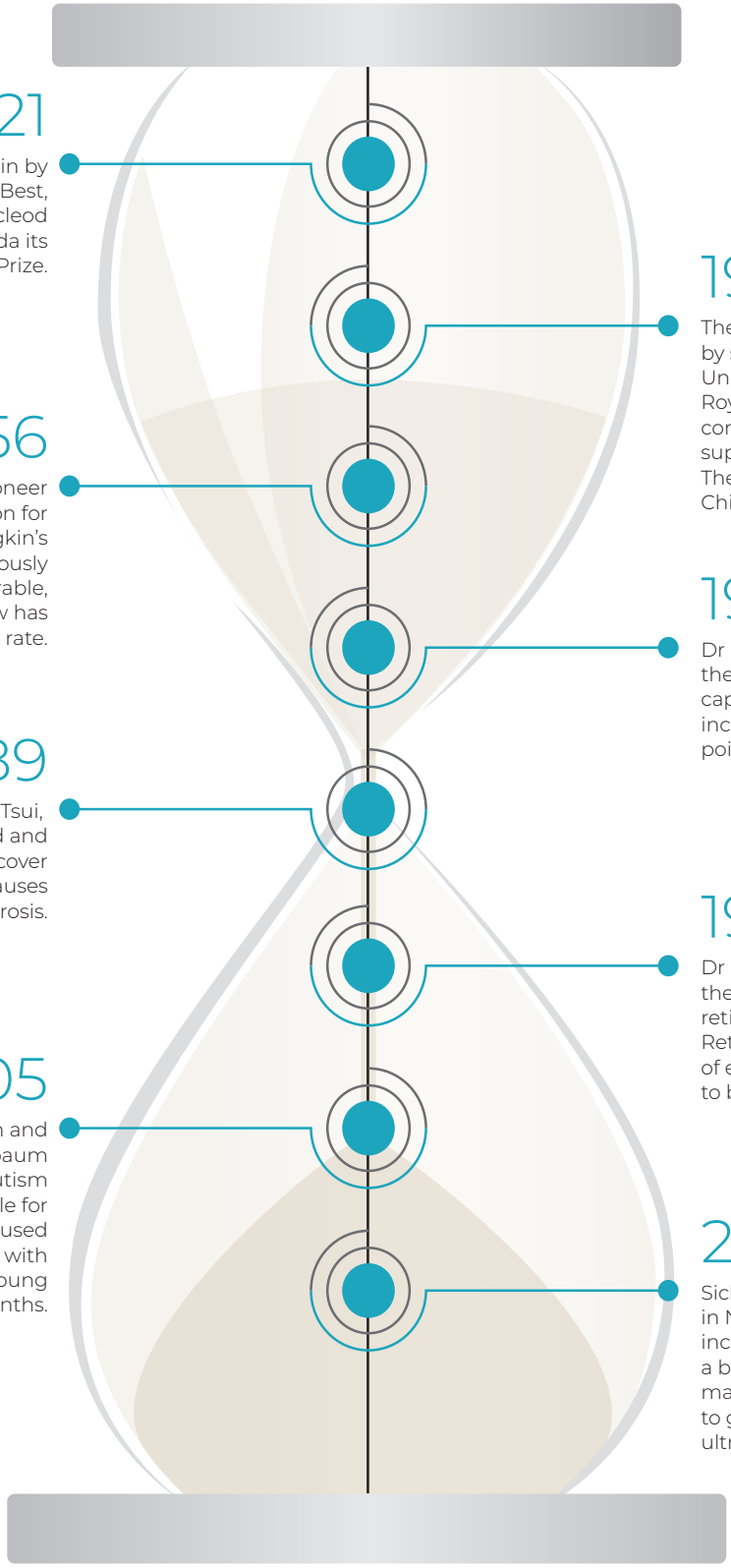
Milestones in Canadian Research



1921

Discovery of insulin by Drs Banting, Best, Collip and Macleod gives Canada its first Nobel Prize.

1930

The creation of the Pablum by scientists at the University of Toronto. Royalties from Pablum continue to this day to support research at The Hospital for Sick Children in Toronto.

1956

Dr Vera Peters is a pioneer in the use of radiation for treatment of Hodgkin's disease. Previously thought to be incurable, Hodgkin's disease now has a >90% survival rate.

1967

Dr Henri Breault develops the first childproof medication cap in Windsor ON. The incidence of childhood poisonings drops by 90%.

1989

Drs Lap-Chee Tsui, Manuel Buchwald and Jack Riordan discover the gene that causes cystic fibrosis.

1996

Dr Brenda Gallie develops the first new treatment for retinoblastoma in 35 years. Retinoblastoma is a type of eye cancer that leads to blindness.

2005

Drs Susan Bryson and Lonnie Zwaigenbaum develop the first Autism Observation Scale for Infants that can be used to identify infants with autism as young as 6 months.

2014

SickKids Hospital is first in North America to use incisionless surgery to destroy a benign bone tumour using magnetic resonance imaging to guide high-intensity ultrasound waves.

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For inquiries about the Centre for Professional Development at the University of Toronto, Faculty of Nursing, please contact:

Sasha David
sasha.david@utoronto.ca
416 978 1784

Dear Mom,
You were my rock. My best friend.
From the beginning it was always us.
Then suddenly, I was alone.
Gliding out on the ice, my legs were shaking. My heart was broken.
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

Joannie Rochette
Olympic medallist
Lost her mom to heart attack

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