



HPV related cancers: tip of a very large iceberg!

By Dr. Margaret Smith,
GPO, BC Cancer Agency
Vancouver Island Centre

In the general population of BC, Human Papilloma Virus (HPV) is pervasive. There is an estimated 80% risk of mucocutaneous

infection in all Canadians by the time they reach age 50. Humans are the only reservoir for this double stranded DNA virus. Most infections are transient and are cleared by the host within 6 to 12 months, making the true incidence of HPV infection difficult to determine. There is increasing evidence that HPV can enter a latent state, with the potential to reactivate later in life and in immunocompromised hosts. Re-infection is possible by the same or different strain of HPV and is not uncommon.

the anus, and the deep crypts of the tonsils. These are areas where HPV infection is more likely to persist, and with time cause cancer of the cervix, the anus, and the posterior oropharynx, including tonsil and base of tongue. Oncogenic strain HPV infection is on the rise in the younger generation during

their first 10 years of sexual activity, and in the 50 plus age group. The time from initial oncogenic HPV infection to development of carcinoma in situ is generally 10 years, but can occur more rapidly in some individuals.

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Learn more about this topic at our November 18 Family Practice Oncology CME Day. Register at www.fpon.ca

Of the more than 40 HPV types known, the oncogenic strains are 16, 18, 31, 33, 45, 52 and 58, with strains 16 and 18 representing the bulk (70%) of HPV related cancer cases worldwide. Strains 6 and 11 are a common cause of anogenital warts. These nine strains are the components of the nonavalent HPV vaccine. The oncogenic strains have tropism or predilection to infect the rapidly dividing immature cells of squamocolumnar transformation zones, particularly the cervix,

improve side-effect management of both immunotherapies and core cancer therapies. Don't miss this learning opportunity!" See the enclosed flyer for details.

Join us for Family Practice Oncology CME Day on November 18, 2017 – 6.5 Mainpro+ credits

Please join us for this year's Family Practice Oncology CME Day to be held Saturday, November 18 at the BC Children's Hospital Research Institute at BC Children's/BC Women's Hospital. Registration is now open at www.fpon.ca. The event provides a great opportunity to learn about new developments and practice changing guidelines impacting primary cancer care, and to build helpful cancer care connections.

vaccines," notes Dr. Raziya Mia, the Network's Clinical Coordinator of Education. "We are also presenting workshops to

Register today at www.fpon.ca

"Included on the slate of topics this year, are timely presentations on both the surge of HPV related cancers and on preventative

Contact Jennifer Wolfe at jennifer.wolfe@bccancer.bc.ca or 604.219.9579

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- Details on page 4



HPV vaccine program for grade 6 boys now available in BC



By Dr. Monika Naus, Medical Director, Immunization Programs and Vaccine Preventable Diseases Services, BC Centre for Disease Control

The HPV (Human Papilloma Virus) vaccine program for grade 6 boys started in BC with the 2017/18 school year. This program will accompany the program for grade 6 girls who have been eligible since September 2008. While these programs are delivered in school based clinics by public health nurses, many studies have shown that a recommendation from a trusted physician provider is strongly associated with the decision to vaccinate. Uptake of HPV vaccine for grade 6 girls remains lower than for other school based immunization programs. The inclusion of boys in the routine grade 6 program provides an opportunity for physicians to stress the importance of this vaccine for both genders, answer any questions that parents or kids may have, and give their recommendation in support of vaccination.

The vaccine that will be used in the BC program is the 9-valent HPV vaccine (HPV9 or Gardasil 9, Merck Canada Inc.) which was introduced into the program for girls in September 2016 and has replaced the use of the 4-valent vaccine for all aspects

of the BC program, including the high-risk male program. This vaccine is approved by Health Canada for boys and men aged 9-26 years for prevention of anogenital warts, anal cancer, and pre-cancerous lesions. Similar to use in girls, a schedule of only 2 doses given 6 months apart is approved for use in boys who start a series prior to their 15th birthday. This recommendation is based on a non-inferior immune response to 2 doses in this age group compared to 3 doses in older cohorts. Clinical trials of HPV 4-valent vaccine in 16-26 year old females and males, as well as men who have sex with men, and of HPV9 in females, have demonstrated high efficacy. HPV9 efficacy has been >90% and comparable to that of HPV4 for the same 4 strains (types 6 and 11 causing genital warts and types 16 and 18 causing the majority of cancers) of the virus for all clinical endpoints, including infection, persistent infection, pre-cancerous lesions, and anogenital warts. For males, the protection offered by the 5 additional oncogenic strains has been tested by immunogenicity, and the antibody responses are similar to those against the 4 original strains in the vaccine. Duration of protection following 3 doses has been demonstrated out to 10 years and because the antibody kinetics following a 2-dose schedule are similar, it is expected that a two dose series will also provide long lasting protection.

Estimates of the attributable fraction of HPV strains causing anal cancers in North American males are about 89% for HPV 16 and 18, and an additional 9% for the other 5 strains (types 31, 33, 45, 52, 58). HPV is also responsible for about 50% of penile, 35% of oropharyngeal (largely HPV type 16) and 25% of oral cavity cancers, with alcohol or tobacco responsible for the larger portion of oropharyngeal and oral cavity cancers. There is expectation that future studies will demonstrate protection from HPV-related disease at non-genital/anal sites. HPV vaccine safety has been well studied and safety has been demonstrated. The 9-valent vaccine is associated with a higher rate of injection site reactions than the 4-valent vaccine, attributable to a higher antigen content and higher concentration of the aluminum adjuvant.

Contact Dr. Monika Naus at Monika.Naus@bccdc.ca

November 17, 2017 GPO Case Study Day: Learn with your colleagues – 4.5 Mainpro+ credits

“General Practitioners in Oncology (GPOs) and Agency Nurse Practitioners (NPs) face distinct challenges in their cancer care roles, and will benefit from a focussed, collaborative opportunity to learn with and from each other.”

Register today at www.fpon.ca

Rousing discussion on the above perspective resulted in the Network's GPO Case Study Day, a half-day CME event offering GPO-facilitated, specialist supported case study discussions on areas of emerging and prevalent challenge. Our Friday, November 17 GPO Case Study Day will focus on managing key patient issues from a GPO/Agency NP perspective in Ovarian Cancer, Multiple Myeloma, and Colorectal Cancer.

The event, including lunch, runs November 17 from 11:00 a.m. – 5:00 p.m., at the BC Children's Hospital Research Institute at BC Children's/BC Women's Hospital. Registration and full details are available at www.fpon.ca.

“We bolstered the collaborative and networking angles of the event based on feedback from last year,” notes the Network's Clinical Coordinator of Education, Dr. Raziya Mia “GPO Case Study Day takes place the afternoon prior to our November 18 Family Practice Oncology CME Day, and we invite all GPOs and Agency NPs to join us for both events!”

Contact Jennifer Wolfe at jennifer.wolfe@bccancer.bc.ca or 604.219.9579

Fort St. John GPO, Dr. Mike Wright: enhanced skills = enhanced cancer care



GPO Dr. Mike Wright, his dog Charlie, and the mighty Peace near Fort St. John.

Dr. Mike Wright is a physician with true breadth of skill – and cancer patients in Fort St. John and surrounding communities reap the benefits. At 69, he's spent his career serving first as a General Practitioner (GP) Surgeon in rural Northern BC, next as a GP Internist focussing on cardiology, and finally, beginning in 2014, as a GP in Oncology (GPO). Dr. Wright believes that GPs with enhanced skills form the backbone of rural medicine – each complementing the other, and combining to meet community needs. Dr. Wright shares his story on how this all came to be, highlighting the impact on cancer care in his home community for the last 38 years, Fort St. John:

The Mountains Called

I've always been a GP specialist and cared for many cancer patients both as a resident and, for a time, as the only physician providing internal medicine in Fort St. John. When the need arose for another GPO in our community, I considered it a privilege to complete the training through the Family Practice Oncology Network, and take on the role. Plus, at age 66, I thought a bit more schooling would be good.

I grew up in Ottawa, graduated from Queens University, and came to Fort St. John via Memorial University in Newfoundland (!), where a training colleague touted the lure of

the Rocky Mountains. My wife, Glenda, and I visited on that recommendation and the community has been our home ever since.

Enhancing Cancer Care Locally

My GPO colleague, Dr. Becky Temple, and I share the practice in Fort St. John working to accommodate each other's schedules. The clinic, located within our new hospital, is open four days a week. We see 15-16 patients weekly supporting family physicians, conducting pre-chemotherapy assessments, administering chemotherapy, and providing some palliative methadone and disease surveillance. We serve as resources, too, for our medical colleagues providing advice on pain and symptom management, new diagnoses and investigations, and assisting in the care of hospitalized patients. I also provided GPO service in Dawson Creek for most of 2016 when

they were without a physician in the role. I still practice obstetrics, too, serve as the site director for Fort St John's rural UBC Family Practice training site, and enjoy teaching.

In the days before GPOs, family physicians handled all local cancer care responsibilities with varying levels of expertise. Now, our dedicated Communities Oncology Network clinic enables a very patient centred approach which is appreciated by our community. We are also well supported by BC Cancer Agency oncologists.

Job Satisfaction – Everyone Benefits

I love this role because the patients are extremely grateful for the kindness and expertise we provide during a time of need. I feel limited pressure time-wise and am able to sort the issues that patients require. I was never a great family physician in terms of time management, but this role fits with how I like to practice. I also thrive on working with such a highly dedicated, functional team.

The GPO Training Program itself was very worthwhile. A little overwhelming at the start, but the rotations I completed at the Vancouver and Northern BC Cancer Centres enabled me to develop useful relationships with the medical staff, who are both gracious and supportive.

I always find joy in the balance between obstetrics and oncology. The excitement around a birth complements the sadness that accompanies a death. Often sharing the experience of the former provides much comfort to dying patients and their families.

The Peace River has been a great place to practice, and for Glenda and I to raise our three boys. I hope to continue contributing to our community's cancer and patient care.

Contact Dr. Mike Wright at mjgrm@pris.ca

Next GPO training course begins February 12, 2018

The GPO Training Program is an eight-week course offering rural family physicians and newly hired Agency GPOs and Nurse Practitioners the opportunity to strengthen their oncology skills and knowledge, and provide enhanced cancer care. The program covers BC and the Yukon and includes a two-week Introductory Module held twice yearly at the Vancouver Cancer Centre followed by 30 days of flexibly scheduled clinical rotation at the Centre where participants' patients are referred. The Introductory Module meets the certification criteria of the College of Family Physicians of Canada and has been certified by the University of British Columbia's Division of Continuing Professional Development. Full details at www.fpon.ca

View recorded webcasts and earn certified Mainpro+® credits through linking learning to practice



Family Physicians:

If you are a family physician who is unable to take part in our Oncology CME Webcast Program held 8 a.m. to 9 a.m. (PT), the third Thursday of each month, or you would like to view a webcast again, you will find the recording on our website, www.fpon.ca, under Continuing Medical Education.



Any activity (including our Webcasts) that stimulates learning or helps you answer a question related to your practice can be documented through a Linking Learning to Practice exercise. You can access Linking Learning through the College of Family Physicians of Canada (CFPC)'s website under "CPD." Each exercise is worth five

Check out our six-year library of Oncology CME Webcast recordings at www.fpon.ca:

Click on "CME opportunities," choose "Webcasts," and select from the recordings by year.

Don't miss these upcoming Webcasts, 8–9 a.m. (PT). Register at www.fpon.ca:

October 19: Non-Hodgkin's Lymphoma with Dr. Diego Villa

November 16: Supporting Men with Prostate Cancer with Dr. John Oliffe

Here's how to complete a Linking Learning exercise:

1. Log in to the CFPC Member Access page on the CFPC site: <https://www.cfpc.ca/login/>
2. Click the Mainpro+ logo on the right-hand side of the "My Account" page
3. Click "Enter A CPD Activity" at the top left under your name and select the following:
 - Category: Self-Learning
 - Certification Type: Certified
 - Activity Type: Linking Learning to Practice
4. In response to "Upon what kind of learning activity is this exercise based?" select "Other" and type "Webcast recording"
5. Leave the Program/Activity ID blank
6. In response to "Professional activities that can stimulate thinking about your practice and/or work," select the most applicable answer
7. Respond to the brief set of questions regarding your practice and the learning you are exploring via the recording

certified Mainpro+® credits.

Linking Learning to Practice exercises provide an opportunity to reflect on issues or questions in your practice that are related to the content presented. The CFPC expanded the Linking Learning program with the launch of its Mainpro+ continuing professional development program in 2016. Linking Learning to Practice enables family physicians to earn certified Mainpro+ credits at their own pace and at no additional cost. There is no limit on the number of exercises you may complete.

Additional information: www.cfpc.ca/Linking_Learning_exercises

Assessment of natural health products in oncology

By Dr. Shirin Abadi, Clinical Pharmacy Specialist & Pharmacy Clinical & Education Coordinator, BC Cancer Agency Vancouver Centre

Learn more about this topic at our November 18 Family Practice Oncology CME Day. Register at www.fpon.ca

It is estimated that up to 80% of patients with cancer may use natural health products (NHPs) at some point during their cancer journey. Examples of commonly used NHPs in the oncology setting include black cohosh, co-enzyme Q10, fish oil, flax seed, garlic,

ginkgo, green tea, probiotics, saw palmetto, St. John's wort and tea tree oil, among many others.

There are potential benefits associated with the use of NHPs. These include immunomodulating effects, anti-inflammatory effects, possible anti-cancer effects, reducing treatment-related side effects including oxidative damage on normal cells, and improving patients' quality of life during cancer



Dr. Shirin Abadi

therapy. There are also potential harms associated with the use of NHPs. For example, there are multiple drug and NHP interactions, through such mechanisms as the cytochrome P450 and/or p-glycoprotein enzyme pathways. The extent of these interactions often depends on the dose, frequency of administration and the timing of administration of NHPs in relation to patients'

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*HPV related cancers
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The host immune system is known to play an important factor in the natural history of HPV, as the incidence of HPV related cancers are greatly increased in patients with HIV/AIDS and following solid organ transplant. In population studies, HPV vaccination seems to give a more durable host immune response than natural infection does. It has also been observed that

Canadian Cancer Statistics 2016 show there were 3,760 new cases of HPV related cancers in 2012, 64% female and 36% male.

- Oropharyngeal and cervical are the most common areas of involvement, followed by anal and vulvar cancers;
- Cervical cancer incidence significantly decreased following the introduction of screening programs, but has been stable since 2005;
- HPV related anal cancer is increasing by 3.1% per year (3.3% in females, 2.2% in males);
- Vulvar cancer is increasing by 1.7 % per year; and
- HPV related oropharyngeal cancer is rising by 3.1 % per year in males and 1.1 % per year in females, and in men is poised to surpass the rate of cervical cancer in females in the near future.

women treated for precancerous cervical lesions seem to benefit from subsequent HPV vaccination, when compared to those who do not receive vaccination following treatment. The mechanism is unknown, but may relate to subsequent re-infection with the same or a different oncogenic strain, or reactivation of a latent infection.

This is the tip of a very large iceberg. Some cancers of the penis and vagina are HPV related, particularly in younger patients; however, these are still relatively uncommon. Oropharyngeal and anal cancers are difficult to detect early, and have often spread to regional lymph nodes by the time of diagnosis. The answer lies in prevention, and vaccination of both males and females is strongly indicated to reduce the incidence of HPV associated malignancies, as well as to provide a herd immunity effect. The tools to do this are available now! See related article in CMAJ Aug 14, 2017: <http://www.cmaj.ca/content/189/32/E1030.full>

Contact Dr. Margaret Smith:
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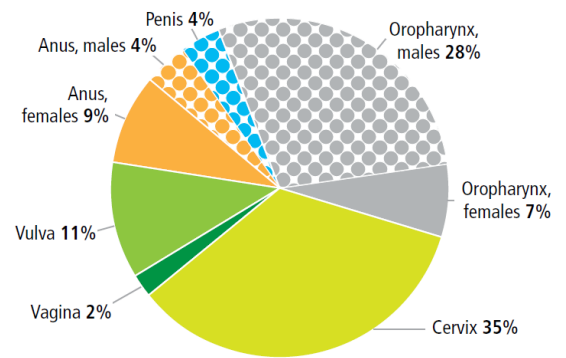
Projections to 2016
(all HPV-associated cancers combined)

Incidence	Males	Females
Number of new cases	1,700	2,675
Age-standardized rate (per 100,000)*	9.3	14.3
% of all new cancers	1.7	2.7

Mortality	Males	Females
Number of deaths	395	780
Age-standardized rate (per 100,000)*	2.2	3.8
% of all cancer deaths	0.9	2.1

* Rates were standardized to the 2011 Canadian population

Proportion (%) of new cases for selected HPV-associated cancers, Canada 2012*
*Quebec data are from 2010



Canadian Cancer Statistics 2016
Analysis by: Health Statistics Division, Statistics Canada
Data source: Canadian Cancer Registry database at Statistics Canada

*Assessment of natural health products
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cancer therapy. NHPs often contain multiple ingredients with antioxidant properties which may interfere with the generation of reactive oxygen species as a mechanism of action of many cancer treatments (chemotherapy & radiation therapy).

Other considerations include the narrow therapeutic index of many cancer therapies, as well as the variable half-lives of cancer therapies and NHPs. It is important to separate interacting NHPs from cancer therapies by at least 4-5 half-lives to minimize the impact of pharmacokinetic interactions. Many common NHPs such as ginkgo, garlic and ginseng may also put patients, particularly those receiving

antiplatelet or anticoagulation therapies, at a higher risk for bleeding. Another issue with the use of NHPs is the lack of a reliable regulatory process for their production and sale.

Given the paucity of well-designed studies to clearly illustrate the benefits and harms of NHPs in the oncology setting, it is important for clinicians to use a systematic approach to evaluate the use of NHPs in their patients. One such approach would be:

1. To obtain a thorough medication and NHP history from the patient, while keeping an open-mind to understand the patient's perspective;
2. To look up information on NHPs in relation to the patient's cancer therapy using reliable resources such as Natural

Medicines (naturalmedicines.com);

3. To review the potential benefits of the patient's NHPs, while keeping in mind patient- and treatment - specific goals of therapy (e.g., cure versus palliation);
4. To review the potential risks of the patient's NHPs; and
5. To make a patient-specific recommendation regarding NHP use, while weighing the potential risks versus benefits. When in doubt, it is advisable to err on the side of caution regarding NHP use to ensure patients get the most benefit from their cancer treatments.

Contact Dr. Shirin Abadi at
SAbadi@bccancer.bc.ca

CanIMPACT: initial results from multi-province study on the role of the family physician in care of cancer patients

By Mary McBride,
Distinguished Scientist,
Cancer Control Research,
BC Cancer Agency, Vancouver



Mary McBride

Community-based primary healthcare (CBPHC) is the first and most frequent point of contact for cancer patients during most phases of cancer care. In recognition of the critical role that primary care plays in improving cancer patient outcomes and quality of life through prevention and diagnosis, management of treatment toxicities and comorbidities, post-treatment follow-up and survivor care, and end-of-life care, as well as the strengths of primary care in providing continuous, coordinated, and comprehensive care, the journal, *Lancet Oncology*, commissioned a report examining the role of primary care for cancer patients (Rubin G et al, *Lancet Oncol* 2015; 16: 1231–72), and identified coordination and integration of patient care between CBPHC and specialist providers as vital to improve the quality and outcomes of care.

To better understand issues around

coordination and integration of care for cancer patients in Canada, a multidisciplinary group of primary care physicians, nurses, oncology physicians, researchers, knowledge users, and patients came together to form the “Canadian Team to Improve Community-Based Cancer Care along the Continuum (CanIMPACT)”, funded by the Canadian Institute of Health

Research. The team’s goal is to enhance the capacity of primary care to provide care to cancer patients in Canada, and improve integration, communication, and coordination of care along the cancer care continuum. The first phase of this research program aimed to describe the patterns of family/primary care physician (PCP) visits among women with breast cancer, and factors affecting these patterns. The study was conducted in three Canadian provinces (BC, Manitoba, and Ontario), and consisted of provincially-based analyses of data for all women with incident invasive breast cancer in each province from 2007 to 2012 (2011 in Manitoba), reported to provincial cancer registries and linked to their

government health administrative claims records. Some initial results are reported here; the full report is published in a special issue of *Canadian Family Physician (Can Fam Physician* 2016;62:e589-98).

The main study finding was that PCPs are playing a key role with patients in all phases of cancer care, although there is provincial variation in PCP involvement across the breast cancer care continuum. In all provinces, more than three-quarters of patients visited their PCP at least twice during the breast cancer diagnostic period, and more than 80% of patients had at least one PCP visit during adjuvant chemotherapy treatment. As expected, PCPs were least involved during the treatment phase. Post-treatment (excluding end-of-life), there was an increase in number of PCP visits (BC: mean 4 visits compared to 3 for the diagnosis period) and continuity of care (measured as the proportion of visits to a single provider) compared with the pre-diagnosis period in all provinces, but a decreasing number of PCP visits from year 2 to year 5 post-diagnosis. More results will be reported as they are released.

Contact Mary McBride at mmcbride@bccrc.ca

Association of BC GPOs elects new president: Dr. Randy Marback

The Association of BC General Practitioners in Oncology – ABCGPO – elected its second ever president earlier this year, Nanaimo GPO, Dr. Randy Marback. He is now at the helm of this group established in 2011 to represent Agency GPOs in negotiations on remuneration and responsibilities, and to serve as a means for networking and cohesion amongst the 100+ GPOs in BC and the Yukon. Dr. Marback replaces Dr. Val Geddes, GPO at the BC Cancer Agency’s Abbotsford Centre, who led the Association’s formation.

“Our focus now is on team-building,” emphasizes Dr. Marback, “and on preparing for structural changes within the BC Cancer Agency. We are building ABCGPO as the voice of GPOs within the Provincial Health Services Authority, and all that this entails.”

Dr. Marback serves as part of the 4-member GPO team at the BC Cancer Agency clinic within Nanaimo Regional General Hospital. Former long-term co-chair of the BC chapter of the Canadian Association of GPOs, Dr. Marback is also a member of the Nanaimo Palliative Care Physicians and provides part-time GP coverage at a local clinic.

Contact Dr. Randy Marback at rmarback@bccancer.bc.ca



ABCGPO President, Dr. Randy Marback (left), with members of the cancer care team at Nanaimo Regional Hospital.

Corridor consults – Oncology Q&A

Question: What is the role of immunohistochemistry in the diagnosis of lung cancer?

Answer from Dr. Jenny Ko, Medical Oncologist, BC Cancer Agency Abbotsford Centre

Currently various types of immunohistochemistry (IHC) are used to help identify and confirm the diagnosis of lung cancer and specific subtypes. Thyroid transcription factor-1 (TTF-1) and cytokeratin (CK)-7 positive tumours are often recognized as primary lung in origin. Other CK's such as 34βE11/12, CK5/CK6 and p63 can be used to distinguish possible subtypes of non-small cell lung carcinoma (NSCLC); the presence of these markers can be useful in distinguishing squamous cell carcinoma from non-squamous cell carcinoma. Chromogranin, synaptophysin, and CD56 can be helpful in identifying neuroendocrine subsets. These markers are routinely done by the examining pathologist as needed, to add further information to the appearance on morphology. IHC has also been validated in biomarker testing, including anaplastic lymphoma kinase (ALK)-echinoderm microtubule-associated protein-like 4 (EML4) translocation, and programmed death-ligand 1 (PD-L1). Currently, in British Columbia, the mutation/surface biomarker panels including epidermal growth factor receptor (EGFR), OncoPanel, ALK, and PD-L1 are not routinely done through reflex testing, and must be requested by the treating physician using the following form (<http://www.bccancer.bc.ca/lab-services-site/>).

Contact: Dr. Jenny Ko at jenny.ko@bccancer.bc.ca

Question: How do you determine the appropriate steroid dose for a patient experiencing an immunotherapy adverse effect, and following recovery, how do you optimally taper the dose?

Answer from Dr. Vanessa Bernstein, Medical Oncologist, BC Cancer Agency Vancouver Island Centre:

Checkpoint inhibitors, which include the CTLA-4 antagonists (i.e. ipilimumab) and the PD-1 and PD-L1 antagonists (i.e. nivolumab, pembrolizumab and avelumab),

work by upregulating the immune system to target cancer. A complication of this upregulation can be the development of an auto-immune adverse event involving any organ. Examples of these include, but are not limited to, immune mediated colitis, hepatitis, nephritis, pneumonitis, hypophysitis and other endocrine abnormalities. Most of these toxicities can be treated with prompt initiation of steroids.

As a general rule we initiate steroids to treat auto-immune adverse events \geq grade 2 (with the exception of solitary hypothyroidism, where some physicians might simply treat with thyroid replacement). The starting daily dose of corticosteroids is 1-2 mg/kg oral prednisone, IV prednisolone, or equivalent. I usually use oral steroids in patients not requiring hospital admission, and IV steroids for those that do. Very sick patients (such as a patient requiring ICU care for severe pneumonitis) might even need to be started on solumedrol 250 mg IV bid or higher. Patients not responding to high doses of IV steroids occasionally need stronger immune suppressive agents such as infliximab.

Patients are usually treated with high dose steroids until their adverse event resolves to \leq grade 1 (often 7-14 days). At that point one can initiate a slow steroid taper over 3-4 weeks. I tend to reduce the dose by one half each week. Patients need to be evaluated carefully during their steroid taper to make sure that their auto-immune toxicity does not worsen. If this occurs then the steroid dose needs to be increased, usually to the lowest dose that controlled the symptoms.

Common Terminology Criteria for Adverse Events (CTCAE)

General Guideline:

- 1 Mild
- 2 Moderate
- 3 Severe
- 4 Life-threatening
- 5 Death

Specific Standardized National Cancer Institute Classification link:

https://evs.nci.nih.gov/ftp1/CTCAE/CTCAE_4.03_2010-06-14_QuickReference_8.5x11.pdf

A slow taper can be attempted again once the symptoms have stabilized. Rarely patients who cannot be weaned off of steroids need to be considered for other immune suppressive agents such as mycophenolate. Patients who are going to be on corticosteroids \geq 25 mg po daily prednisone or equivalent for 4 weeks or longer should be considered for PCP prophylaxis. It is important to work closely with the treating oncologist and other subspecialists for any patient requiring high dose steroids for an auto-immune adverse event.

Contact Dr. Vanessa Bernstein at VBernste@bccancer.bc.ca

If you have a query for Corridor Consults, please send it along to jennifer.wolfe@bccancer.bc.ca

Fraser Valley Cancer Centre seeking two .5 GPOs

"No two days are alike and one's contributions are greatly appreciated," – Dr. Karen Hossack, GPO, Fraser Valley Centre

The BC Cancer Agency's Fraser Valley Centre, a full-service cancer centre based in Surrey, is seeking to fill both a .5 General Practitioner in Oncology (GPO) position within Radiation Oncology and a .5 GPO position within Medical Oncology. These physicians will participate in the clinical, educational, and research activities

of the Centre primarily involving outpatient care of patients undergoing radiation and/or systemic therapy. The positions have no call responsibilities with work days scheduled Monday to Friday. Training will be provided.

Contact Dr. Devin Schellenberg, dschellenberg@bccancer.bc.ca, regarding the position within Radiation Oncology, and Dr. Ursula Lee, ulee@bccancer.bc.ca, regarding the position within Medical Oncology.

Sharing the journey in cancer care

By Dr. Cathy Clelland,
Interim Medical Director,
Family Practice Oncology
Network

Family medicine is built on relationships –relationships with our patients and their families, relationships with family physician (FP) and specialty colleagues, and relationships with other providers. Our role as family physicians is to support our patients' health care journey through the different stages and conditions of their lives, sharing care with other providers in the context of our generalist, "whole person" approach. Viewing patients through this balanced and integrated lens prevents silos of care and improves overall outcomes.

Not that long ago, family physicians and other primary care providers were not viewed as full members of cancer care management 'team'. As our population ages, however, and the incidence of cancer and its survival increases, the role of FPs and primary care is expanding. In addition to prevention and diagnosis, for example, primary care responsibilities are increasing with the growing number of survivors who transition from acute to post-treatment care. Family physicians' knowledge of their patients, their medical history, and co-morbidities provides opportunity for the provision of holistic care throughout each cancer care journey.

To support effective shared care, there must be role clarity, availability of appropriate tools, and communication that enables primary care providers to provide quality follow-up care. Part of the expanding mandate of the Family Practice Oncology Network as it evolves into the BC Cancer Agency's Provincial Primary Care Program, will be to facilitate such support for primary care providers through:

- education in partnership with UBC's Division of Continuing Professional Development;
- development of primary cancer care guidelines in partnership with the BC Guidelines and Protocols Advisory Committee; and
- tools to enable effective communication



Dr. Cathy Clelland

between primary care and oncologists.

To develop the bedrock upon which our new Provincial Primary Care Program will be built, the Network is collaborating with UBC CPD to connect with stakeholders over the next few months. One of these efforts includes a survey, starting this November, to

gather input from front-line care providers. As the saying goes, "If you want to travel fast, travel alone. If you want to travel far, travel together." Only by travelling together can we provide excellent care for our patients and prevent a return to the silos that result in undesirable outcomes. Help us design a program to support a shared care journey for your patients (See page 9 for details).

Contact Dr. Cathy Celland at cathy.clelland@bccancer.bc.ca

Hereditary cancer hot topics

Insurance

A common concern voiced by individuals considering genetic testing for hereditary cancer susceptibility has been the potential for test results to limit insurability options for themselves and/or their family members.

In May 2017, the Genetic Non-Discrimination Act (GNA) was passed into law in Canada. Under GNA it is illegal for anyone entering into or continuing a contract with a person, such as an insurer or an employer, to require disclosure of genetic test results or uptake of genetic testing as a condition of the contract. Additional protections were also added under the Canadian Human Rights Act and the Canada Federal Labour Code.

Private Pay Genetic Testing

An increasing awareness of the possible utility of genetic test results to inform health care decisions has contributed to:

- longer wait times for publicly funded genetic counselling and testing
- interest in testing for individuals whose personal and/or family history of cancer does not meet criteria for publicly funded services

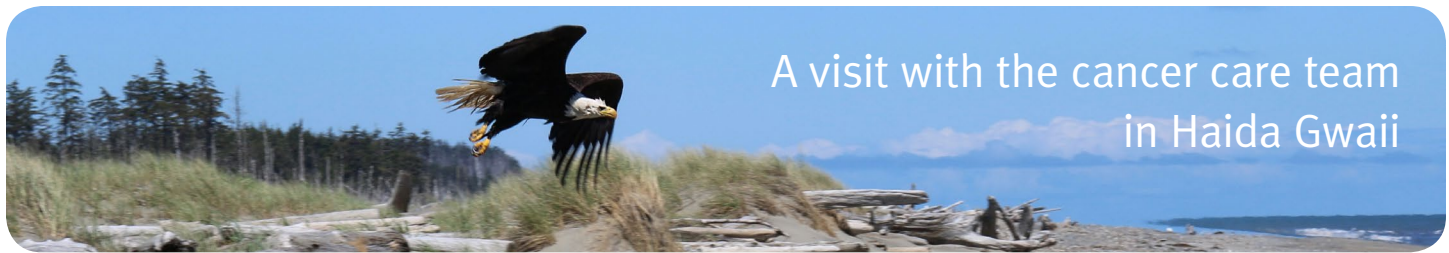
Multiple commercial laboratories across North America now offer private pay hereditary cancer genetic testing with a physician's referral at a cost affordable to many individuals. As such, more patients are requesting genetic testing through their primary or other specialty care providers.

If you arrange private pay genetic testing for

a patient, please understand the following:

- Most hereditary cancer genetic testing is now done using multi-gene panels
- Variants of uncertain significance (VUS) are common
- If genetic testing does not identify a hereditary cancer gene mutation, the tested person and their family may still:
 - benefit from hereditary cancer risk assessment (Hereditary Cancer Program referral)
 - be eligible for increased cancer screening based on their family history
- If genetic testing does identify a hereditary cancer gene mutation, the Hereditary Cancer Program will provide the following publicly funded services to BC/Yukon residents:
 - genetic counselling appointment to review the clinical implications of the result for the tested person and their family members
 - assistance with recommending and arranging appropriate cancer surveillance and risk reduction strategies
 - expedited genetic counselling and carrier testing for family members

With this in mind, please ensure all individuals meeting Hereditary Cancer Program referral criteria are referred, regardless of private pay genetic test results. Current referral form and criteria are available at: www.bccancer.bc.ca/screening/health-professionals/hereditary



A visit with the cancer care team in Haida Gwaii

By Dr. Malcolm Moore,
President, BC Cancer Agency

On June 19, I had the privilege of visiting our clinic at Queen Charlotte on Haida Gwaii and chatting with the staff including, Dr. Tracy Morton, one of the 3 GPOs who work in the Communities Oncology Network clinic there. For those of you who have not visited Haida Gwaii, it is truly a magical place, and I encourage you to include it in your future travel.

With an overall population of 5,000 spread out over a land mass of over 10,000 square kilometres encompassing 100 islands, there are major logistical challenges in providing all kinds of medical care on Haida Gwaii. There are no on-site specialty services or

specialized imaging; patients must access these in Prince Rupert (a 7-hour ferry ride away), or by plane to elsewhere in BC. Medical services are all family practice run, and concentrated in the city of Queen Charlotte; our CON clinic is located there in the newly built (and opened in 2016 by the Duke and Duchess of Cambridge: <https://news.gov.bc.ca/releases/2016HLTH0070-001852>) Haida Gwaii Hospital.

The CON clinic staff take great pride in being able to provide cancer treatment services on the island and allowing patients to be treated locally as opposed to having to travel by an often-difficult ferry ride to Prince Rupert. Driven in part by the absence of medical specialists, the provision of medical services to cancer patients on Haida Gwaii demonstrates nicely how family doctors can be fully engaged and play a leadership role in cancer care and integrate this into an overall holistic treatment plan for each patient. The staff also spoke very favorably about the GPO Training Program and the ongoing educational activities provided by the Family Practice Oncology Network.

There remain significant challenges in providing cancer treatment on Haida Gwaii. A sole nurse provides all systemic therapy handling scheduling and providing supportive care between cycles, all within a 0.4 FTE position. Finding nurse locums is challenging and absences have interrupted courses of treatment or forced patients to travel to Prince Rupert, Terrace or elsewhere. An additional challenge is the timely acquisition of medications, which often involve delays of up to 2 weeks. There is no on-site hospital pharmacist, and a sole part-time pharmacy technician mixes medications, oversees ordering and waste processing. The complex transportation logistics, involving ferries, planes and taxis, are a key, often stressful component of the tech's position.

Even with these challenges, the providers feel a great sense of teamwork and job satisfaction, knowing that despite being in a remote corner of BC, patients receive quality care according to provincial and national standards.

Contact Dr. Malcolm Moore at malcolm.moore@bccancer.bc.ca

Free online module: late effects of childhood cancers

Do you have patients in your practice who survived cancer as children? Did you know that these patients are at risk of health problems later in life? Family physicians and other health care providers can now gain the insight required to manage these health risks through a free, online module developed by the BC Cancer Agency's Late Effects and Follow-up (LEAF) Clinic and the University of British Columbia's Division of Continuing Professional Development. The module is accredited for 0.75 Mainpro+ credits. Full details and registration at ubccpd.ca/course/late-effects.

Similar modules are also available on Breast Cancer Screening and Cervical Cancer Screening.

For more information on the late effects of childhood cancer on adult survivors, and the resources and services of the LEAF Clinic, visit www.bccancer.bc.ca/our-services/services/late-effects-assessment-follow-up or email ACCS@bccancer.bc.ca

Primary cancer care survey & needs assessment



The Division of
Continuing Professional Development
Faculty of Medicine
www.ubccpd.ca

As we continue to build a better understanding of the diverse and complex needs of patients after a cancer diagnosis, it is clear that family physicians (FPs) require information and collaborative processes to effectively support their patients' cancer journeys.

Working in collaboration with the UBC Faculty of Medicine's Division of Continuing Professional Development (UBC CPD), the Family Practice Oncology Network (FPON) is seeking input from FPs and other clinicians on the development and implementation of

a Provincial Primary Care Program within the BC Cancer Agency.

In November 2017, all FPs in BC and the Yukon will be invited to complete a brief online survey aimed at understanding ongoing primary cancer care education needs, and informing the evolving role BCCA plays in primary cancer care. A vision for a sustainable Provincial Primary Care Program will result.

Have your say in the future of primary cancer care in BC!

For more information, please visit ubccpd.ca/oncology or contact UBC CPD Research Assistant, Loulou Chayama, at loulou.c@ubc.ca

Colon Screening Program – frequently asked questions

By Dr. Jennifer Telford, Medical Director,
Colon Screening Program

Are the Colon Screening Program guidelines consistent with those of the BC Guidelines and Protocol Advisory Committee (GPAC)?

Yes, the Colon Screening Program guidelines are consistent with GPAC's colorectal cancer screening clinical recommendations. They are evidence-based and developed with a particular focus on circumstances in British Columbia.



Dr. Jennifer Telford

Who should get screened for colon cancer?

Screening is recommended for asymptomatic women and men ages 50 to 74 living in BC.

The risk for developing colorectal cancer increases substantially from age 50.

The fecal immunochemical test (FIT) is recommended for average risk colorectal cancer screening. The FIT yields approximately 88% sensitivity and 90% specificity for detecting colorectal cancer. Furthermore, FIT is able to detect advanced adenomas with a sensitivity of approximately 55%. There are also no dietary or medication restrictions for FIT which will assist uptake and test completion. When compared to guaiac FOBT, patients offered FIT were more likely to participate in screening and had higher detection rates of advanced neoplasia.

Screening colonoscopy is recommended for individuals at higher than average risk for developing colorectal cancer, defined as having one of the following:

- One first degree relative diagnosed with colorectal cancer diagnosed under the age of 60; or,
- Two or more first degree relatives with colorectal cancer diagnosed at any age; or,
- A personal history of adenoma(s).

How often should my patients screen for colon cancer?

Average risk individuals should screen using the FIT every two years. Following a negative FIT result, the Colon Screening Program will mail patients directly in 2 years with a reminder to screen. Following a positive FIT and a negative high-quality colonoscopy in an average risk individual, FIT screening should resume in 10 years. This recommendation is based on the following:

- Cohort studies demonstrate that a negative colonoscopy is protective against the development of CRC for at least 10 years.

- Consensus statements by expert panels recommend that following a positive FIT and a negative colonoscopy screening be resumed in 10 years.
- The experience in BC's Colon Screening Pilot Program, Colon Check.

Individuals at higher than average risk for developing colorectal cancer should screen with colonoscopy:

- Every five years for patients with a family history of colorectal cancer.
- In five years after a patient has low risk adenoma(s) identified.
- In three years after a patient has high risk adenoma(s) identified.

What trends has the program noticed with respect to primary care referrals into the program?

There are a significant proportion of patients being re-screened with FIT after less than 24 months from their previous FIT. The recommended interval for average risk patients with a previous normal FIT is every two years. Evidence shows that a two year interval is sufficient for individuals at average risk, and a shorter interval does not increase the detection of advanced neoplasms.

A notable number of patients are being referred for FIT when colonoscopy is the next recommended screening test. Patients with a strong family history of colon cancer or a personal history of adenomas should be screened with colonoscopy at the appropriate interval. These patients should not have FIT between rounds of colonoscopy surveillance.

Lastly, there are a number of patients referred for colonoscopy with an inaccurate family history of colorectal cancer (as defined above).

What are the outcomes of the Colon Screening Program to date?

In the period of November 2013 to December 31, 2015:

- The Colon Screening Program received fecal immunochemical test (FIT) results for 346,529 average risk individuals and colonoscopy referrals for 5,458 higher than average risk individuals. This represents 23% of the eligible population (men and women, ages 50 to 74 living in BC).
- Colorectal cancer was detected in 1,008 participants – 997 among average risk individuals screened with FIT and 11 among higher than average risk individuals screened through colonoscopy.
- High risk (pre-cancerous) polyps were detected in 8,489 colonoscopies performed – 8,176 among average risk individuals and 313 among higher than average risk individuals.

The cancers detected by the program were found before the individual began experiencing symptoms – early detection means more treatment options and better outcomes.

For more information, visit screeningbc.ca

Screening Mammography Program of BC: discussing breast density with your patients

By Dr. Colin Mar, Medical Director,
Screening Mammography Program of BC

Breast cancer screening represents a key means of positive impact on the health of women in British Columbia. Screening mammography remains the integral test for this with meta-analyses of randomized controlled trials demonstrating breast cancer mortality risk reductions of 0.80 – 0.82¹⁻³. This service is provided by the Screening Mammography Program (SMP) of the BC Cancer Agency. As with other diseases, screening is optimized by an understanding of the risk factors. The program has long considered the contributions of age and

family history, but attention has more recently focused on the role of breast density.

The role of breast density as a risk factor for the development of breast cancer has been well recognized in the literature⁴. There is also a masking risk leading to decreased detection^{5, 6}, and indeed the limitations in mammography due to higher density are appreciated in the imaging community. Breast density has seen growing use in breast cancer risk assessment. It is for example included in the risk calculator of the Breast Cancer Surveillance Consortium⁷, and should factor in discussions of screening benefits, downsides and limitations to facilitate informed decision

making. Furthermore there is growing public interest in and knowledge of breast density.

Over half of the US states have enacted legislation regarding breast density reporting. There is no Canadian legislation to date, but there is a trend with 7 of 12 Canadian screening programs choosing to report breast density to the primary care provider. The SMP is not one of these, but the introduction of this practice is under consideration. For now, breast density is available to patients of the SMP upon request accompanied by the information below.

See references on page 13

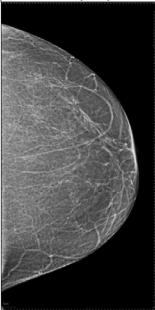
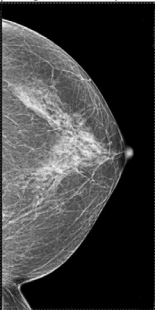
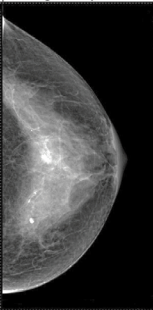
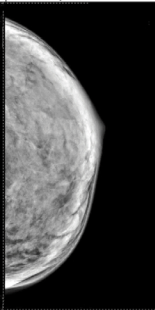
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Dear _____,

You are receiving this letter because you have requested information regarding your breast density as seen on your mammogram. Your most recent mammogram demonstrated a breast density description of [one of: “almost entirely fatty”/“scattered areas of fibroglandular density”/“heterogeneously dense”/“extremely dense”].

What is breast density?
Breasts come in all sizes and densities. They are composed of “non-dense breast tissue” (otherwise known as fatty tissue) and “dense breast tissue” (comprised of milk glands, ducts and supportive tissue). What determines your breast density is the proportion of dense breast tissue you have; this greatly varies from individual to individual and may change over time. Dense breast tissue is common and is normal.

How is breast density determined?
Breast density can only be seen on a mammogram. It is not related to breast size or firmness. There are four categories of breast density:

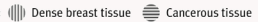
Almost entirely fatty	Scattered areas of fibroglandular density	Heterogeneously dense	Extremely dense
			
← Dense Breasts →			

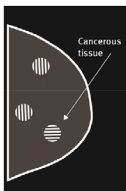
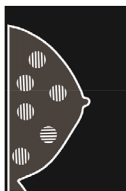


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These images are listed in order of increasing density, and breasts are considered “dense” if they are in the heterogeneously dense or extremely dense categories, meaning that they have a higher proportion of non-fatty tissue.

Why is breast density important?

- Dense breasts are associated with an increased risk for the development of breast cancer. *However, having dense breasts does not necessarily mean that you will develop breast cancer.* Density is just one of many recognized risk factors for breast cancer. For instance, increasing age is a risk factor that affects all women
- There is evidence that increased breast density may make it more difficult to detect some breast cancers on a mammogram; as seen in the diagram below, the cancerous tissue is more difficult to detect as the breast density increases.

Cancerous tissue can look like dense breast tissue on a mammogram: 

Almost entirely fatty	Scattered areas of fibroglandular density	Heterogeneously dense	Extremely dense
			

What should I do if I have dense breasts?
Many cancers are found on mammograms even if dense breast tissue is present. It is important to get a regular mammogram, as this is the only test proven to decrease the risk of death from breast cancer. It is also important that women notify their doctors right away if they notice any changes in their breasts, even if they have recently had a normal mammogram. Other tests such as ultrasound and magnetic resonance imaging (MRI) are under investigation, but there are currently no provincial or national recommendations or guidelines for their use in screening.

Women with increased breast density are encouraged to discuss their breast cancer risk with their family physician. We also encourage all women to review the modifiable risk factors for breast cancer found at: www.fiveplus.ca. Further information regarding cancer screening may be found on our website: www.screeningbc.ca.

Cancerandwork.ca

– new resource to help cancer survivors’ return to work

By Maureen Parkinson,
Provincial Vocational and
Rehabilitation Counsellor,
BC Cancer Agency Vancouver Centre

Sixty-three percent of cancer survivors return to work within one year of diagnosis, and many experience challenges both in their initial return and in remaining at work (Menhert, 2011). Often these survivors seek guidance from their family physician, (Kennedy et al., 2007; Teidke et al., 2010, Fraser et al., 2009) who can play a key role in addressing their unique needs.

A new website – www.cancerandwork.ca – developed by McGill University and the BC Cancer Agency, serves as a useful resource for physicians in this role providing new information and interactive tools. Key features:

1. *The Physician’s Guide to Navigating Insurance Forms and the Insurance Process from a Legal Perspective* video by Faith Hayman, Trial and Appellate Lawyer and Insurance Law Specialist covering insurance related points of law, differing perspectives of medicine and insurance in interpreting chart notes, and methods to address challenging insurance form topics such as pain, depression, and fatigue;
2. Links to survivor self-assessment tools to inform

physicians about their patients’ perceived challenges regarding work function, and to provide details to inform treatment, complete insurance forms, and determine readiness and return to work accommodations;

3. Job accommodation ideas that physicians can share with employers and insurance providers to help address their patients’ job restrictions and limitations;
4. Quick reference to the 20 most common side-effects of cancer and treatment with advice to help patients self-manage symptoms that can affect their work; and
5. A list of publically funded vocational rehabilitation resources to assist those without the support of an insurance company who are coping with disability and looking for work.

Visit www.cancerandwork.ca to explore



all the resources available to assist your patients in their return to work.

See references on page 13

Contact Maureen Parkinson at mparkins@bccancer.bc.ca

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Visit the Network Website: www.fpon.ca

The content of articles in this Journal represent the views of the named authors and do not necessarily represent the position of BCCA, PHSA or any other organization.

Peer support for prostate cancer patients



Prostate cancer patients and their caregivers in BC have a unique opportunity these next few months to gain the support from someone who’s been there, who has faced the same diagnosis and treatment, and who is ready and able to help. This support comes

in the form of a Peer Navigator, a prostate cancer survivor specially trained through a study underway at the University of British Columbia’s School of Population and Public Health. The project is part of an international effort supported by Prostate Cancer Canada and funded by the Movember Foundation.

Full details at peernavigation.truenth.ca

Contact peer.navigation@ubc.ca

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*Breast density as a risk factor
continued from page 11*

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