ACKNOWLEDGEMENTS AND WELCOME

The Family Practice Oncology Network first launched the GPO Training Program in 2004 and since that time 85 (and counting) graduates – General Practitioners in Oncology gained the skills and expertise to better care for cancer patients and their families in 37 BC communities. Applying the most current oncology knowledge and skills with confidence, these GPOs ensure their cancer patients receive the best care possible, while greatly reducing the need for travel in sometimes inhospitable conditions.

Many of our graduates form an integral part of community cancer clinics, provide enhanced care through their own practices, or work within one of the six BC Cancer Agency Centres. We are very proud of this program and the tremendously positive impact it has had on cancer care in BC.

That said we would like to pay tribute to those individuals whose insight led to the development of this program over a decade ago. Our appreciation goes out to:

- Dr. Bob Newman, Chair of the Network’s GPO Training Working Group and family physician in Sechelt (formerly GPO in Dawson Creek)
- Dr. Jack Chritchley, former Vice President with the Agency’s Communities Oncology Network whose original vision led to the program’s development
- Dr. Simon Sutcliffe, past President of the BC Cancer Agency who shared and spurred the realization of that vision
- Dr. Judith Pike, retired GPO with the BC Cancer Agency who played a key role in the planning and establishment of the program and
- Dr. Shirley Howdle; retired GPO from the BC Agency and former Network Council member who succeeded Dr. Pike in furthering the program’s development.

We would also to acknowledge the many BC Cancer Agency physicians and specialists who took part in developing the program and who continue to serve as instructors and resources for GPOs in the community. Their contribution is impressive and emphasizes the importance placed on the training you are about to undertake. Welcome!

The GPO Training Program is an initiative of the Family Practice Oncology Network located at the BC Cancer Agency’s Vancouver Centre, 600 West 10th Avenue in Vancouver, BC. Tel: 604 219 9579.
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**PROGRAM GOALS AND ADMINISTRATION**

The GPO Training Program is designed to meet the needs of family physicians with patients at risk of developing cancer, being treated for cancer, recovering from cancer, and those with persistent cancer. The goals of the program are to ensure that all communities of 15,000 people have at least one family physician (preferably two) with special competence in oncology; that all communities are able to identify physician cancer facilitators; and that incentives are provided to ensure all BC physicians increase their knowledge of cancer.

The program entails an eight-week course including an intensive two-week Introductory Module offered twice yearly at the BC Cancer Agency’s Vancouver Centre, followed by six weeks of individually tailored clinical experience at the Centre where participants’ patients are normally referred. The clinical component is designed for completion within six months of the Introductory Module.

Effective integration into the BC Cancer Agency structures and functions is important to this program’s success. We strive as well to provide a useful administrative structure that supports family physicians after the course and provides ongoing support to those requiring liaison with cancer experts. Our administrative structure includes a reporting relationship with the BC Cancer Agency Program Leaders and the GPO Training Program Working Group. This Working Group includes family physicians, BCCA and community GPOs. The group is chaired by Dr. Bob Newman, a family physician in Sechelt who worked for many years as a GPO in Dawson Creek.

The GPO Training Program Working Group:

- Oversees the administration and operation of the program
- Ensures the program’s smooth administrative functioning
- Screens applicants
- Ensures education materials are up to date
- Oversees the evaluation process
- Ensures ongoing outcome evaluation of the program
- Provides oncology linkages to expertise and facilitates the provision of information for community-based family physicians
- Provides and disseminates information about the program
- Ensures adequate funding is in place for the program to function and
- Seeks ongoing funding to support family physicians in their communities.

Evaluation of this program is continual. Each GPO trainee is asked to evaluate his/her experience with the program, identifying areas requiring improvement, and submitting suggestions for future activities.

*The GPO Training Program is a Group Learning Program that has been accredited by the College of Family Physicians of Canada and the BC Chapter for up to 100 Mainpro+ credits.*

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LEARNING OUTCOMES

These outcomes signify the intent of subjects to be covered during the training and are designed to complement those of individual sections.

By the end of the training the participant will have a foundation of knowledge and an understanding of:

1. The diagnosis and management of various malignancies, including adult and pediatric cancers;
2. Optimal cancer screening guidelines (e.g. for breast, cervical, colorectal, and lung cancer);
3. Hereditary cancer guidelines, referral process, and forms;
4. The use of various diagnostic imaging modalities;
5. The principles of systemic therapy and related toxicities;
6. The principles of radiation therapy and radiation toxicities;
7. The principles and management of palliative and end-of-life care;
8. The clinical picture and diagnostic tools used to monitor tumour response to systemic therapy;
9. How to recognize disease progression;
10. Late effects of cancer treatment, including second malignancies;
11. How to access research literature and continuing education;
12. Resources available to patients related to clinical trials, survivorship, and complementary/alternative medicines.

By the end of the training the participant will be able to:

13. Collaborate in the management of patients with curable and non-curable malignancies, as part of a multidisciplinary team;
14. Explain the concept of adjuvant, neo-adjuvant, and non-curative systemic therapy to patients and their families;
15. Explain the goals of treatment for advanced cancer;
16. Discuss serious news with a patient using empathetic communication techniques;
17. Assess and record the ECOG performance status of a patient with cancer;
18. Write an order for systemic therapy safely using a pre-printed order, with awareness of how best to use the corresponding protocol;
19. Prescribe the supportive care medications required for specific treatment protocols;
20. Anticipate and recognize treatment toxicities, grading, and how to adjust treatments doses accordingly;
21. Monitor tumour response to systemic therapy using appropriate tools;
22. Be confident and comfortable about contacting an oncologist for advice about continuing, changing or stopping treatment;
23. Recognize life threatening complications of cancer and/or its treatment;
24. Access essential information from the BCCA website;
25. Navigate and optimally use the resources available on Information Systems, including the Cancer Agency Information System (CAIS), Health Authority Information Systems, CareConnect, and Dictation Systems;
26. Access and refer to BC Cancer Agency and community-based supportive care resources.
PROGRAM OVERVIEW

PRINCIPLES AND LEARNING OBJECTIVES:

(With links to Areas for Self Directed Learning)

Medical Oncology
- The general principles of and treatment philosophy in medical oncology
- The classes of antineoplastic agents (chemotherapy drugs, hormones, targeted therapies) and their general uses and limitations
- The philosophical distinction between adjuvant, curative, and palliative intent chemotherapy
- Principles of safe delivery of chemotherapy
- Use of/access to protocols and standard orders
- Monitoring and supervision of patients on chemotherapy
- Management and/or prevention of common toxicities of systemic agents:
  - Nausea/Vomiting
  - Mucositis
  - Diarrhea
  - Constipation
  - Febrile Neutropenia
    - Febrile Neutropenia Online Module (as available to individual users)
  - Thrombocytopenia/Bleeding
  - Anemia
  - Arthralgia/Myalgia
  - Neuropathy
  - Cardiomyopathy
  - Extravasation
  - Hypersensitivity Reactions
  - When is it safe to re-challenge and how is this done?
- Clinical Trials

Radiation Oncology
- The general principles of and treatment philosophy in radiation therapy
- The various modalities and their uses
- The risks, benefits, limitations, and contraindications to radiation therapy
- The principles of radiation treatment planning
- Philosophical distinctions between adjuvant, curative, and palliative intent radiotherapy
- Principles of palliative XRT and conditions suitable for palliative XRT
- Radiation complications and their management
  - Early - dermatitis, mucositis, nausea, diarrhea, proctitis, cystitis, cerebral edema, thrombocytopenia, anemia
  - Late - fibrosis, telangiectasia, lymphedema, diarrhea, cystitis, osteopenia, radiation necrosis, secondary malignancy
  - Radiation skin reactions
- Tour of Radiation Department including the radiation machines, the simulator and the mould room
Pediatric Oncology

- The general principles of and treatment philosophy in pediatric oncology
- Diagnosis of common pediatric cancers including presenting symptoms, frequency and outcome
- Supportive care of children with cancer receiving active therapy
- Unique aspects of childhood cancer
- Management of febrile neutropenia
- When and how to access a central line
- Immunization recommendations for pediatric oncology patients and their families
- Psychosocial issues
- Care and follow-up of survivors of childhood cancer
- Resources available for supportive and palliative care
- Familiarization with pediatric oncology Websites: http://www.bcchildrens.ca/our-services/clinics/cancer-blood-disorders (Oncology, Hematology and BMT) and http://www.pedsoncologyeducation.com/
- General aspects of the cancer program at BC Children’s Hospital
- Tour of facilities at BC Children’s Hospital and Canuck Place and viewing the “virtual tour” video
- Principles of BC Children’s Hospital Pediatric Oncology Team management
- How the BC Children’s Hospital Oncology Clinic functions in management of patients on active treatment and follow-up
- The Children’s Oncology Group (COG)

Leukemia/BMT

- An overview of the role of the Bone Marrow Transplant Program and long-term care of the post-transplant patient
- Management Guidelines
- Treatment Options provided by the Program
- Available resources for patients and families
- Information for stem cells and marrow donors

Oncologic Emergencies

- Gain knowledge of precisely what clinical scenarios are viewed as oncologic emergencies
- How to recognize the oncologic crisis
- How to manage the acute crisis
- How to arrange emergent referrals
- Recognition and management of:
  - Spinal cord/cauda equina compression
  - SVCO (Superior Vena Caval Obstruction)
  - Esophageal obstruction
  - Bronchial obstruction/bleeding
  - Obstructive jaundice
  - Seizures
  - Bleeding
  - Febrile Neutropenic sepsis
  - Hypercalcemia
  - Chemotherapy hypersensitivity drug reactions
  - Pain
  - Other
Pain and Symptom Management/Palliative Care

- Gain knowledge to provide optimal pain and symptom management and palliative support throughout the cancer journey
- How to guide the end of life decision making throughout the patient and family cancer journey
- Understand the benefit of working with interdisciplinary teams to provide the highest quality care for cancer patients
- Recognition and management of:
  - Ascites
  - Bowel Care
  - Cough
  - Dehydration
  - Delirium / Restlessness
  - Depression
  - Dyspnea
  - Exsanguination
  - Fatigue
  - Hypercalcemia
  - Malignant Bowel Obstruction
  - Nausea and Vomiting
  - Nutrition and Cachexia
  - Spinal Cord Compression
  - BCGuidelines.ca: Palliative Care for the Patient with Incurable Cancer or Advanced Disease:
    - Part 1 - The Approach to Palliative Care
    - Part 2 - Pain and Symptom Management
    - Part 3 - Grief and Bereavement

Screening for Cancer

- The objectives/principles of population-based cancer screening
- BC screening guidelines/recommendations
  - Breast
  - Cervix
  - Colon
  - Hereditary Cancer
  - Other
- Benefits and limitations of cancer screening
- The role of primary care providers in cancer screening

Investigations

- The simplest and most inexpensive test to provide the necessary information
- Role of Tumour Markers
  - Tumour markers in common use
  - Sensitivity and specificity
  - When to check
  - How to use them
- The value and limitations of various imaging modalities (Plain Films, ultrasound, Fluoroscopy, CT Scan, mammography, MRI Scan, PET Scan, and Nuclear Medicine Scans)
- Potential toxicities of / contraindications to the various imaging modalities

Hereditary Cancers / Genetic Testing

- Understanding the incidence of hereditary cancer
- Recognizing hallmarks of hereditary cancer
Describing key elements of assessing a family history for hereditary cancer family risk
Recognizing features of the following hereditary cancer syndromes:
   - Hereditary breast/ovarian cancer
   - Hereditary nonpolyposis colorectal cancer
   - Familial adenomatous polyposis
   - Multiple endocrine neoplasia
   - Li-Fraumeni syndrome
   - Von Hippel Lindau syndrome
   - Hereditary diffuse gastric cancer
Awareness of the hereditary cancer genetic counselling process
Describing indications, benefits, risks and limitations of hereditary cancer susceptibility genetic testing
Describing screening recommendations for patients with hereditary cancer risk
Identifying clinical management issues for patients with hereditary cancer risk
Understanding the indications and process for Hereditary Cancer Program referrals

**Complementary and Alternative Medicine (CAM) and Cancer (CAMEO Program)**
- Understand the range of CAM therapies currently used by patients with cancer in BC
- Describe current recommendations about the use of common CAM therapies during cancer treatment and care
- Articulate the clinician’s role in talking to patients about CAM
- Identify resources to assist patients in making evidence-informed decisions about CAM

**CAM Resources and Areas for Self-Directed Learning**
The CAMEO program has developed a number of resources for patients, their support persons, and health care providers to help patients make decisions about CAM in cancer. All resources are free to access and free to use.

The following resources require sign-in, free registration:
- CAMEO’s CAM and Cancer in Canada booklet, including province-specific resource sheets
- CAMEO’s CAM Use Diary
- CAMEO’s CAM and Cancer Patient Education course
  - (9 module on-line course)
- CAMEO’s CAM and Cancer Health Care Provider Education course
  - (3 module on-line course)
- CAMEO’s Best Practice Guidelines: CAM and cancer for health care providers (coming soon)
- CAMEO’s Decision-making Workbook: CAM and cancer for patients (coming soon)

Direct-access resources with no registration required:
- Useful links to evidence-based websites
- CAM Monographs on common therapies
- Articles of CAMEO’s research projects to date
- MyChoices Research Project
- Additional useful CAM and cancer documents

**Other Useful links**

**Non-Physician Professions**
Understand the value and contribution of non-physician professions toward the care and support of the cancer patient, their families, and their friends in areas related to:

**Nursing**
- Understand the role and function of the oncology nurse in delivering chemotherapy and providing support in outpatient clinics
• Understand guidelines and processes of nursing practice
• Understand and access nursing resources and procedures
• Understand the nurse’s role in the transition of patients to the community
• Understand Nursing Practice Guidelines for Central Venous Catheters
• Review Nursing Symptom Management Guidelines

**Nutrition**
• Provide nutrition counseling for patients at high risk of malnutrition or anticipated to become high risk from their treatments
• Provide nutrition counseling for patients with impaired intake, malabsorption, or excessive output
• Conduct screening of all new patients who score two or greater on a malnutrition screening tool
• Work with interdisciplinary teams for symptoms related to cancer or cancer treatment
• Provide education, consultation, and educational resources to our community partners at host hospitals and to other allied health professionals.

**Pharmacy**
• Provide an understanding of safe medication ordering processes and common pitfalls unique to cancer therapies
• Provide an understanding of the techniques required for safe handling of antineoplastic drugs
• Review the BC Cancer Agency pharmacy resources and the medication-related sections of the BC Cancer Agency Website contributing to safe and effective delivery of cancer treatments
• Review the role of the clinical pharmacist as a member of the cancer care team
• Provide a rational approach to the use of natural health products (herbs and supplements) by cancer patients
• Review the forms and processes for reimbursement for cancer treatment drugs through the BC Cancer Agency
• Review Pharmacy Symptom and Side Effect Management Guide

**Psychosocial Oncology**
• Be knowledgeable about psychosocial resources available in the BC Cancer Agency and in the community and how to access these resources
• Be able to differentiate between normal and pathologic responses to a cancer diagnosis and treatment, e.g. depression, complicated grief, adjustment disorders
• Be able to identify effective therapeutic strategies, including the appropriate use of psychotropic medications in psychosocial oncology, in particular, with depression and anxiety when complicated by a cancer diagnosis and treatment
• Be able to understand the impact of cancer on family dynamics and to recognize interventions which facilitate communication and coping within a family
• Be knowledgeable about culturally sensitive communication skills in oncology care.
• Understand management strategies for delirium, anxiety, and depression

**Information Skills and Library Services**
• Accessing medical information
• Searching the medical literature
• Cancer information for professionals
• Services for the cancer patient

**BCCA Structures to Support Cancer Care**
• Tumour Groups
  • At the BC Cancer Agency, cancer management and clinical research occurs in tumour site specific interdisciplinary teams known as tumour groups. Complex cases are discussed at
regularly scheduled tumour conferences where consensus management recommendations are established.

- Familiarity with Family Practice Oncology Network
- Familiarity with Surgical Oncology Network
- New patient triage process
- Interdisciplinary approach to cancer management

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SITE SPECIFIC AND FOCUSED AREA LEARNING OBJECTIVES

BREAST ONCOLOGY

LEARNING OBJECTIVES

At the end of the training program, the GPO Program trainee should:

- Understand the lifetime risk of breast cancer and its natural history
- Recognize the risk factors for breast cancer
- Be able to advise appropriate screening
- Be able to assess breast symptoms and recognize those that are alarming
- Arrange appropriate investigations for abnormal screening or clinical breast symptoms
- Be able to confidently and appropriately understand standard surgical management
- Be able to knowledgeably discuss breast conservation vs mastectomy with patients
- Understand rationale behind axillary node dissection and complications of this
- Be aware of lymphedema treatment and community resources
- Be aware of sentinel node biopsy
- Understand the basics of pathology
- Be aware of staging process
- Recognize and understand the importance of prognostic factors
- Understand the role of radiation in breast conserving surgery
- Recognize the contraindications to breast radiation
- Become familiar with the process of breast radiation
- Be able to recognize and manage acute and chronic radiation side effects
- Understand the difference between pre- and post-menopausal breast cancer patients
- Understand the rationale of medical or surgical oophorectomy
- Be able to identify patients with high risk breast cancers
- Be aware of common chemotherapy regimens for these patients
- Gain some knowledge of rationale and benefits behind chemo
- Recognize common side effects of chemo and be able to manage appropriately
- Become aware of the seriousness of febrile neutropenia and initiate management, realizing oncologist support is available
- Be aware of options for management of anemia
- Understand hormonal treatments
- Be able to recognize and manage side effects
- Be aware of special cases such as DCIS and locally advanced cancers and be able to initiate management
- Recognize inflammatory breast cancer urgency and be able to refer appropriately
- Be aware of post-treatment cure and survival rates
- Be able to perform appropriate follow-up in breast cancer survivors
- Be cognizant of tumour markers and their appropriate use
- Be aware of alternative medications or hormonal medications breast cancer patients should avoid
- Be aware of reconstructive options post-mastectomy and be able to make appropriate referral
- Be knowledgeable of common sites of metastatic disease
- Be able to arrange appropriate investigation for metastases
- Be able to refer appropriately
- Understand management options for metastatic disease including chemotherapy, radiation, hormonal and palliative measures
- Be aware of benefits of bisphosphonates in metastatic disease and treatment of hypercalcemia
AREAS FOR SELF DIRECTED LEARNING

Epidemiology
- Lifetime risk (both male and female)
- Risk based on age
- Mortality rates

Risk factors
- Family history
- Genetics (brca 1 and 2)
  - Prophylactic mastectomy and oophrectomy
- Benign breast lesions
- Increasing age
- Gynecologic history
- Other (menstrual history, medication history, hormone replacement, exercise, diet, etc)

Clinical detection
- Screening (who, how, and how often)
  - Imaging vs physical exam
  - Reliability of screening
  - Breast self-exam
- Symptom assessment
- Common presentations of breast pathology:
  - Lump, discharge, pain, erythema and skin changes, nipple changes

Diagnostic procedures
- Appropriate initial investigation for woman with signs or symptoms of breast pathology
  - Biopsy
  - Surgical Consultation
- Investigation of abnormal mammogram or normal mammogram with ongoing breast symptoms
  - Value of MRI
- Recognition of Inflammatory or locally advanced disease and early consultation to
  - Medical oncology for consideration of chemotherapy before surgery
- Once known breast cancer, appropriate labs and imaging to stage completely (look for metastatic disease)

Classification, staging and prognosis
- Pathology
- Prognostic factors in early breast cancer:
  - Node involvement, HER-2, age, pathologic grade, tumor size
  - Triple negative
  - ER and PR positive
  - DCIS
- Staging of disease
- Cure rates for surgery alone
- Recurrence risk evaluation
  - Adjuvant on line
  - Oncotype DX risk assessment

Surgical management
- Biopsy including FNA, core, etc
  - Breast conservation vs mastectomy (benefits and risk)
Margins
- Prophylactic contralateral mastectomy
- Sentinel node plus or minus axillary node dissection
  - Indications for further surgery
- Complications: lymphedema, infection, decreased mobility
  - Treatment of lymphedema (massage, sleeve)
- Note that surgical management may be delayed in some situations
  - (neoadjuvant chemo)

Reconstructive options (immediate vs delayed)
- Implants, Tram flaps, other muscle flaps
- Will vary depending on prior radiation, surgery and patient body type
- How does this change follow-up imaging requirements

Radiation
- The rationale of breast conserving surgery and radiation - when is mastectomy appropriate
  - The contraindications to breast radiation
  - The process of external beam breast radiation - simulation, planning and treatment course
- New option of brachytherapy (less toxic, less time consuming)
  - Management of node positive disease ( controversy over more radiation vs completion axillary dissection in sentinel node positive patients or neoadjuvant patients)
  - “How do I deal with the axilla in a patient with a positive sentinel node?” by Dr. Conrad Falkson (abstract)
- The possible acute and chronic radiation side effects and their management approach (heart and lung plus skin toxicity)
- Management of metastatic disease: radiation for CNS disease or painful bony mets
- Chemo agents which sensitize patients to radiation (these may need to be held if patients need radiation)

Adjuvant Chemotherapy
- Which cancers are considered “high risk” and likely to be offered chemotherapy (for early breast cancers)
  - Adverse prognostic features: age, LVI, grade, nodes, HER2, T stage etc.
  - Adjuvant! Online,
  - Oncotype DX for intermediate risk node negative
- Common chemotherapies offered: include rationale and benefits regarding prevention
- Effects of Co-morbidities on treatment options
- Side effects of chemotherapy
  - Mucositis, esophagitis, gastric reflux, nausea, cardiomyopathy, neuropathy, myalgias, fatigue etc.
  - Management of anemia and neutropenia (appropriate use of G-CSF)
  - Novel agents (pertuzumab/TDM-1) in RCTs.
  - Special Cases: Pregnancy

Adjuvant Hormonal treatment
- Pre, peri, and post menopausal options
  - Five years tamoxifen
  - Extended extra 5 years tamoxifen
  - Tamoxifen plus switch to Aromatase inhibitor or complete 5 years Aromatase inhibitor
- Side effects
- Tamoxifen: Hot flashes, PE or DVT, cataracts, uterine malignancy, depression, mood swings, vaginal dryness, weight gain  (avoid with history of DVT, TIA, stroke, DM)
- Tamoxifen is protective of bones so consider if osteoporosis history
- Tamoxifen drug-drug interactions – caution with warfarin, SSRI (CYP 2D6 inhibitors)
- Aromatase Inhibitors: Hot flashes, weight gain, depression, muscle and joint aches, bone loss
- Side effect management and screening for bone density
- Appropriate Recommendations for calcium and vitamin D
- Management of hot flashes
  - Option for oophrectomy or ovarian ablation via medication

Management of Metastatic Disease
- Repeat biopsy of new metastatic disease
- Repeat labs and staging with CT and bone scan
- Common sites of metastases
- Hormonal treatment options for ER positive disease
- Restoring sensitivity to endocrine therapy
  - Everolimus (Baselga et al. NEJM 2012; 366:520-529)
- Aggressive vs slow moving metastases and effects on treatment decisions
- Chemo options for palliative treatment (symptom improvement and temporary disease control)
- Rational and options for sequential versus combination chemo
  - Approach for ER+, HER2+, Triple negative breast cancer.
  - HER2 specific treatments:
    - Lapatinib (Geyer CE et al. N Engl J Med 2006; 355(26); 2733-43.)
    - Pertuzumab: (Swain et al. Lancet Oncology 2013; 14(6) 461-471.)
- Bisphosphonates for bone metastases (pamidronate vs clodronate)
- New denosumab as option for bone disease worsening on pamidronate
- When to refer for palliative radiation
- Palliation: quality of life, comfort measures, pain control

Psychosocial Impact

Appropriate Follow-up Post “Curative” Treatment
- Frequency of follow-up
- History and physical exam
- Appropriate follow-up tests (mammo, discuss tumour markers)
- Pelvic exams if on tamoxifen
- Bone density if on anastrazole plus calcium, vit d supplements

Alternative Medications
- Health products to avoid (estrogen-like compounds) in ER positive disease

RESOURCES
- BC Cancer Agency Cancer Management Guidelines: Breast
- Cancer Care Ontario GPO Self Directed Learning Program Manual
- Chow E. Radiation Treatment for Breast Cancer. Canadian Family Physician, 2002;48
- UptoDate.com as available to individual users
- www.oncologyex.com
- BC Cancer Agency pamphlet: Follow-up After Breast Cancer Treatment
**Gastrointestinal Oncology**

**Learning Objectives**

At the end of the training program, the GPO Program trainee should be able to:

- Develop an understanding of the natural history, risk factors, screening, common presentations, diagnostic investigation, and referral recommendations for the common GI cancers. ([Esophagus, Stomach, Pancreas, Colon, Rectum, Anus](#))
- Develop an understanding of the role of the surgeon, gastroenterologist, radiation oncologist, medical oncologist, interventional radiologist and family physician in the investigation, management and care of the GI cancer patient
- Become familiar with the adjuvant chemotherapy and radiation protocols, (according to the BCCA management manual) including the potential toxicities and acute and long-term complications of these therapies
- Develop an understanding of relapse patterns for GI cancers and post treatment follow-up recommendations
- Become familiar with the palliative chemotherapy and radiation protocols, (according to the BCCA management manual) including the potential toxicities and acute and long-term complications of these therapies
- Become familiar with the common complications of GI cancers and the management of these complications (especially bleeding, dysphagia, gastric outlet obstruction, obstructive jaundice, bowel obstruction, constipation, pain)
- Develop an understanding of common palliative care issues and the management of these issues in GI cancer patients
- Understand the hereditary aspects of GI cancers, including recommendations for genetic counseling, testing and screening
- Learn how to access further information on the management of GI cancers by using the BCCA Website

**Areas for Self Directed Learning**

**Introduction to GI cancers**
- Prevalence of GI cancers
- Commonest sites
- Risk factors including heredity
- Presenting symptoms

**Adjuvant treatment of GI cancers**
- Definition of adjuvant treatment
- Understand settings where adjuvant (and neoadjuvant) chemotherapy and/or radiation is used
- Protocols and drugs
- Ongoing research/ future advances

**Metastatic GI cancer – focus on colorectal, pancreatic, gastroesophageal**
- Presenting symptoms of metastatic cancer
- When to initiate/discontinue treatment
- Goals of treatment
- Protocols and drugs
- Ongoing research/ future advances
Follow up of GI cancers

- When is close follow up required?
- Use of history, physical, endoscopy, imaging and tumor markers

**RESOURCES**

- BC Cancer Agency Website
- Cancer Care Ontario GPO Self Directed Learning Program Manual
- UptoDate.com as available to individual users
- www.oncologyeducation.com (copy and paste this link directly into the address bar of your browser)
- Pancreas Centre BC
- BC Cancer Agency pamphlet on Follow-up Program After Colorectal Cancer Treatments

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**Genitourinary Oncology**

**Learning Objectives**

At the end of the training program, the GPO Program trainee should understand:

**Testicular Cancer**
- Known and possible risk factors for testicular cancer
- The natural history of, and common clinical presentation of, testicular cancer
- The stages of, and investigations necessary for, staging in testicular cancer
- The pathological types of testicular cancer and understand how management varies between them
- The management of testicular cancer, when and who to refer to
- The role of surgery, radiation and chemotherapy in testicular cancer
- Appropriate post treatment follow up/surveillance in testicular cancer
- Relapse patterns, when to suspect relapse and how to confirm relapse
- Salvage therapy for relapsed testicular cancer

**Bladder Cancer**
- The incidence of, risk factors for, and natural history of bladder cancer
- When and how to screen for bladder cancer in high risk groups
- Possible strategies for prevention of bladder cancer
- The investigations necessary for diagnosis and the optimal referral strategy
- The staging of bladder cancer and its implications for management
- The management of superficially invasive disease and the potential for recurrence
- The prognostic significance of muscle invasion in bladder cancer
- The multidisciplinary approach of the optimal management to bladder cancer, and the roles played by the urologist, radiation oncologist and medical oncologist
- The potential palliative care issues for bladder cancer patients

**Renal Cell Cancer**
- The incidence of, natural history of, and risk factors for renal cell cancer
- The clinical presentation of renal cell cancer
- The management of renal cell cancer

**Prostate Cancer**
- The incidence of prostate cancer, natural history of and risk factors for prostate cancer
- Strategies for, and controversies in, screening for prostate cancer
- The role of PSA in prostate cancer screening and the BCCA’s statement on PSA screening
- The appropriate investigations for elevated PSA, and/or abnormal DRE including referral recommendations
- The common presentation of clinical prostate cancer
- Referral recommendations when prostate cancer is suspected. (Including confirmation of diagnosis)
- The investigations involved in the staging of prostate cancer. (The implications of staging and risk assessment with respect to management and prognosis)
- The multidisciplinary approach in the physician focused care of the prostate cancer patient (Urologist, Radiation Oncologist, Medical Oncologist, Family Physician) including the roles played by each discipline
- The role of surgery in prostate cancer management, including potential benefits, limitations and complications
- The role of radiation in prostate cancer management including brachytherapy, radical radiotherapy, potential benefits, limitations and complications
• The role of hormone therapy in prostate cancer management including an understanding of medical (versus surgical) castration and the toxicities
• Post treatment surveillance of the prostate cancer patient, including the role of PSA and the concept of biochemical relapse
• Palliative care issues in the patient with prostate cancer including strategies for management

AREAS FOR SELF DIRECTED LEARNING

Testicular Cancer
• Incidence, (BC, Canada) (rising)
• Median Age
• Risk Factors (cryptorchidism etc.)
• Screening – TSE
• Clinical Presentation
  • Symptoms
  • Signs
  • (primary tumor vs. metastatic disease and frequency that metastases are first presentation)
  • (symptoms/signs of hormone release from tumor)
• Diagnosis: History and Physical Examination, investigations including look for metastatic disease, tumor markers, sperm count
• Natural History: typical metastatic spread
• Staging: TNM (important for management)
• Pathological type: Seminoma, Non-Seminoma, Non-Germ Cell (important for management)
• Management:
  • When and who to refer to, surgery and then BCCA follow up
  • Contraindication of biopsy
  • Urgency
  • Management depending upon type of tumor (seminoma vs. non-seminoma)
  • Early stage vs advanced
  • Treatment specifics:
    • Surgery, medical oncology, & declining role of radiation therapy.
    • Surveillance: very well established, importance.
    • How often, what investigations etc.

Renal Cancer
• Incidence (BC, Canada)
• Gender
• Risk Factors: smoking etc, familial type
• Prevention (screening for familial cases etc)
• Clinical Presentation (symptoms if any, localized, systemic)
• Diagnosis: investigations for primary tumor and for staging
• Pathology
• Staging: TNM, Nuclear grade
• Management:
  • Stage I & II: surgery
  • Stage III: surgery (curative intent)
  • Stage IV: +/- surgery for primary and met.
  • Immunotherapy
  • Role of surgeon and medical oncologist in management
• Clinical Trials: current and future
**Bladder Cancer**

- Incidence:
  - Gender
  - Median age

- Race
- Risk Factors
- Prevention
- Screening:-high risk groups
- Clinical Presentation
- Signs and symptoms
- Natural History: superficial muscle invasive disease
- Diagnosis:
  - Investigations, cystoscopy etc. and further investigations for staging

- Pathology:
  - TCC (and superficial: papillary) (now called urothelial cancer)
  - SCC, small cell, sarcoma etc. (rare)

- Staging:
  - TNM

- Management:
  - General issues
  - Role of the surgeon, medical oncologist and radiation oncologist in management
  - Multi-disciplinary
  - Small cell issues
  - Surgery, combined modality
  - Superficial disease (T1s, Ta, T1)
  - Muscle invasive disease (T2-4)
  - Deep muscle invasion (T2b, T3, T4a)
  - Locally advanced T4b
  - Metastatic: chemo

- Follow-up: very important
  - Investigations and how often
  - When and who to notify
  - What info to provide
  - F/U for superficial disease and for muscle invasive disease

- Prognosis

**Prostate Cancer**

- Incidence:
  - BC
  - Canada

- Mortality
- Risk Factors
  - Race, family history, diet, etc.

- Screening/Early Detection
  - When, how and who to screen
  - DRE
  - PSA screening: BCCA statement on PSA

- Abnormal DRE-when to refer
- Elevated PSA or rising PSA-when to refer
- Diagnosis
  - Physical exam and investigation
  - Biopsy

- Natural History
- Risk Stratification: Low vs. Intermediate vs. High Risk
  - PSA
Gleason Score from biopsy

Clinical TNM stage

Management:
- Based on risk stratification
- Role of surgery in prostate cancer
- Role of radiation in prostate cancer
- PSA testing post-surgery or radiation for surveillance
- Role of hormone therapy
- LHRH Agonists
- Anti-androgen therapy
- (Now called Castrate Resistant Prostate Cancer or CRPC) Role of chemotherapy in hormone refractory disease

Clinical Trials: who to refer to

RESOURCES

- BC Cancer Agency Website
- Cancer Care Ontario GPO Self Directed Learning Program Manual
- Morris, WJ. Brachytherapy for Prostate Cancer in BC
- Pros and Cons of PSA Screening for Prostate Cancer (Agency patient brochure)
- BC Cancer Foundation Website
- www.doubling-time.com/compute-PSA-doubling-time.php
- http://nomograms.mskcc.org/index.aspx (prediction tools)
- UptoDate.com as available to individual users

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**Gynecologic Oncology**

**Learning Objectives**

At the end of the training program, the GPO Program trainee should:

- Have a good understanding of the natural history, known risk factors for, and preventive strategies, screening for, presentation, diagnosis and optimal referral steps for the common gynecological cancers
  - Understand the new classification of epithelial cancer of ovary and the implications for management
  - Recognize possible germline hereditary patterns in ovarian and endometrial cancer and when to refer for genetic counseling and assessment
- Have knowledge of the principles of management of gynecologic cancers as outlined in the BC Cancer Treatment Manual
  - When managing a patient on chemotherapy learn strategies to appropriately assess response and progression and how that might impact chemotherapy decisions. Also how to assess chemotherapy toxicity and interventions for management.
- Have an appreciation for the multi-disciplinary approach to the management of gynecological cancer and develop an understanding of the benefits and importance of the appropriate timing of each treatment modality.
- Have an understanding of the optimal post treatment follow up
- Develop an ability to recognize early relapsed disease when cure is still possible
- Develop an understanding of the situations in which early identification of relapse will not alter survival in order to avoid “over investigation” of the asymptomatic post treatment patient
- Develop an ability to judge the appropriate timing of palliative intent 2nd line or subsequent therapy
- Develop an understanding of potential palliative interventions and therapies for the patient with relapsed gynecologic cancer.
- Develop an understanding of sexual complications of gynecological cancers and their treatment, and a comfort level in discussing such issues with patients, plus management strategies

**Areas for Self Directed Learning**

**Ovary/Fallopian/Primary Peritoneal - Epithelial and non-Epithelial Cancers**

- Incidence (Canada, BC, temporal)
- Mortality Rates (Canada, BC, Temporal)
- Median Age Survival Expectations
- Risk Factors (Familial breast/ovary, other)
- Natural History
- Clinical Presentation - Presenting Symptoms/Clinical Findings
- Diagnosis - Investigations including tumor markers, possible immediate interventions (paracentesis/thoracentesis)
- Management: Who/When to refer; to whom to refer; degree of urgency
- Surgical Management (including interval laparotomy)
- Staging
- Pathology
- BCCA Risk Group
- Treatment Specifics Chemo/Radiation/Trials Potential Toxicity/Support during
- Assessment of response
- Post treatment surveillance (Who/how often/how?)
- Relapse - What to expect; Timing of second line therapy
- Management choices
- Response expectations - Chemotherapy, Surgery, Radiation, other
- Palliative Care

**Endometrium**

- Incidence: Canada, BC, Temporal
- Mortality Rates: Canada, BC, Temporal
- Median Age: Survival Expectations
- Risk Factors including hereditary syndromes/hormones
- Natural History
- Clinical Presentation [symptoms etc., physical findings]
- Establishment of diagnosis/investigations/referrals
- Staging
- Pathology
- Risk Groups
- Management
  - Surgery
    - Contraindications to surgery
    - Conservative/fertility sparing is this ever possible?
    - Adjuvant [Radiation, Chemotherapy, Hormones]
    - Post Treatment Surveillance
- Relapsed disease
  - Local
  - Regional
  - Distant
- Investigation of disease relapse
- Management of disease relapse
- Is relapsed disease ever curable?
- Palliative Care

**Cervix**

- Pathology
- Staging
- Incidence
- Mortality Rates
- Survival
- Fertility issues
- Risk Factors HPV etc
- PAP Smear screening
- Prevention, vaccines etc
- Colposcopy
- Natural History
- Pregnancy and Clinical Features/modes of presentation/clinical findings
- Diagnosis/investigations
- Referrals
- Management
  - Surgery when is surgery the treatment of choice?
  - Fertility sparing surgery who/what/where?
  - Radiation include modulators of response/trials
  - Chemo: As radiation sensitizer for advanced disease
  - Pre-invasive Disease
- Post treatment surveillance
- Sexual Issues where to get help
- Relapse patterns
- Management of relapsed disease is cure ever possible?
• Palliative Issues/Care

**Vagina**
• Distinctions from cervix
• Clinical Features
• Management, etc.

**Vulva and Other Less Common Gynaecological Cancers**
• Incidence
• Pathology
• Risk Factors
• Staging
• Screening
• Diagnosis/Biopsy/Colposcopy
• Referral
• Management
• Post treatment surveillance/management
• Palliative Care
• Vulva dystrophies/ benign diseases of the vulva

**Gestational Trophoblastic Disease**
• Incidence
• Risk Factors
• Diagnosis
• Investigation
• Referral
• Differential Diagnosis
• Risk Groups
• Management
• Post Treatment Surveillance

**Gynecologic Sarcoma**
• Pathology
• Sites
• Clinical Presentation
• Diagnosis
• Investigation
• Management
• Hormones
• Prognosis
• Post Treatment surveillance
• Relapse

**Common Problems and Support during Chemotherapy/Radiation Therapy**
Management of:
• Nausea
• Constipation
• Diarrhea
• Reflux
• Arthromyalgia
• Peripheral neuropathy
• Febrile neutropenia
• Mucositis
• Moniliasis
- Herpes
- Radiation induced skin reactions, telangiectasia, enteritis (acute and chronic) cystitis. (These will be covered during Week 1 and therefore may be omitted here.)
- Bleeding
- Ascites
- Pleural Effusions
- Bowel Obstruction
- Fistulas
- Lymphedema
- Vaginal discharge [secondary to malignancy].
- Vulvar Itching
- Hormone replacement
- Pain (especially neurogenic)

**Sexual Issues in the Gynecological Cancer patient**

**RESOURCES**

- [UptoDate.com](https://www.uptodate.com) as available to individual users
- [Cancer Care Ontario GPO Self Directed Learning Program Manual](https://www.cancer.gov)
- [BC Cancer Agency Website](https://www.bccancer.ca)

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LEARNING OBJECTIVES

At the end of the training program, the GPO Program trainee should:

- Be aware of the known causes of lung cancer and the implications of this knowledge for prevention
- Know when and how to screen for lung cancer in high-risk populations
- Understand the usual presentations of lung cancer and the optimal referral patterns and diagnostic procedures for suspected lung cancer
- Have an understanding of the staging of small cell lung cancer, appropriate staging investigations, and the treatment of limited stage and extensive stage small cell lung cancer as outlined in the BC Cancer Treatment Manual. And have knowledge of the prognosis with and without such treatment, and knowledge of appropriate follow-up
- Have an understanding of the staging of non-small cell lung cancer, appropriate staging investigations, and the treatment of different stages of the disease as outlined in the BC Cancer Treatment Manual. And have knowledge of the prognosis with and without such treatment, and knowledge of appropriate follow-up
- Understand the diagnosis, staging, treatment, prognosis, and follow-up of mesothelioma
- Understand the diagnosis, staging, treatment, prognosis, and follow-up of thymoma
- Have an understanding of the relapse patterns of lung cancer after initial treatment and the role of second-line palliative treatments including chemotherapy, radiation, and endobronchial therapy
- Have knowledge of the chemotherapy drugs most commonly used to treat lung cancer, their major toxicities and the management of these
- Have knowledge of the most common toxicities of radiation as it is used to treat lung cancer and the management of these
- Have an understanding of the treatment of common symptoms in lung cancer patients, especially pain, cough, and dyspnea
- Understand the indications for and be able to perform a thoracentesis

AREAS FOR SELF DIRECTED LEARNING

Introduction to Lung Cancer

- Risk factors
- Screening
- When to suspect lung cancer
- Optimal tests and referral for prompt tissue diagnosis
- Classifications of lung cancers
  - Small cell
  - Non-small cell-subtypes
- Other related cancers
  - Mesothelioma
  - Thymoma

Small Cell Lung Cancer

- Staging-limited stage vs. Extensive stage
- Management of limited stage small cell lung cancer-concurrent chemotherapy and radiotherapy
  - Response rates
  - Survival rates after treatment
  - Follow-up after treatment
  - Patterns of relapse after initial response and management of relapse, including response rates and benefits to be expected from second-line treatment
- Management of extensive stage small cell lung cancer-chemotherapy
  - Radiation
  - Other
  - Response rates, survival rates and benefits to be expected from treatment
  - Role of second-line treatments
- Chemotherapy drugs and protocols used in lung cancer, toxicities and their management
- Toxicities of radiation to the chest and their management

**Non-Small Cell Lung Cancer**
- Staging
- Staging tests in non-small cell lung cancer with particular reference to determining operability
- Types of operations done for non-small cell lung cancer and early and late complications of these
- Any role for adjuvant chemotherapy or radiotherapy after surgery, or neo-adjuvant treatments before surgery
- Survival rates after lung cancer surgery
- Patterns of relapse after potentially curative surgery
- Management of relapsed disease: expected benefits and adverse effects of treatments
- Management of inoperable non-small cell lung cancer:
  - Locally advanced
  - Metastatic-common sites of metastatic disease
  - Expected benefits and adverse effects of treatment
- Role of endobronchial therapy.
- Common symptoms of advanced lung cancer-cough, dyspnea, pain-management of symptoms to be dealt with in more detail in palliative care module

**Mesothelioma – (uncommon)**
- Risk factors
- Diagnosis
- Treatment
- Prognosis

**Thymoma – (uncommon)**
- Risk factors
- Diagnosis
- Staging
- Treatment
- Prognosis

**RESOURCES**
- [BC Cancer Agency Website](BC Cancer Agency Website)
- [Cancer Care Ontario GPO Self Directed Learning Program Manual](Cancer Care Ontario GPO Self Directed Learning Program Manual)
- [UptoDate.com](UptoDate.com) as available to individual users

[Back to Table of Contents](Family Practice Oncology Network/BC Cancer Agency GPO Training Program Manual 2017)
LEARNING OBJECTIVES

At the end of the training program, the GPO Program trainee should understand:

**Lymphoma**
- The optimal approach to the patient presenting with lymphadenopathy. When to suspect lymphoma and how to confirm the diagnosis
- Incidence, risk factors and common presentations of lymphoma, including Hodgkin and non-Hodgkin type
- The histologic classification of lymphoma
- The natural history and prognosis of the subtypes of lymphoma
- Referral recommendations including the timing of that referral (before or after investigations) for the patient with suspected or confirmed lymphoma
- A general approach to staging investigations including bone marrow biopsy and imaging tests
- General management principles for patients with lymphoma including the roles of chemotherapy, the new targeted therapies and radiotherapy

**Multiple Myeloma**
- The natural history varied clinical and subclinical presentations and prognosis of plasma cell disorder including solitary plasmacytoma, multiple myeloma and monoclonal gammopathy of unknown significance (MGUS)
- Diagnostic investigations to confirm multiple myeloma
- Staging investigations to evaluate extent of disease in multiple myeloma
- Referral recommendations including when and to whom to refer new or suspected cases of multiple myeloma
- General management principles for patients with multiple myeloma including the roles of chemotherapy, stem cell transplantation, radiotherapy, and supportive medications such as bisphosphonates
- Also an understanding of when a plan of watchful waiting is appropriate
- The disease related complications suffered by patients with multiple myeloma and strategies of palliation for these problems

**Chronic Lymphocytic Leukemia**
- Usual and unusual presentations of CLL
- Incidence, natural history and prognosis of CLL
- Diagnostic investigations to confirm CLL
- Appropriate surveillance strategies for patients with CLL
- Standard treatment for CLL including chemotherapy and targeted agents
- Disease related complications occurring in patients with CLL
- When referral to hematologist/oncologist is prudent
- Recognize the types of acute and chronic leukemias, MDS and bone marrow failure states
- Recognize the presenting symptoms of acute and chronic leukemia, myeloma, MDS and bone marrow failure states
- Recognize when leukemia, bone marrow failure and myeloma are medical emergencies.
- Understand how to immediately deal with these emergencies and make appropriate referrals
- Learn the basic different types of therapies for leukemias, MDS and bone marrow failure states
- Learn the basic different types of transplants, including bone marrow, peripheral blood, cord blood and the different types of donors including autologous, allogeneic sibling, and allogeneic unrelated donor
- Recognize common disorders which occur after transplant, including opportunistic infections and graft versus host disease
- Learn how to deal with neutropenic fever
- Learn the resources available for optimizing care, including all the relevant contact information for the Leukemia/BMT program personnel as well as online resources for physicians and their patients

**RESOURCES**

- Cancer Care Ontario GPO Self Directed Learning Program Manual
- BC Cancer Agency Website

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**Palliative Care**

**Learning Objectives**

At the end of the training program, the GPO Program trainee should:

**General Considerations**

- Be able to define palliative care and describe its basic principles (as developed by the CHPCA)
- Be able to describe the dominant attitudes to death and dying in North America and identify some different attitudes prevalent in different cultures within our society
- Have an understanding of the natural history of the common types of cancer and the treatments available at each phase of the illness
- Understand when life-prolonging treatments such as feeding tubes, urinary stents, biliary stents, etc. should or should not be used
- Be able to identify the critical transition points in the cancer journey
- Be able to "break bad news" sensitively and have an appropriate discussion with the patient and family about the goals of care at each phase of the illness
- Understand the ethical issues that commonly arise in palliative care including: establishing priorities and goals with the patient and other care providers; discussing treatment options with the patient and jointly formulating care plans; assessing the risks/burdens versus the benefits of each treatment; respecting a patient's wish to decline treatment; being familiar with the current legislation regarding assisted suicide and euthanasia and understanding the issues which surround requests for these
- Know what resources are available for palliative care in his/her own community including palliative care units, specialists, home care, and financial benefits
- Be able to provide basic psychosocial support to patients and families, and know what resources are available for further support as needed
- Be able to function and communicate as part of a care team in the care of palliative patients
- Provide care in hospital or in the home at the very end of life, and be able to deal with issues that commonly arise such as whether to continue IV hydration, switching to parenteral routes for medications, medications for excess secretions, the use of sedation if other means of controlling symptoms are not adequate
- Be aware of normal responses to grief and loss in patients and families are able to recognize complicated grief, and be aware of grief counseling resources in the community

**Management of Specific Symptoms**

**Pain**

- Know the types of pain and their likely causes in cancer patients. Be able to recognize neuropathic pain
  - Demonstrate a systematic method of pain assessment
  - Understand how to investigate pain when appropriate
  - Be able to start patients on analgesics including opioids and titrate to an effective dose
  - Understand the relative merits of different opioids including methadone, and the uses of opioid rotation
  - Understand the commonly used coanalgesics, including cannabinoids
  - Know the usefulness of anesthetic techniques and palliative procedures, and when to refer for these

**Gastrointestinal Symptoms**

- Understand the causes of nausea, the pathways and receptors involved and appropriate treatment
  - Anticipate and prevent constipation, especially in patients receiving opioids
Understand bowel obstruction in cancer patients, including causes, investigation, medical management, the role of surgery, and the role of venting gastrostomy tubes

- Be able to manage hiccoughs
- Be able to manage ascites

**Respiratory Symptoms**
- Understand the causes and treatment of cough
  - Understand the causes and treatment of dyspnea
  - Know the indications for home oxygen and how to access this for patients in the community
  - Know how to manage pleural effusions

**CNS and Psychological Symptoms**
- Understand the causes of confusion and delirium in cancer patients; be able to investigate and treat appropriately
  - Be able to differentiate depressive illness from normal sadness in seriously ill patients and initiate antidepressants when indicated

**Skin Problems**
- Know how to manage fungating wounds
  - Know how to manage pruritus

**General**
- Understand the causes and management of fatigue in cancer patients
  - Understand the management of edema
  - Know how to manage catastrophic hemorrhage

**Areas for Self Directed Learning**

**Introduction**
- Introduction to palliative care principles
  - Attitudes to death and dying in our society
  - Cross-cultural issues
  - Ethical issues
  - Working with families
  - Psychosocial support
  - Delivering bad news
  - Grief counseling, identifying complicated grief

**Pain**
- Types of pain
  - Systematic method of pain assessment
  - Starting patients on analgesics-WHO ladder
  - Opioid initiation and titration
  - Relative merits of different opioids, including methadone, opioid rotation
  - Coanalgesics
  - Anesthetic techniques

**CNS Symptoms and Psychological Symptoms**
- Confusion and Delirium - diagnosis and treatment
  - Psychological-differentiating depression from normal sadness
RESOURCES

Books
- Palliative Care; a case-based manual; very readable multi-author Canadian text with recent updates. Oxford University Press
- Medical Care of the Dying: textbook for the Victoria Hospice course, comes with pocket handbook. Available from Victoria Hospice website
- Oxford Textbook of Palliative Medicine: the definitive reference text
- The Palliative Care Formulary: derived from the on-line forum and UK working group palliativedrugs.com. This is a marvelous and current prescribing resource, and there is a Canadian edition. Their website is a treasure trove of useful documents and of international experts’ discussion of topics not found in the textbooks. Sign up for their free bulletin board service and start contributing!

Journals
- The Journal of Palliative Care: Quarterly Canadian journal. Mostly articles on psychosocial aspects of palliative care
- Journal of Palliative Medicine: A US journal which has good articles on symptom management, education and palliative care policy
- Palliative Medicine: English journal with articles on symptom management and palliative care policy. The UBC Library subscribes.
- European Journal of Palliative Care

Websites
- palliativedrugs.com (see books)
- The Way Forward: http://www.hpcintegration.ca/
- Canadian Virtual Hospice http://www.virtualhospice.ca
- Center to Advance Palliative Care http://www.capc.org

Overall
- Uptodate.com as available to individual users
- Cancer Care Ontario GPO Self Directed Learning Program Manual
- BC Cancer Agency Website

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LEARNING OBJECTIVES

At the end of the training program, the GPO Program trainee should understand:

For patients receiving treatment
- The types of childhood cancers, their presentation, frequency and outcome
- The principles of treatment e.g. Acute Lymphoblastic Leukemia
- The surgical aspects of pediatric cancer management
- The family physician’s role in active anti-cancer therapy
- The family physician’s role in supportive care (nutritional; psychological; social; schooling; immunization rehabilitation)
- The common side effects of therapy and their management (nausea and vomiting; painful procedures; fever and neutropenia)
- Pediatric aspects of palliative care and pain management

For patients on follow-up
- Methodology of follow-up: the how and by whom
- Screening for recurrence
- Organ specific toxicities
- Late sequelae of irradiation and chemotherapy
- Psycho/social consequences and social reintegration
- Second malignant neoplasms

Procedures
- In medical day care or on the wards
- Central lines

Sessions included
- Pediatric Oncologists
- Treatment clinics – initial and follow-up

RESOURCES
- [www.pedsoncologyeducation.com](http://www.pedsoncologyeducation.com)
- [Cancer in Children and Adolescents](https://www.nationalcancerinstitute.nih.gov/cancercauses/pediatric-cancer.html) (US National Cancer Institute)
- [Screening in cancer predisposition syndromes: guidelines for the general pediatrician](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3253874/), 2011
- [Signs and Symptoms of Childhood Cancer: a Guide for Early Recognition, 2013](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3474432/)
- [Journal of Family Practice Oncology, Spring 2011](https://www.jfponline.com/)
- [Provincial Pediatric Oncology Hematology Network Newsletters](https://www.pedsoncologyeducation.com)

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CENTRAL NERVOUS SYSTEM ONCOLOGY

LEARNING OBJECTIVES

At the end of the training program, the GPO Program trainee should:

Malignant Gliomas
- Recognize the common presenting features of malignant primary brain tumors
- Understand the histologic and grading criteria for malignant primary brain tumors
- Be aware of the clinical and molecular prognostic factors important to these tumors
- Learn the role of surgery in diagnosis and treatment of malignant primary brain tumors
- Learn the role of radiation therapy in the treatment of primary malignant brain tumors
- Learn the standard role of chemotherapy in adjuvant treatment of malignant glioma and understand current controversies surrounding chemotherapy in these tumors
- Understand the palliative management of recurrent primary malignant brain tumors with respect to surgery, chemotherapy, anti-angiogenic therapy and experimental therapies

Low grade gliomas
- Recognize the common presenting features of low-grade gliomas
- Understand the histologic and grading criteria for low-grade gliomas
- Recognize the key role of molecular genetics as well as other prognostic features in low-grade glioma
- Discuss the controversies in management of low grade tumors in respect to observation, radiation therapy and chemotherapy

Supportive Care
- Understand the role of corticosteroids in the management of cerebral edema.
- Be aware of the common side effects of dexamethasone and interventions to lessen those effects.
- Understand the role of anticonvulsants in patients with primary brain tumors
- Be aware of the common signs of toxicity with anticonvulsants.
- Recognize the common neurological features of brain tumor progression and understand the role of appropriate palliative care in the final stages of disease
- Understand issues around work, rehabilitation, and driving in patients with primary brain tumors.

RESOURCES

- UptoDate.com as available to individual users
- Cancer Care Ontario GPO Self Directed Learning Program Manual
- BC Cancer Agency Website

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LEARNING OBJECTIVES

At the end of the training program, the GPO Program trainee should understand:

**Melanoma**
- Risk factors
- Subtypes of melanoma and their clinical presentations
- Early recognition of melanoma (including an introduction to dermoscopy and Website for self-training of dermoscopic diagnosis)
- Biopsy technique for diagnosis of melanoma
- Staging investigations
- Treatment of melanoma - including discussion of surgical margins, sentinel node biopsy, radiotherapy, and chemotherapy
- Follow-up of melanoma
- Patient and family counseling
- Diagnosis and management of melanoma recurrence
- Precursor lesions (atypical/dysplastic nevi, congenital melanocytic nevi) and their management

**Basal Cell Carcinoma**
- Clinical subtypes and their presentation
- Biopsy techniques
- Treatment modalities (curettage and electrofulguration, cryotherapy, radiation therapy, excision, micrographic surgery), and their indications
- Follow-up

**Squamous Cell Carcinoma**
- Risk factors
- Precursor lesion (actinic keratosis) and its management
- Squamous cell carcinoma in situ and Bowen's disease and their management
- Treatment modalities (excision, radiation therapy, micrographic surgery) and their indications
- Management of squamous cells carcinoma on mucocutaneous sites (oral, genital)

**Cutaneous T Cell Lymphoma**
- Clinical subtypes and presentation
- Biopsy technique
- General discussion on treatment approaches

**RESOURCES**
- [UptoDate.com](http://UptoDate.com) as available to individual users
- [Cancer Care Ontario GPO Self Directed Learning Program Manual](http://CancerCareOntario.ca)
- [BC Cancer Agency Website](http://BCCancerAgency.ca)

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HEAD AND NECK ONCOLOGY

The Head and Neck group manages squamous cell neoplasms of the upper aerodigestive tract, adenocarcinoma of the major and minor salivary glands and the various types of carcinoma of the thyroid.

LEARNING OBJECTIVES

At the end of the training program, the GPO Program trainee should understand:

- Presenting symptoms and diagnostic pitfalls of head and neck cancer
- Racial differences in the incidence of head and neck cancer
- Available treatment modalities and their relative indications
- The role of the dentist in the management of the head and neck cancer patient
- Side effects of the various treatments and their management
- The role of follow-up in these patients

RESOURCES

- UptoDate.com as available to individual users
- Cancer Care Ontario GPO Self Directed Learning Program Manual
- BC Cancer Agency Website

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ORAL ONCOLOGY

LEARNING OBJECTIVES

At the end of the training program, the GPO Program trainee should:

- Understand the role of the BCCA Program in Oral Oncology/Dentistry in treating oral complications of cancer treatment
- Understand the role of community dental practitioners in cancer diagnosis, oncology care, treating oral complications of cancer treatment, and in head and neck cancers.
- Understand osteoradionecrosis and its management.
- Understand bisphosphonate osteonecrosis and the importance of prevention of this complication.
- Recognize the significance and management protocols of precancerous oral lesions.
- Appreciate the epidemiology of oral cancer, its detection, diagnosis, treatment modalities and long-term sequelae.
- Learn when to refer and how to refer to the Program in Oral Oncology/Dentistry
- Become familiar with the resources available to oncology practitioners in British Columbia for oral cancer diagnosis and management.

RESOURCES

- [UptoDate.com](https://uptodate.com) as available to individual users
- [Cancer Care Ontario GPO Self Directed Learning Program Manual](https://www.cancer.ca)
- [BC Cancer Agency Website](https://www.bccancer.bc.ca)

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BONE AND SOFT TISSUE TUMOURS

LEARNING OBJECTIVES

OUR TEACHING WEBSITE: orthotumours.ca has everything you need to know.

Who We Are
We are a true provincial multidisciplinary group with subspecialist expertise in radiation oncology, medical oncology, pathology, radiology, and surgery. We have a dedicated nurse co-ordinator to help patients through their complex treatment path and work closely with pain and symptom management, counseling services, etc. These are complex and difficult tumours and it has been repeatedly shown that multi-disciplinary management in a high volume service produces higher rates of cure and lower rates of amputation.

After central conference review, medical and radiation oncology expertise is delivered in each of the centres, but we recommend that surgery be performed by someone with high volume expertise. Most tumours occur in the extremities and in the subspecialist orthopaedic service we treat over 200 bone and soft tissue sarcomas per year, as well as a collection of aggressive benign conditions and metastatic lesions. We also have experienced general surgeons, head and neck, spine and thoracic surgeons who have high volume experience.

What We Treat
The Bone and Soft Tissue Group (often referred to as the “sarcoma group”) manages a wide range of benign, malignant and metastatic conditions. These fall into the following categories:

- **Benign Bone Lesions**
  These include tumours such as Giant Cell Tumours of Bone, Aneurysmal Bone Cysts, Chondromyxoid Fibromas, etc. We also review a lot of benign incidental findings such as enchondromas which can undergo malignant change. The investigation of choice is a plain XRay, and we are happy to review any film abnormality. We generally only get the patient in if the lesion is suspicious.

- **Malignant Bone Lesions**
  These include Osteosarcoma, Chondrosarcoma and Ewing Family Tumour. These require multidisciplinary management with a combination of surgery, chemotherapy and radiation depending on the pathology and specific circumstances of the individual patient.

- **Benign Soft Tissue Tumours**
  Some soft tissue tumours such as fibromatosis and hemangiomas can be very challenging to manage, and we are happy to review any of these to determine if they should be seen by us.

- **Malignant Soft Tissue Tumours**
  This is predominantly “Soft Tissue Sarcoma”, which is in fact a collection of about 42 different malignancies, each with their own idiosyncrasies. With modern molecular techniques it has been come clear that these need different management strategies, from different surgical techniques to the use of adjuvant therapies. People who manage these as one condition are delivering 20th century standard of care.

- **Complex Metastatic Disease**
  Most bone metastases can be managed by local orthopaedic surgeons, but some, such as the isolated Renal Cell Carcinoma metastasis, will benefit from a resection and reconstruction rather than pinning. We perform a small number of these each year, and are happy to review any case to determine if they would benefit from more aggressive surgery.
Occasional isolated soft tissue metastasis can be managed as for a sarcoma, but this is a small volume of our work.

**How We Work**
Due to the highly transplantable nature of these tumours we prefer to arrange our own biopsies. It is NOT necessary to obtain a tissue diagnosis prior to referral. If the lesion is in the extremity/pelvis/shoulder girdle then fax a referral to 604 877 6217 and we will process the referral within a couple of days.

If the patient is from out of town we will arrange MRI, biopsy and CT Chest and see the physician all on the same visit. If the patient has a benign tumour and does not need to be seen we will simply write a letter with clear recommendations for further management.

**Tips**
Never be afraid to ask, we are happy to review any patient’s imaging and history. Referrals can come direct to us; you do not have to go through a local surgeon.

**Bone Lesions**
“If pain persists, take an X-Ray”. If a patient has unexplained bone or joint pain for more than 6 weeks, then a plain film X-ray is indicated. This can avoid long delays in diagnosis. Remember that in adolescents and young adults hip pain is felt in the knee. Failure to image the hip has resulted in several disastrous outcomes for our young patients.

**Soft Tissue Lesions**
Strongly consider referral (or at least an MRI) if the tumour is:
- Deep to the deep fascia OR
- Greater than 5(?8 if stable) cm OR
- Growing rapidly

Anything “can” be a soft tissue sarcoma - the smallest I have seen was 8mm. Slow growth does not exclude sarcoma - many subtypes are characterized by slow growth. But if you follow these guidelines you will pick out most of the dangerous lesions and not send in too many lipomas.

When taking out lumps and bumps keep your incision longitudinal, and stick to superficial lesions. Even if you do hit a superficial sarcoma, these are easy to treat.

**Contact Us**
Paul Clarkson, Orthopaedic Oncologist and Chair, Bone and Soft Tissue Tumour Group: pclarkson@bccancer.bc.ca. Central fax for sarcoma referrals: 604.877.6217. We will route referrals from here to the most appropriate person.

**RESOURCES**
- Our Website -orthotumours.ca has been built with medical students and family docs in mind - i.e. for when to refer, and some basic information. There are practice cases, etc. [Take Home Messages](#).
- [UptoDate.com](#) as available to individual users
- [Cancer Care Ontario GPO Self Directed Learning Program Manual](#)
- [BC Cancer Agency Website](#)

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CHRONIC DISEASE MANAGEMENT

There are several fundamental principles or key points that are essential components of a Chronic Disease Management (CDM) model of care and these themselves are fundamental both to the process of constructing the care model itself and understanding the concept to ensure proper implementation. These are outlined below and will be expanded upon further as we progress through the module.

- Many chronic conditions, including many cancers, can…and should be…managed in a primary care setting, thus optimizing the effectiveness, efficiency and quality of care and experience for the patient in a less threatening and more familiar environment.

- A major priority is involvement of the patient to ensure that a patient with a chronic disease fully understands and is empowered to play a major role in the management of their disease in conjunction with the resources of a care team.

- Assisting patients to follow through with their care regimens, medications, follow ups and other interventions is crucial. Various team members are key resources in these respects.

- Family Doctors with an interest in this type of care and these types of patients will play a key role along with specialized nurses and allied health professionals in helping patients in their management journey.

Key individuals who coordinate the “collaboratives” to ensure ongoing quality, review and “best practice” in various geographically defined areas will be important for the success, consistency of care delivery and coordination of these CDM initiatives. In the case of the Family Practice Oncology Network these will be the GPOs in conjunction with a good communication network.

The Primary Care setting and CDM

Most physicians and other members of the care team are now familiar with Chronic Disease Management models for several diseases, particularly, in British Columbia, Congestive Heart Failure and Diabetes. Fewer individuals had viewed cancer in this light until relatively recently. One of the definitions of a chronic disease is one, which lasts more than six months. Advances in cancer treatments over the past decade have virtually assured most cancer patients of a survival which is significantly longer than that. Many cancers particularly many of the more common ones such as breast, colon and prostate in particular, lend themselves very well to a CDM approach once initial treatment has been completed. In many cases the primary care team can be active participants in the early treatment phases which will, over time, lead to a decreased burden for the oncologists giving them more time to see more patients in a more timely way.

Interestingly, despite some criticisms to the contrary, primary care can, do and always has, taken a holistic approach to patient care. Most family practitioners know the vast majority of their patients and their families intimately and can provide insights and personal knowledge that will assist the patients in a very difficult time. Better follow up and disease registers with great opportunities for review and research should become available with improved call and recall systems following algorithms or care plans that are both team and patient implemented. The latter will enable comprehensive patient involvement with self-care and offer patient empowerment that has been lacking in the past where the approach to care was more paternalistic. An outline of other CDM programs will be given and the concept of cancer as a chronic disease addressed with some illustrations of how cancer integrates with other CDM models.

Patient empowerment and self-care concepts

It is interesting to note that a cancer patient, on average in any one year, once the initial therapy is complete, may only spend three or four hours of that year in contact with health care professionals in total. That includes Physicians, nurses, pharmacists and others, in other words, all of us. What that means is that the other 8757 or 8756 hours of the year they are on their own, living with, thinking about and trying to manage their condition as best they can. To date we have not done the best possible job of helping them to manage those thousands...
of hours of living with their problem. Only recently have we come to realize that empowering the patient with a chronic disease to understand and take responsibility for much of their care and condition can make a huge difference not only to their quality of life but also to optimizing their outcome.

Good education of the patient towards self-care promotes independence. Not only is independence promoted but studies have shown that self-management of chronic conditions leads to a reduction in fear of that condition, improved psychological well-being, reduction in pain and lower levels of depression, all of which leads to the improved quality of life mentioned earlier. Self-management programs initiated at the early stage of the disease journey can also help with early detection of recurrences and complications leading to earlier and better interventions and prevent for many the compounding of their problems and further or increased disability.

In order for patients to be able to “take charge”, good information services are essential. The ‘just in time” philosophy and practices of major manufacturers come to mind here whereby a piece of the article being made is delivered at precisely the right time in the manufacturing process in precisely the right form. What patients need is the right information at the right time in the right form. Too much information available today is of questionable validity and quality. What we have to ensure is that well validated references and information that the patient can trust can be accessed. For some that might be on a Website, for others in hard copy form or even by phone to a health professional. Facilities must also be available whereby the patient can obtain readily understandable explanations of those things that they find difficult to understand or complex so advice on how to actually use the information must be readily available. All of this enables them to not only participate in their self-care but also make informed decisions and choices about that care.

From the above it can be seen that Family Practice and in particular FPON is uniquely positioned to be able to work with patients in a team environment with local partners to promote the CDM concept and coordinate and provide access to the services that support it.

This session will focus on these concepts with practical demonstrations of how to engage patients in a ‘self-management’ model.

Accessing care and team responsibilities
One of the most interesting aspects of CDM is that each team member including the patient is working with the same information and understandings. This can provide a unique opportunity for expanding roles and responsibilities amongst the team members as well as educating the patient with regard to what changes they might want to make to their care plan under certain circumstances. A good example of that would be to allow the team nurse to have certain prescription privileges which would under many circumstances allow patients speedier access to beneficial changes when for example a physician or pharmacist was unavailable.

Another important function for team members would be to ensure that patients were following their care plans properly. Studies in patients with CHF, Diabetes, and other chronic diseases have shown that up to 50% of patients do not take their medicines properly and in the UKPDS diabetes trial 20% of those with type 2 diabetes forgot to take their medications at least once a week whilst around 80% were unable to test their blood sugars even daily because for a variety of reasons they had insufficient test strips. (Cost is often an issue here in Canada) So compliance with care plans is an issue and education + follow up helps significantly. Sending a patient off with a piece of paper or even worse, telling them what they are supposed to be doing does not lead to very good compliance.

Here we will focus on the team concept and how best the team can work together to provide optimal care, information and back up for the patient.

The Management Journey
There is no doubt that patients need good information, tools and protocols, (as does the care team) in order to successfully embark on a successful chronic disease journey. One of the major contributions to this will be flow sheets, not only for the health care professionals but also appropriate documentation and instructions for the patients which can be combined as needed with the health care team’s information to provide an
information map of the individual patient’s journey and experiences. We will have these available from some of the tumor groups over the next few months starting with breast cancer.

Key to all of this will be the training of the GPOs who themselves will train the interested - Family Practitioners and their care teams in the specifics of cancer care in the CDM model. All engaged practices will be able to actively use protocols or care maps for the assessment, treatment and follow up of cancer patients who are part of the initiative. This part of the module will focus on the use of care plans, patient information and flow sheets and “chart inserts” and how best to facilitate their use in a primary care setting in order to optimize the patient journey and provide interventions when needed based on the best possible evidence available.

**Running a CDM Team or Collaborative**
The final part of this module will address the issue of running and coordinating a first class CDM based group in the geographical area, which the GPO is responsible for. This will include tasks such as assisting with the completion and ongoing development ( these things are always a work in progress) of the various care plans which will in many ways be similar to those used in other CDM initiatives such as the BCCFP CHF record. Review, with the engaged practitioners and their teams ( where appropriate ) on a regular basis, of the progress and problems to date as well as local information and educational sessions to keep everyone up to date with initiatives and new information as it comes out from the network. These sessions will provide opportunities for feedback from all involved and ensure an ongoing dialogue from which information can be passed to the council to continuously improve the network and its products.

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PROGRAM EVALUATION

The GPO Training Program is a Group Learning Program that has been accredited by the College of Family Physicians of Canada and the BC Chapter for up to 100 Mainpro+ credits.

To receive these credits, participants must complete the full Introductory Module and the six weeks of clinical experience. They must also complete:

- The online Pre-evaluation Form at least two weeks prior to beginning the Introductory Module;
- The Daily Speaker Evaluation Survey during the Introductory Module; and
- The online Post-evaluation Form once all the components are complete and at least three months after the completion of the Introductory Module

Credit certificates can only be issued once these requirements are fulfilled.

Your feedback at every stage of the program is an accreditation requirement and pivotal to ensuring the training’s ongoing practicality and value to family physicians and their cancer patients. We are dedicated to the program’s continual improvement as are all our instructors and the oncologists and specialists who will work with you during the clinical component. We are always keen to hear from you.

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ADDITIONAL COMPUTER TRAINING

If you would benefit from stronger computer skills in programs such as MS Office Word, Outlook Excel, PowerPoint or Access, Education staff at the BC Cancer Agency, Vancouver Centre, will be pleased to assist. Please follow up directly with Heena Vadgama, tel. 604 877 6216 to arrange complimentary training.

Similarly, if you have additional questions about CAIS – Cancer Agency Information System post-training, please contact Audrey Barry, tel. 604 675 4090.

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CME INITIATIVES/CONFERENCES

The Network strives to provide relevant, accessible oncology CME opportunities for BC GPOs and family physicians. Our present offerings include:

**Oncology CME Webcasts**

Held from 8-9:00 a.m., the third Thursday of every month (except July, August and December), Oncology CME Webcasts provide opportunity to participate in topical, interactive oncology presentations by Agency oncologists and specialists. All you need is an Internet connection. The Network presents this program in partnership with UBC’s Division of Continuing Professional Development and each session is nationally accredited by the College of Family Physicians of Canada and the BC Chapter for up to 1 Mainpro+ credit. All sessions are also recorded and available on the [Network’s Website](#).

**Family Practice Oncology CME Day**

Every Fall the Network hosts a Mainpro+ accredited Family Practice Oncology CME Day in Vancouver featuring presentations and workshops covering the most requested topics from GPOs and family physicians. Visit the [Network’s Website](#) for details on this year’s event.

**Community Oncology Workshops**

The Network also partners with UBC’s Division of Continuing Professional Development to develop and present accredited community cancer workshops also known as the Community Cancer Outreach Program on Education. To date, there are modules on breast, prostate cancer, colorectal cancer and advanced cancers. [Details on upcoming community based sessions](#).

**Other upcoming CME Events and Conferences**

The Network also lists other relevant primary care oncology events on the [Upcoming Events](#) section of its Website. One not to miss is an excellent conference hosted every October by the [Canadian Association of General Practitioners in Oncology (CAGPO)](#).

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COMMUNITY RESOURCES

Program graduates are integrated into the Communities Oncology Network as it exists in their community. This Network is a collaborative, voluntary partnership that includes Community Cancer Centres across the province working in conjunction with the six Regional Cancer Centres, and the Systemic and Radiation programs. Twenty-seven Community Hospitals also support appropriate delivery of cancer patient care as part of the Network. A complete listing of these services is available in map form.

In areas without services, GPOs may work with the local health care providers to establish an oncology service in their community.

Once trained, GPOs will become fully integrated into their host Cancer Agency and Community Cancer Centre as available. Ideally, they will administer the chemotherapy program in their community and support all aspects of oncology care. GPOs will also remain closely associated with the BC Cancer Agency through the Network for ongoing education, support and linkages.

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