BC CANCER
Provincial Health Services Authority

Surgery Network Newsletter

ISSUE 40, NOVEMBER 2024 | www.bccancer.bc.ca/surgerynetwork

Organ Preservation in pMMR/MSS Rectal Cancer

Dr. Alexandre Mikhail, Colorectal Surgeon, Kelowna General Hospital

Proctectomy, through low anterior resection (LAR) or abdominoperineal resection (APR), has long been central to managing rectal cancer, but it frequently leads to complications, such as bowel, urinary, and sexual dysfunction, and often requires temporary or permanent fecal diversion [1]. To avoid these issues, organ-preserving strategies have emerged as viable alternatives. One such strategy, enabled by advances in transanal surgery, is local excision of early rectal cancer using transanal endoscopic microsurgery (TEMS) or transanal minimally invasive surgery (TAMIS). Another increasingly popular approach is to omit proctectomy in patients with locally advanced rectal cancer who achieve a complete clinical response (cCR) after neoadjuvant treatment—the so-called 'watch-and-wait' (WW) strategy.

Early Rectal Cancer

Early rectal cancer presents a challenge in preserving organ function while ensuring good oncologic outcomes and avoiding overtreatment. Local excision has traditionally been offered to patients with small T1 tumors and is often curative if no adverse pathologic features are found. In the past, conventional transanal excision was limited by the tumor's location and rectal anatomy. However, advancements in the TAMIS and TEMS platforms, along with techniques like endoscopic submucosal dissection (ESD), have broadened the pool of eligible patients, enabling local excision of more proximal and larger lesions that previously required proctectomy [2].

T2 node-negative tumors typically required proctectomy due to the high risk of local recurrence after excision alone [3][4]. Radiation or chemotherapy was usually not offered unless tumors are upstaged on final pathology. However, the success of total neoadjuvant therapy (TNT) in eradicating disease in advanced tumors has led to its application in earlier-stage cancers. Current guidelines allow TNT for early-stage rectal cancer (T1-T2, node-negative), where the aim is to achieve cCR and avoid proctectomy-particularly in distal rectal cancers where surgery would necessitate APR and a permanent colostomy. This approach must be balanced against overtreatment risks for more proximal lesions, where LAR without chemotherapy or radiation remains a proven, effective option with acceptable functional outcomes.

Another organ-preserving strategy for early rectal cancer involves combining neoadjuvant radiation with local excision. This approach downstages the primary tumor, making it more suitable for local excision and reducing the risk of local recurrence [5][6][7]. The CARTS trial reported that while organ preservation rates are high, up to 50% of patients experience major low anterior resection syndrome [6]. The ongoing neo-RT trial, a phase III study, is investigating an alternative strategy using neoadjuvant chemotherapy followed by local excision [8]. Avoiding radiation may enhance wound healing and functional outcomes while preserving the option for its use in future recurrences.

Locally Advanced Rectal Cancer

Patients with locally advanced rectal cancer that achieve a cCR after neoadjuvant therapy can opt for non-operative management. WW protocols vary but generally involve regular surveillance with clinical exams, flexible sigmoidoscopy, and MRI. Even those with a near-complete response can benefit from observation, as cCR can take up to 26 weeks post-radiation in T3/T4 disease [9].

To maximize tumor response and potentially avoid surgery, TNT with long-course chemoradiation followed by

consolidation chemotherapy has become a promising strategy, validated in phase III trials [10][11]. The German Rectal Cancer Study and OPRA trial compared induction vs. consolidation chemotherapy following TNT. The German study reported a 17% pCR rate for induction and 25% for consolidation chemotherapy (p = 0.01). In OPRA, non-operative management was offered if cCR was achieved, with a 41% cCR in the induction arm and 53% in the consolidation arm (p = 0.016). Updated results of the OPRA trial show that half of the patients that received TNT achieved organ preservation with a medial follow up period of 5 years [12].

Local Regrowth

Around 20–25% of patients in a WW protocol experience local regrowth, with 95% occurring within three years of follow-up [13]. This highlights the need for close monitoring, especially early on. Currently, there are no reliable tools to predict local regrowth, though baseline tumor stage is a known risk factor. The risk increases by about 10% for each T stage, from 20% for T2 to 40% for T4 [14]. Although regrowth is often surgically salvageable, it is an independent negative prognostic indicator associated with a higher risk of distant metastasis [15][16].

Conclusion

Advances in surgical techniques and neoadjuvant treatments have expanded options for early and locally advanced rectal cancer, offering better oncologic outcomes while preserving organ function. However, careful patient selection, vigilant surveillance, and balancing undertreatment with overtreatment remain crucial, particularly in early-stage disease. As ongoing research and trials explore optimal treatment pathways, the future of rectal cancer care promises more personalized, minimally invasive approaches that enhance quality of life without compromising long-term prognosis.

References for this article can be found on the BC Cancer Network Website.

Surgery Network Travel Award Recipients

Dr. Katelynn Tang

Preoperative depression and anxiety associated with younger age and receipt of immediate breast reconstruction

Background

As survivorship for breast cancer continues to improve with advances in treatment, the emphasize of care falls upon improving patients' quality of life. Studies looking at patient reported outcomes (PRO) are heterogeneous and there is a need to better understand physical and mental health in the preoperative period to optimize surgical decision making and patient supports.

Methods

Consecutive patients scheduled for breast cancer surgery at Mount St. Joseph's Hospital between 2017 to 2020 were prospectively recruited. Participants completed a pre-operative survey including PHQ-9 for depression, GAD-7 for anxiety, Breast-Q, and EQ-5D(5L) for health status. Scores were compared for total mastectomy (TM), total mastectomy with immediate breast reconstruction (IBR) and breast conserving surgery (BCS). Association between PRO with clinical variables was assessed with multivariate analysis.

Results

We identified 477 participants (374 BSC, 46 TM, 84 IBR). Patients scheduled for IBR reported higher levels of anxiety and depression. In all three procedure groups worse PRO scores were not associated with more aggressive tumor features (such as greater size, higher grade, biomarker status as triple negative or HER2 positive). On multivariate analysis, anxiety and depression was associated with younger age and receipt of IBR. On the Breast-Q modules, higher scores were seen with BCS, and lower scores were seen with TM.

Conclusions

In our prospective cohort of early stage breast cancer patients scheduled for surgery, we found younger age and choice to undergo immediate breast reconstruction to be associated with worse depression and anxiety, and worse depression symptoms respectively. This result is not affected by clinical tumor characteristics. In the pre-operative setting, we also identified immediate breast reconstruction to be associated with worse depression and anxiety symptoms and total mastectomy to be associated with lower scores of psychosocial and physical well-being. This information will help in discussing surgical options and which patients may benefit from additional perioperative supports.

Dr. Akie Watanabe

Patient Perceived Impact of Quality-of-Life Following Gastrectomy for Gastric Cancer: An Early Analysis

Gastrectomy performed for gastric cancer can heavily impact patient quality-of-life (QoL) in the postoperative period. Specific symptoms such as eating difficulty, pain, and fatigue have been well documented by several studies using the European Organisation for Research and Treatment of Cancer (EORTC) STO22 questionnaire. The 12-item short form survey (SF-12), a coherent QoL questionnaire measuring global physical and mental functioning relative to the general population, has been used to study QoL in gynecological and colorectal cancer patients, but its use in gastric cancer is unknown. In this prospective study, we sought to determine the longitudinal changes in physical and mental functioning after gastrectomy using the SF-12 survey and evaluate their correlation with symptoms identified on the STO22 questionnaire.

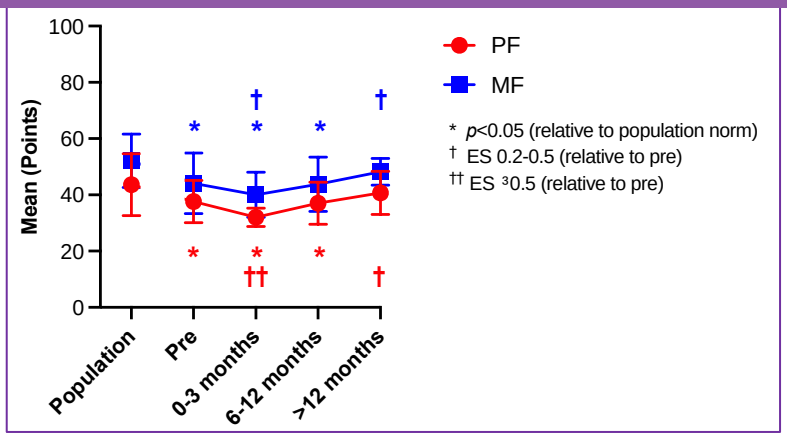
Methods

Patients diagnosed with gastric cancer between 2020-2023 prospectively completed SF-12 and EORTC QLQ-STO22 pre and post gastrectomy. Average SF-12 physical and mental functioning were compared to population norms. Patient perceived change in postoperative physical and mental functioning relative to baseline were assessed by minimal important difference effect sizes (mild ES 0.2-0.5; moderate ES ≥0.5). Correlation between symptoms including pain, fatigue, eating difficulty, and physical and mental functioning were measured.

Results

Amongst 29 prospectively recruited patients who completed pre and post gastrectomy surveys, physical and mental functioning were significantly worse in the pre and postoperative periods, particularly within the first 3 months, but improved to population norms after a year (Figure 1). Compared to preoperative scores, moderate patient perceived decline in physical functioning was reported 0-3 months after gastrectomy but improved after 12 months. Patient perceived mental functioning saw a mild decline between 0-3 months but also improved after a year (Figure 1). Difficulties eating immediately after surgery correlated with significantly worse physical functioning, while persistent fatigue and pain past 6 months correlated with worse mental functioning.

Figure 1. Longitudinal change in physical and mental functioning following gastrectomy for gastric cancer. PF Physical functioning, MF mental functioning, ES effect size



Conclusions

Decline is expected in physical and mental functioning after gastrectomy but will recover to population baseline after one year. Insight into specific symptoms can provide information on global functioning.

Next steps

Understanding trends in gastric cancer QoL could be useful in guiding preoperative planning, optimizing postoperative care, and establishing patient expectations on the road to recovery. Multi-centre collaborations investigating QoL in various settings and large populations is required to establish its value as an indicator in postoperative gastric cancer care.

Dr. Jessica Lie

Rate of Neoplasia in Patients with Complicated Acute Appendicitis Managed Nonoperatively

Recent reports suggest the rate of neoplasia in patients with complicated acute appendicitis initially managed nonoperatively is higher than previously appreciated. The evolving role of nonoperative management of acute appendicitis highlights the importance in identification of appendiceal neoplasia. This study aims to ascertain the neoplasia rate in patients with complicated appendicitis treated nonoperatively and investigate potential predictors of malignancy.

We conducted a prospective cohort study of all adult patients at Vancouver General Hospital who presented with acute appendicitis between July 2019 and January 2023. Patients with appendicitis were identified upon admission by a member of the research team and collected in a prospective database. Patients with complicated appendicitis initially managed nonoperatively were included in the study cohort. Nonoperative management was defined as treatment with antibiotics and drainage if needed, either surgically or by interventional radiology. Complicated appendicitis was defined as radiographic findings of perforation, phlegmon or abscess. Patient demographics, clinical course, radiological findings, and pathologic information were collected. The primary outcome was appendiceal neoplasia rate confirmed on pathology. Multivariable logistic regression analysis was performed to identify predictors of appendiceal neoplasia.

Over the 3.5-year study period, 1166 patients presented with appendicitis. Of those, 75 (6.4%) patients had complicated appendicitis initially treated nonoperatively (median age was 51 [IQR 37-68] years; 48.0% were female). Fifty-four (72%) patients ultimately had their appendix removed due to failure of nonoperative management (5), recurrent symptoms (20), concern for neoplasia on imaging (4), or interval appendectomy (25). Neoplasia rate among patients with complicated appendicitis initially treated nonoperatively was 16.0% (12/75). Out of the 12 patients with neoplasia, 5 had low grade appendiceal mucinous neoplasms, 4 had adenocarcinomas, and 3 had sessile serrated lesions. Notably, 2 patients with neoplasia were under 40 years old. Four patients went on to have right hemicolectomies and 1 had CRS/HIPEC for peritoneal disease. On univariable and multivariable analysis, only suspicion of malignancy on initial imaging was associated with increased risk of appendiceal neoplasia (OR 8.13, 95% CI [1.20-55.15], p=0.03). Age (<40 vs ≥40), sex, abscess, and initial white blood count were not significantly associated with appendiceal neoplasia.

Summary

The rate of appendiceal neoplasia in patients with complicated appendicitis treated nonoperatively is high (16.0%). While previous studies, only emphasized routine colonoscopy and interval appendectomy after successful nonoperative treatment in patients 40 years and older. Our study demonstrates that consideration of interval appendectomy after nonoperative management should be underscored, regardless of age, particularly in patients with suspicious features on initial imaging.

Dr. Tina Gao

Is there a role for intraperitoneal chemotherapy in early stage pelvic high-grade serous carcinoma?

Ovarian cancer is the 2nd most common gynecological cancer in the world. High grade serous carcinoma (HGSC) is the most common histology, and the leading cause of death in patients with gynecologic malignancies. Although the majority of patients present to care in late stage disease, about 20-30% present as Stage I or II. Early stage HGSC still has a high disease burden, with a 5-year recurrence rate of 25%, and most of these patients will die of their disease.

In BC, standard first line treatment for any stage of HGSC is surgery, followed by intravenous (IV) chemotherapy. There have been studies that show intraperitoneal chemotherapy (in combination with IV, herein IP/IV) prolongs survival in Stage III patients. There are currently no trials or studies to date that specifically compare IP/IV vs IV chemotherapy in Stage I-II patients, however we hypothesize that there may be a survival benefit given the results of the Stage III studies. BC Cancer started offering IP/IV chemotherapy to patients with Stage I-II HGSC in 2009.

We performed a retrospective population-based cohort study of patients in the BC Cancer Registry with stage I-II

pelvic HGSC, who had primary surgery, followed by adjuvant chemotherapy between 2009-2022. We aimed to compare recurrence rates, overall survival and progression free survival between patients with Stage I-II disease who received IV/IP vs IV chemotherapy alone. The statistical analysis was performed by the Research Outcomes and Evaluation Committee at BC Cancer.

	Chemotherapy				
	IP (n=77)		IV (n=60)		
	n	%	n	%	p value
Age, median (IQR)	58 (51-65)		64 (56-71)		0.0016
Stage					
I	33	42.9%	27	45.0%	0.8
II	44	57.1%	33	55.0%	
BRCA status					
Negative	46	59.7%	39	65.0%	0.0039
Positive	19	24.7%	3	5.0%	
VUS	2	2.6%	2	3.3%	
Unknown	10	13.0%	16	26.7%	

Of 137 total patients, 77 and 60 received IP/IV and IV chemotherapy, respectively. Those who received IP/IV were significantly younger and stage distribution was similar between treatment groups. There were 24.7% and 5% confirmed BRCA mutation carriers, but 13% and 26.7% with unknown BRCA status in the IP/IV and IV groups, respectively.

Parameter		Hazard Ratio (95% CI, P value)		
		Overall Survival	**Progression Free Survival**	**Time to Recurrence**
Age at diagnosis	1 year	1.01 (0.98-1.05, 0.51)	1.02 (0.98-1.05, 0.36)	1.01 (0.98-1.04, 0.56)
Chemo	IV vs IP	1.45 (0.65-3.24, 0.37)	1.48 (0.76-2.89, 0.24)	1.47 (0.74-2.92, 0.27)
Stage	II vs I	2.11 (0.91-4.89, 0.08)		
BRCA status	+ vs -	0.75 (0.23-2.39, 0.11)	1.03 (0.42-2.55, 0.06)	0.87 (0.33-2.26, 0.05)
	Unk vs -	**0.37 (0.14-0.93, 0.03)**	**0.36 (0.15-0.85, 0.02)**	**0.30 (0.11-0.81, 0.01)**

The IP/IV cohort had improved five-year Kaplan Meier outcomes for recurrence, progression-free survival and overall survival, compared to the IV cohort. After adjusting for age, stage, and BRCA status, IV chemotherapy trended towards shorter recurrence time, and worse overall survival. Those with unknown BRCA status had significantly better outcomes than confirmed BRCA negative.

In summary, there are improved outcomes for patients with early stage HGSC who received IP/IV chemotherapy. The unknown *BRCA* status group could have unrecognized *BRCA* mutation carriers, possibly accounting for better outcomes than those without *BRCA* mutations. Further studies with larger sample sizes are needed to support the use of IP/IV chemotherapy in early stage HGSC.

Surgical, Colorectal, & Gynecologic Oncology Fellows Introductions

Dr. Susie Youn – 1st Year Surgical Oncology Fellow

Dr. Youn completed her medical school and general surgery residency at the University of Alberta. During her time there she also completed a Master of Science in Clinical Epidemiology through the Clinician Investigator Program, with her thesis focusing on body composition and sarcopenia in cancer patients. Her current research interests include quality improvement in wait times for cancer patients and prognostic factors in rectal cancer. She is completing her fellowship at UBC. Dr. Youn can be reached at syoun@ualberta.ca

Dr. Erika Schmitz – 2nd Year Surgical Oncology Fellow

Dr. Schmitz completed Medical School and General Surgery Residency at the University of Ottawa and is continuing her training in complex general surgical oncology at the University of British Columbia. She completed the New Investigators Clinical Trials course with the Canadian Cancer Trials Group. She has special interest in resource utilization and clinical outcomes in cancer research. Dr. Schmitz can be reached at erika.schmitz1@vch.ca.

Dr. Tal Milman – 1st Year Gynecologic Oncology Fellow

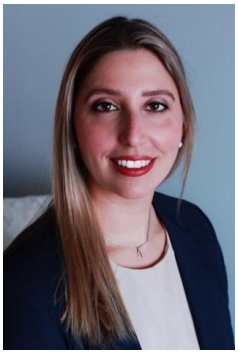
Dr. Milman grew up in Toronto after immigrating from Israel at a young age. Upon completing medical school and residency in obstetrics and gynecology at the University of Toronto he decided to make the inevitable jump the west coast for his fellowship at Vancouver General Hospital. He is interested in health systems and leadership and is pursuing a Master's in Health Management through DeGroote business school. He is excited to keep exploring BC's mountains and coast through climbing, skiing, and hiking. Dr. Milman can be reached at tal.milman@vch.ca.

Dr. Gurdial Dhillon – 2nd Year Gynecologic Oncology Fellow

Dr. Dhillon grew up in India and immigrated to Canada when he was a teenager. He completed medical school in Newcastle, United Kingdom and then moved to Philadelphia for residency in obstetrics and gynecology. He finally came home to BC and is currently a second-year fellow in gynecologic oncology. He is interested in translational research and hopes to have a career as a clinician investigator. He loves meeting new people, reading fiction, running, and hiking with his dog Bodhi. Dr. Dhillon can be reached at gurdial.dhillon@ubc.ca.

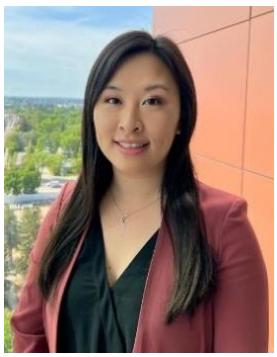
Dr. Zarruch Baig – 1st Year Colorectal Fellow

Dr. Baig completed medical school in Calgary and surgical training in Saskatchewan. During his surgical training, he took time off to pursue research on patient-oriented outcomes. He simultaneously pursued Master's in Epidemiology from the Harvard School of Public Health. He is currently pursuing his colorectal fellowship at St. Paul's Hospital. During his spare time, he likes to play tennis, cross-fit, snowboard, swim, and maintain a healthy lifestyle to keep up with the energy levels of his 3-year-old son. Dr. Baig can be reached at zbaig@providencehealth.bc.ca.



Dr. Olivia Hershorn – 2nd Year Colorectal Fellow

Dr. Olivia Hershorn is originally from Montreal and completed her medical school training at McGill University. Moving west, she joined the University of Manitoba for general surgery residency where she also completed a Master of Science in Surgery. Olivia joined the team at St. Paul's Hospital to complete her training in colorectal surgery. She is interested in patient centered care, enhancing communication and ally ship between care teams, and improving patient outcomes. Dr. Hershorn can be reached at ohershorn3@providencehealth.bc.ca.



Dr. Christine Li – 2nd Year Colorectal Fellow

Dr. Christine Li completed her undergraduate and medical school training at McMaster University. She then went on to complete general surgery residency at the University of Alberta. She is now rounding off her training in colorectal surgery. Dr. Li will also be concurrently completing the Master of Health Administration program at The University of British Columbia. Her research interests include surgical innovation, medical education, and addressing areas of need in surgery with a systems-based approach. She places a priority on mentorship within surgery and has been extremely lucky to work with many strong personal and professional mentors through her training. Dr. Li can be reached at ccl@ualberta.ca

BC Cancer Tumour Groups & Provincial Programs – Clinical Care Pathways

Shaifa Nanji, Manager, Provincial Programs, BC Cancer

Dr. Christine Simmons, Chair, Provincial Tumour Group Council, BC Cancer

Amilya Ladak, Policy Analyst, Provincial Programs, BC Cancer

BC Cancer has developed 13 tumour specific clinical care pathways. Clinical Care Pathways (bccancer.bc.ca)

BC Cancer's Tumour Groups have collaborated to create Tumour-Specific Cancer Care Pathways to support health care professionals in delivering high quality care consistently and efficaciously to all patients with cancer.

BC Cancer has published nine clinical care pathways, including Cervical, Esophageal, Gastric, High Grade Gliomas, Prostate, Oropharyngeal, Bone and Soft Tissue Sarcoma, and Myeloid.

An additional four pathways are now open for consultation, including Breast, Skin, Thyroid and Rectal.

- Each Tumour-Specific Pathway was developed by a multi-disciplinary team of clinical specialists, including surgeons, across health authorities in BC and approved by the relevant Provincial Tumour Group Committee.
- Each pathway is tumour specific and features references, hyperlinks and notes that will guide clinicians as they support their patients through their cancer care journey.
- Each pathway aligns with the stages of the Overarching Clinical Care Pathway: Pre-diagnosis, Diagnosis, Treatment, Post Treatment Care & Survivorship, Recurrent or Progressive Disease and End of Life Care.
- Additional tumour-specific pathways will be added over the next year.
- The pathways are now available on our website for Health Authority and Community engagement.
- Patient-oriented companion guides will follow for each pathway to support patients and their family members with patient-centered resources.

Please share with your teams and feel free to provide feedback through the BC Cancer Tumour Group (TG) Coordinator email address (tgcoordinator@bccancer.bc.ca) or the feedback form located at the bottom of the Consultation on Tumour-Specific Pathways page. http://www.bccancer.bc.ca/health-professionals/professional-resources/clinical-care-pathways/consultation-on-tumour-specific-pathways

Spotlight: GI Tumour Group's Gastric and Esophageal Clinical Care Pathways

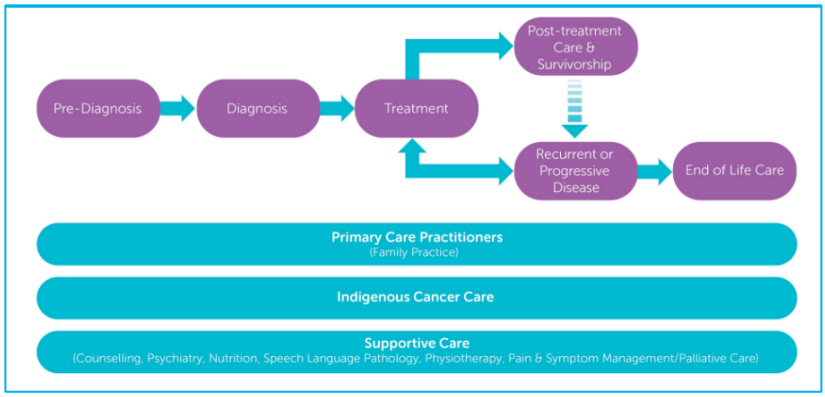
The BC Cancer Gastrointestinal (GI) Tumour Group has worked diligently to create Gastric and Esophageal Clinical Care Pathways. Both of these pathways are on the published Clinical Care Pathway page of the BC Cancer website.

The resource was developed collaboratively with a working group of 15 subject matter experts representing clinical specialties including Medical Oncology, Radiation Oncology, Gastroenterology, Surgery, Pathology, Radiology, Primary Care and Dietetics from across the province. The team met virtually over the course of many working group meetings to create the pathways after which they were reviewed and approved by the BC Cancer GI Tumour Group, a provincial group specializing in GI cancers. The working group was supported by a small team within BC Cancer's Provincial Programs of a manager, a policy analyst and a project coordinator.

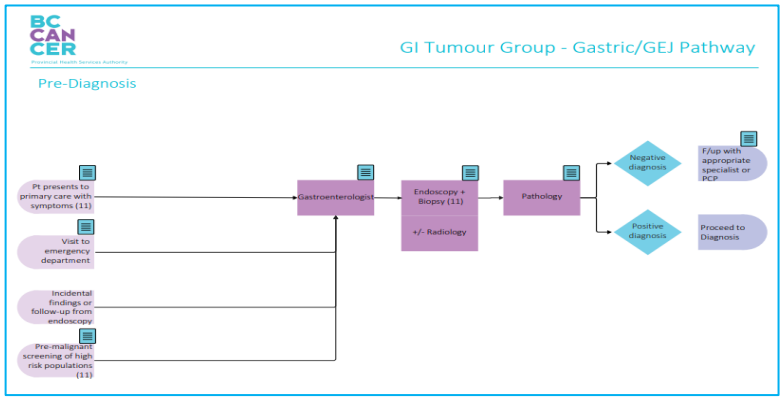
The pathway covers the 6 primary areas identified in the BC Cancer Overarching Clinical Care Pathway which represents the full trajectory of a cancer patient's journey:

- Pre-Diagnosis,
- Diagnosis,
- Treatment,
- Post Treatment Care and Survivorship,
- Recurrent or Progressive Disease and
- End of Life Care

BC Cancer's Overarching Clinical Care Pathway



The process flow diagrams of the Clinical Care Pathways are rich with references including hyperlinks, forms, and notes. The overarching solution is embedded with information and can easily be managed and maintained.



Dr. Howard Lim: "There is an excellent team to support the development of treatment pathways for multi-disciplinary care for patients. It was helpful that there is administrative support to help take the expertise of clinicians to provide a cohesive and comprehensive document. The time that was dedicated to this project was used efficiently and it was great to work with colleagues from other disciplines to provide this document."

Dr. Trevor Hamilton: "This is an excellent initiative to help clarify the navigation of a cancer patient through a complex system of treatment and survivorship."

Dr. Cathy Clelland: "Working on the Esophageal and Gastric Cancer Clinical Care Pathways was a great opportunity to see collaboration across multiple medical and surgical disciplines, including primary care. This high-level look at the patient journey will allow providers to understand the care of their patient's and connect to helpful resources."

Expanded Access to Hereditary Testing Through Mainstreamed Testing

Dr. Sita O. Ollek, Surgical Oncologist – Kelowna General Hospital

1 out of 8 women in Canada will be diagnosed with breast cancer in their lifetime.[1] While the majority of these are sporadic, 5-10% of breast cancers are associated with a genetic mutation.[2] Hereditary breast cancers are most commonly associated with mutations in the *BRCA1* and *BRCA2* genes.

Identifying patients with hereditary breast cancer has important implications on treatment, including on surgical decision making. More recently, the identification of a *BRCA1* or *BRCA2* mutation also influences systemic therapy decisions. Specifically, a randomized control trial evaluated the use of adjuvant Olaparib versus placebo in Her2 negative early breast cancer.[3] This trial demonstrated improved 3-year invasive disease-free survival (85.9% vs 77.1%) and distant disease-free survival (87.5% vs 80.4%). These have become an important consideration when identifying patients eligible for hereditary testing.

Criteria exist through the BC Cancer Agency Hereditary Cancer Program (HCP) to identify those patients eligible for referral to the HCP. However, some patients with cancer who do not meet criteria for HCP referral can now access hereditary testing through mainstreamed testing. This mainstreamed hereditary testing can be initiated by clinicians outside of the HCP. Specific criteria exist to determine eligible patients, which includes patients with Her2 negative breast cancer eligible for Olaparib. Patients identified to have a pathogenic variant, likely pathogenic variant, or a concerning variant of uncertain significance (VUS) will be reflexively referred to the HCP. Further information on the process and criteria for mainstreamed hereditary testing can be found here: http://cancergeneticslab.ca/hereditary/mainstreamed-testing/.

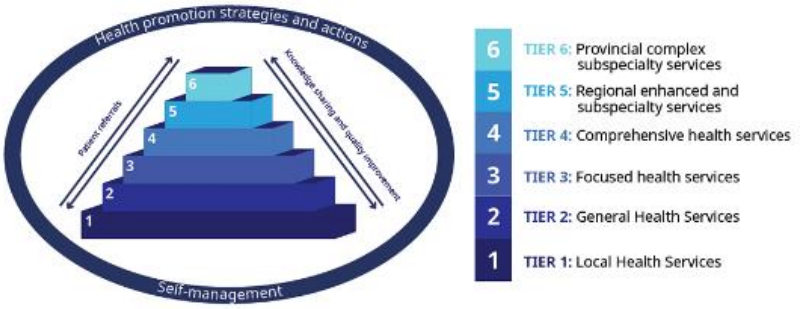
References for this article can be found on the [BC Cancer Network Website.]

The Development of a Tiers of Service Framework for BC

Shannon Fjeldstad, Provincial Lead, Surgical Oncology, BC Cancer

The establishment of the provincial Tiers of Service framework is being led by PHSA, in partnership with Ministry of Health, health authorities, and provincial partners. It is a systematic and collaborative approach to service planning that is being applied to over 50 plus clinical services within British Columbia's hospitals. While the initial focus is on inpatient and outpatient hospital services, there is potential for future expansion beyond the hospital setting. By establishing a common language and framework, we can better identify opportunities for system improvements across the province.

Each clinical service is described through a common language, the six tiers. Tier 1 represents the broad, comprehensive services found in many hospitals, with increasing specialization up to Tier 6, which entails high-complexity subspecialized services requiring coordination among multiple specialty teams often found in only a few hospitals.



The Tiers of Service framework also details the interconnections between various clinical services, their distinct levels (i.e. tiers), and the necessary resources to facilitate seamless collaboration within hospitals and health centres. Understanding how clinical services interconnect is key to ensuring patients and their families can access the right level of care.

The ToS framework draws on established evidence and practices from British Columbia and other healthcare jurisdictions, including models successfully implemented in Queensland, Western Australia, Dubai, and the United Kingdom. These frameworks have been instrumental in

planning and improving health systems, particularly in specialized areas.

In 2018, BC Cancer used the six-tiered methodology to describe Outpatient Medical Oncology Services, covering the breadth from Community Oncology Network (CON) Clinics to Regional Cancer Centres. With the expansion of the provincial Tiers of Service, BC Cancer recommended a refresh of the previous Medical Oncology module to include inpatients and to develop modules for malignant hematology, radiation oncology, and surgical oncology.

This fall, surgical oncology will create a ToS module for each surgical tumor group that describes their service scope, requirements, workforce needs, and interdependencies. This structured approach will provide valuable insights to support planning efforts aimed at enhancing surgical access as outlined in the https://news.gov.bc.ca/files/CancerPlan2023.pdf.

In summary, the ToS framework is a pivotal tool for health service planning in British Columbia, promoting systematic collaboration to enhance patient care across various tiers of health services.

To learn more about ToS, please visit the webpage at http://www.phsa.ca/health-professionals/tiers-of-service.

If you have any comments or questions, please email Shannon.Fjeldstad@phsa.ca or tiersofservice@phsa.ca.

Cancer Surgery Hospital Performance Reports

Dr. Carl Brown, Provincial Lead, Surgical Oncology, BC Cancer

Pilar Rodriguez, Cancer Care Coordinator, Provincial Programs, BC Cancer

Over the past five years, the BC Cancer – Surgery (BCC-S) team have been working on an innovative approach to improving surgical cancer care in British Columbia. The team has developed the interactive Cancer Surgery Hospital Performance Reports (CSHPRs), which deliver critical surgical data to surgery leaders and providers across the province.

The CSHPRs serve as a strategic tool for province-wide quality improvement (QI) in surgical oncology, detailing hospital-level performance across various cancer surgery indicators (e.g., perioperative mortality, completeness of tumour excision, wait-times, etc.). These reports draw data from key sources, including the BC Surgical Patient Registry (SPR), BC Synoptic Pathology (SP), BC Cancer Registry, and the Canadian Institute for Health Information (CIHI) Discharge Abstract Database (DAD). By focusing on high-risk tumor sites, the CSHPRs help identify gaps in cancer surgery quality, thereby informing regional leadership and driving QI initiatives. Reducing variability in surgery for cancer patients is a key priority in BC's 10-year Cancer Action Plan, and the CSHPRs represent a critical first step in achieving this objective. The creation of the CSHPRs was a complex endeavor that required extensive collaboration. Evidence-based, disease-specific metrics were carefully selected in consultation with BCC-S Surgical Tumour Groups (STGs), which include subject-matter expert surgeons across all Regional Health Authorities (RHAs). BCC-S worked closely with the Cancer Surveillance & Outcomes (CSO) - BCC Data & Analytics team, along with the Ministry of Health (MoH), SPR, BC SP and RHA data and analytics partners, to develop these comprehensive reports.

The initial release of the CSHPRs in 2024 included six high-volume cancer surgery facilities across Island, Northern, and Interior Health Authorities. An additional six sites within Fraser and Vancouver Coastal Health Authorities are set to be added in early fall. To support the rollout and adoption of the CSHPRs, the BCC-S team has leveraged its robust network of SMEs, including the innovative roles or Regional Cancer Surgical Leads (RCSLs). These five RCSLs are uniquely positioned as RHA-based surgeons working for BCC-S, fostering vital connections between BC Cancer and the RHAs on cancer initiatives.

This important work will continue, with future releases of the CSHPRs incorporating new performance indicators

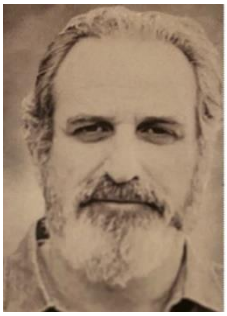
and expanding to additional sites. In 2024, the CSHPRs have already catalyzed changes in cancer surgery delivery. The data has supported the planned expansion of gynecologic oncology services, the consolidation of hepatobiliary cancer surgery at subspecialty sites in two regions and identified opportunities to improve wait times for cancer surgery at multiple sites.

On behalf of the BCC-S team, we extend thanks to everyone that dedicated their time and efforts to ensure the successful initial release of the CSHPRs. Your contributions have been invaluable.

Gynecologic Oncology in Kelowna & Victoria

Introducing the new gynecologic oncologists that will work in Kelowna and Victoria to improve access to cancer care.

Introducing the Victoria Team



Dr. Trevor Cohen

Dr. Cohen received his medical degree from The University of Western Ontario and completed his residency training in Edmonton at The University of Alberta. He did further training in Sexual Medicine with Dr John Lamont at McMaster University in Hamilton. He then practiced in Yellowknife while training in advanced laparoscopic surgery. He also completed a yearlong program at the University of Alberta in Traditional Chinese Medicine and Acupuncture for the medical practitioner.

Dr. Joohyun (Shaina) Lee

Dr. Joohyun (Shaina) Lee recently joined the gynecologic oncology group in Victoria, bringing with her 4.5 years of experience as a staff gynecologic oncologist in Regina, Saskatchewan. She is excited to collaborate with the talented team of surgeons in Victoria and be close to her family in BC. Dr. Lee earned her medical degree from the University of Calgary and completed her residency and fellowship at UBC. Additionally, she holds a Master's in Public Health from Johns Hopkins University in Baltimore. Passionate about public education on women's health and gynecological cancers, Dr. Lee aims to participate in educational initiatives for the women of Vancouver Island in the near future.

Dr. Mona Mazgani

Dr. Mazgani received her medical degree from the University of Leiden and her residency training at the Medical Center Haaglanden in the Hague and Leiden University Medical Center. She completed her gynecologic Oncology fellowship at UBC. Her clinical interests vary from preventive medicine, such as colposcopy and treatment for hereditary gynaecological cancers to multidisciplinary treatment of complex surgical patients. For the past 15 years (the first 5 on her own) Drs Mazgani and Cohen were the only gynecologic oncologists providing 24/7 coverage for the Vancouver Island and the Gulf islands.

Introducing the Kelowna Team

Dr. Brent Jim

Dr. Brent Jim was born and raised in Witset, a small community in northern BC. He completed his Bachelor of Science at McGill University with a major in human physiology. He moved closer to home and completed his medical school at the University of British Columbia through the Island Medical Program in Victoria in 2012. He completed a residency in Obstetrics & Gynecology at the University of Calgary in 2017. Finally, he completed a fellowship in Gynecologic Oncology at the University of Calgary in 2019.

Dr. Vanessa Carlson

Originally from the Lower Mainland, Dr. Carlson completed medical school in Ireland, followed by residency in Obstetrics and Gynecology in Winnipeg, and then fellowship in Gynecologic Oncology in Calgary. After fellowship, she spent some time locuming, including in Vancouver in 2019-2020. Most recently, she spent several years in Hamilton, ON, with McMaster University and Hamilton Health Sciences, in full-time academic Gynecologic Oncology practice, until relocating back to BC this summer when the opportunity in Kelowna presented itself. She is now the division lead for the new Gyn Onc program in Kelowna.

During fellowship, she concurrently completed a Master of Science in Health Economics, Policy, and Management at the London School of Economics in the UK – the stimulus for extra-clinical interest in health technology assessment and pharmaceutical policy, including work with [the organization formerly known as] pCODR as an economic reviewer for drug reimbursement reviews.

Outside of work, she enjoys spending her downtime exploring new trails with her husband and their husky-cross pup, is an avid Formula 1 fan, and, a snowboard instructor in a past life, is very much looking forward to living near proper mountains again now that the snow has started to fall.

Dr. Joni Kooy

Dr. Joni Kooy graduated from UBC med school in 2013.

Synoptic Reporting Dashboard

The Provincial Anatomical Pathology Reporting Program generates personalized dashboards for surgeons, displaying data alongside facility, health authority, and provincial averages. This initiative fosters a culture of continuous quality improvement and aims to provide valuable insights for clinicians. Surgeons who perform breast, prostate, or colorectal surgeries can request their annual dashboards by emailing synopticreporting@phsa.ca.

Synoptic Reporting Surgeon Dashboard

Legend	
⚠	Observed value may deviate from the target
●	As expected
	No target or < 5 cases

Tissue	Metric Description	Target	G7403	Hospital(s)	Health Authority	Province
Breast	Number of checklists submitted		18	61	823	3438
	% Cases with margins positive for invasive carcinoma (excisions)		20%	9%	11%	15%
	% Cases with margins positive for in situ carcinoma (excisions)		10%	9%	6%	7%
Colorectal	Number of checklists submitted		8	20	408	1715
	% Checklists - colon		75%	90%	79%	77%
	% Checklists - rectal		25%	10%	21%	23%
	% Colon resections with at least 12 lymph nodes examined	> 90%	⚠ 83%	● 94%	● 96%	● 93%
	% Rectal resections (with y) with at least 12 lymph nodes examined		50%	50%	95%	86%
	% Cases with macroscopic intactness of mesorectum incomplete	< 10 %	0%	0%	● 3%	● 8%
	% Cases with macroscopic intactness of mesorectum complete or near complete	> 90 %	100%	100%	● 96%	⚠ 90%
	% Cases with radial/mesenteric margin positive for tumour		0%	5%	5%	5%
Prostate	Number of checklists submitted		1	1	248	1196
	% cases pT2		100%	100%	51%	47%
	% cases pT3a		0%	0%	36%	35%
	% cases pT3b		0%	0%	13%	18%
	% pT2 cases with positive margins	< 20 %	0%	0%	● 17%	⚠ 24%
	% Cases with lymph nodes submitted or found		0%	0%	96%	91%

Fictitious data for demonstration purposes

Clinical Trials Website

The Clinical Investigations Department at BC Cancer holds clinical trials at all six regional cancer centres in British Columbia. For a complete list of clinical trials organized by tumour group, visit their website at https://www.bccrc.ca/dept/cid/clinical-trials. The trials listed are currently accepting participants.

Spring Update Summary 2023/2024

In May 2024, BC Cancer – Surgery's Continuing Professional Development & Knowledge Translation Committee (CPD-KT) held its annual Spring Update, a fully accredited MOC event designed to profile specific areas in cancer surgery and care. This year's event focused on Colorectal, Breast, Sarcoma Personalized Cancer Care & Skin Cancer Updates, being conducted in hybrid format, including speakers from across BC and Ontario, with backgrounds ranging from surgical and medical oncology to plastic surgery. Topics included personalized oncogenomics, systemic therapy in dMMR GI malignancies in surgical patients, the influence of specific MMR mutations on colon surgery, systemic therapy breast cancer based on receptors and mutations, surgical management of GIST guided by gene mutations, SCC and SLNB, Neoadjuvant therapy for locally advanced SCC, and adjuvant options for pT3b/pT4a/b melanoma, alongside case presentations and panelist discussions. This event was well attended by multiple disciplines and providers from across the province, both in-person and virtually, and as a mechanism to improve surgical oncology practice knowledge by providing the most current information in the field, the CPD-KT looks forward to hosting its next Update in Spring 2025. Please stay apprised of planning developments for the next Update http://www.bccancer.bc.ca/health-professionals/networks/surgery-network/spring-update, where further information will be posted/can be found.

BC CANCER SURGERY NETWORK NEWSLETTER

The BC Cancer Surgery Network exists to promote and advance quality cancer surgery throughout the province, enable the integration of quality surgical oncology services into the formal cancer care system and ensure that patients have the best possible outcomes through consistent access to high quality multidisciplinary care. In enhancing appropriate, equitable and timely access to surgical services for cancer patients as close to home as possible, the Network supports communication and sharing of knowledge between subspecialty and community surgeons, their respective hospitals and BC Cancer.

To submit article ideas or for information, please contact:
SurgeryNetwork@bccancer.bc.ca

VISIT THE SURGERY NETWORK WEBSITE