The following colorectal cancer treatment and research updates extend from November 17th, 2022, to January 19th, 2023, inclusive and are intended for informational purposes only.

This content is not intended to be a substitute for professional medical advice. Always consult your treating physician or guidance of a qualified health professional with any questions you may have regarding your health or a medical condition. Never disregard the advice of a medical professional or delay in seeking it because of something you have read on this website.
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1. Phase II LEAP Clinical Trial For mCRC (Dec.10/22)

The purpose of this study is to determine the safety and efficacy of combination therapy with pembrolizumab (MK-3475) and Levantine (E7080/MK-7902) in patients with triple-negative breast cancer (TNBC), ovarian cancer, gastric cancer, colorectal cancer (CRC), glioblastoma (GBM), or biliary tract cancers (BTC). Participants will be enrolled in initial tumor-specific cohorts, which will be expanded if adequate efficacy is determined. The trial is available at the Odette Cancer Centre and at the Princess Margaret Cancer Centre in Toronto as well as the following Centres throughout Canada: Abbotsford, BC; Winnipeg, MB; CHU de Quebec.

For information, visit the link below.

https://clinicaltrials.gov/ct2/show/study/NCT03797326?term=A+Multicenter%2C+Open-label+Phase+2+Study+of+Lenvatinib+%28E7080%2FMK-7902%29+Plus+Pembrolizumab&show_locs=Y#locn

2. TRK Fusion Cancer and How to Test for It (Dec.13/22)
INTRODUCING

Tumour-Agnostic Therapies
Advances in precision medicine have brought therapies that specifically target what is driving a patient’s cancer

Treatment with more traditional cancer therapies is based on where the tumour is located in the body

Tumour agnostic therapies target a specific genomic change in the cancer cells regardless of where the tumour is located in the body

Genomic changes in cancer cells are identified through diagnostic testing of the cancer cells. The results help clinicians decide on a treatment for each patient.

Advantages of tumour agnostic therapies
- Targets the genomic change that is the root cause of the cancer to suppress tumour growth
- Harnesses our growing understanding of cancer biology
- Offers an innovative, new and effective approach to treating cancer

Change required to adopt tumour agnostic therapies in Canada
- A shift in mindset: this is a new concept that differs from the traditional approach of treating cancer based on tumour location
- Access to genomic testing: identifying patients who would benefit from treatments requires a robust testing infrastructure
- An evolved, more adaptive assessment of treatments for public coverage is required that includes recognition of smaller patient populations, new clinical trial methods, and ability to examine new data over time

https://www.bayer.ca/en/media/news/?dt=TmpBPQ==&st=1
3. A Phase II, Open-label, Multicenter, Study of an Immunotherapeutic Treatment for the MSI High CRC Metastatic Population (Dec.13/22)

The purpose of this study is to look at the effectiveness of the vaccine DPX-Survivac in combination with the drugs cyclophosphamide and the immunotherapty Pembrolizumab in patients with solid cancers who are identified to be MSI-High. All patients will receive combination therapy of DPX-Survivac, cyclophosphamide, and pembrolizumab. Patients participating will know which treatment they are receiving. The trial is currently hosted at the Odette Cancer Centre, and a new site is opening at Mt. Sinai Hospital.

4. Phase III Study at the Odette Cancer Centre Comparing Arfolitixorin vs. Leucovorin in Combination with 5FU, Oxaliplatin and Bevacizumab in Patients with Advanced CRC (Dec.12/22)

The purpose of this study is to look at the effectiveness of the drug Arfolitixorin in combination with 5-fluorouracil (5FU), oxaliplatin, and bevacizumab in patients with colorectal cancer (CRC). Patients with advanced/metastatic CRC who meet certain criteria may be able to participate. There will be two groups of patients participating in this study;

- one group will receive Arfolitixorin in combination with 5FU, oxaliplatin, and bevacizumab,
- while the other group will receive the drug Leucovorin in combination with 5FU, oxaliplatin, and bevacizumab (standard of care).

The doctor and study staff will not know which group a patient is in. Patients will be randomized to receive one treatment or the other.

About Arfolitixorin:

Arfolitixorin is Isofol’s proprietary drug candidate being developed to increase the efficacy of standard of care chemotherapy for advanced CRC. The drug candidate is currently being studied in a global Phase 3 clinical trial. As the key active metabolite of the widely used folate-based drugs, arfolitixorin can potentially benefit all patients with advanced CRC, as it does not require complicated metabolic activation to become effective.

Treating cancer patients with arfolitixorin — The goals:

- When treating CRC, for example, arfolitixorin is administered in combination with 5-FU to increase cell mortality in circulating cancer cells and in cancerous tumours.
- Arfolitixorin is administered in conjunction with rescue therapy after high-dose treatment with the cytotoxic agent, methotrexate, in order to suppress the cytotoxic effect in surrounding healthy tissue. The treatment is used for certain types of cancer, such as osteosarcoma, a type of bone cancer. This involves administering arfolitixorin separately, 24 hours after the chemotherapy.

https://sunnybrook.ca/trials/item/?i=293&page=49335 and https://clinicaltrials.gov/ct2/show/NCT03750786
https://isofoledical.com/arfolitixorin/

5. In Vivo Lung Perfusion (IVLP) for CRC Metastatic to Lung (Jan.19/23)

A new study is investigating a technique called In Vivo Lung Perfusion (IVLP) for delivering chemotherapy directly into the lungs at the time of surgery. Delivering chemotherapy directly to the lungs could potentially kill any microscopic cancer cells that are present in the lungs at the time of surgery, while sparing other major organs in the body from the side effects of chemotherapy.

At the University Health Network, this IVLP technique has been used recently in a Phase I study in patients with sarcoma, and they are now expanding on that experience to include patients with colorectal metastases. The purpose of this study is to test the safety of the IVLP technique and find the dose that seems right in humans. Participants are given oxaliplatin into one lung via IVLP and are watched very closely to see what side effects they have and to make sure the side effects are not severe. If the side effects are not severe, then more participants are asked to join the study and are given a higher dose of oxaliplatin. Participants joining the study later on will get higher doses of oxaliplatin than participants who join earlier. This will continue until a dose is found that causes severe but temporary side effects. The other lung will not be infused with anything, so that researchers can limit unforeseen toxicity to a single lung and see if one lung does better than the other.

The estimated enrolment is 10 participants, each with a diagnosis of colorectal carcinoma. The primary outcome is safety as measured by acute lung injury findings and the estimated primary completion date is January 1, 2027.
6. Hepatic Artery Infusion Pump (HAIP) Chemotherapy Program – Sunnybrook Odette Cancer Centre (Dec.1/22)

The HAIP program is a first-in-Canada for individuals where colon or rectal cancer (colorectal cancer) has spread to the liver and cannot be removed with surgery. The program involves a coordinated, multidisciplinary team approach to care, with close collaboration across surgical oncology, medical oncology (chemotherapy), interventional radiology, nuclear medicine, and oncology nursing. The Hepatic Artery Infusion Pump (HAIP) is a small, disc-shaped device that is surgically implanted just below the skin of the patient and is connected via a catheter to the hepatic (main) artery of the liver. About 95 percent of the chemotherapy that is directed through this pump stays in the liver, sparing the rest of the body from side effects. Patients receive HAIP-directed chemotherapy in addition to regular intravenous (IV) chemotherapy (systemic chemotherapy), to reduce the number and size of tumours. Drs. Paul Karanicolas and Michael Raphael are the program leads and happy to see patients who may be eligible for the therapy.

Presently at Sunnybrook Odette Cancer Centre, HAIP is being used in patients with colorectal cancer that has spread to the liver that cannot be removed surgically and has not spread to anywhere else in the body. Patients who have few (1-5) and very small tumors in the lungs may be considered if the lung disease is deemed treatable prior to HAIP. If you believe you may benefit from this therapy and/or would like to learn more about the clinical trial, your medical oncologist or surgeon may fax a referral to 416-480-6179. For more information on the HAIP clinical trial, please click on the link provided below.

http://sunnybrook.ca/content/?page=colorectal-colon-bowel-haip-chemotherapy

7. Living Donor Liver Transplantation for Unresectable CRC Liver Metastases (Dec.2/22)

Approximately half of all colorectal cancer (CRC) patients develop metastases, commonly to the liver and lung. Surgical removal of liver metastases (LM) is the only treatment option, though only 20-40% of patients are candidates for surgical therapy. Surgical therapy adds a significant survival benefit, with 5-year survival after liver resection for LM of 40-50%, compared to 10-20% 5-year survival for chemotherapy alone. Liver transplantation (LT) would remove all evident disease in cases where the colorectal metastases are isolated to the liver but considered unresectable.
While CRC LM is considered a contraindication for LT at most cancer centers, a single center in Oslo, Norway demonstrated a 5-year survival of 56%. A clinical trial sponsored by the University Health Network in Toronto will offer live donor liver transplantation (LDLT) to select patients with unresectable metastases limited to the liver and are non-progressing on standard chemotherapy. Patients will be screened for liver transplant suitability and must also have a healthy living donor come forward for evaluation. Patients who undergo LDLT will be followed for survival, disease-free survival, and quality of life for 5 years and compared to a control group who discontinue the study before transplantation due to reasons other than cancer progression.

https://clinicaltrials.gov/ct2/show/NCT02864485

8. Study Offered at the Odette Cancer Centre to Treat Recurrent Rectal Cancer (Dec.9/22)

Magnetic resonance-guided focused ultrasound (MRg-FU) is a less invasive; outpatient modality being investigated for the thermal treatment of cancer. In MRg-FU, a specially designed transducer is used to focus a beam of low-intensity ultrasound energy into a small volume at a specific target site in the body. MR is used to identify and delineate the tumor, focus the ultrasound beam on the target, and provide a real-time thermal mapping to ensure accurate heating of the designated target with minimal effect to the adjacent healthy tissue. The focused ultrasound beam produces therapeutic hyperthermia (40-42°C) in the target field, causing protein denaturation and cell damage. Currently, there is no prospective clinical data reported on the use of MRg-FU in the setting of recurrent rectal cancer. Recurrent rectal cancer is a vexing clinical problem. Current retreatment protocols have limited efficacy. The addition of hyperthermia to radiation and chemotherapy may enhance the therapeutic response. With recent advances in technology, the investigators hypothesize that MRg-FU is technically feasible and can be safely used in combination with concurrent re-irradiation and chemotherapy for the treatment of recurrent rectal cancer without increased side-effects. The study is being offered at the Odette Cancer Centre. Here is the link to the study protocol:

https://clinicaltrials.gov/ct2/show/NCT02528175?term=magnetic+resonance+guided+focused+ultrasound&recr=Open&rank=1

9. Trends in the Incidence of Young-Onset CRC with a Focus on Years Approaching Screening Age (Dec.10/22)

With recent evidence for the increasing risk of young-onset colorectal cancer (yCRC), the objective of this population-based longitudinal study was to evaluate the incidence of yCRC in one-year age increments, particularly focusing on the screening age of 50 years. The study was conducted using linked administrative health databases in British Columbia, Canada including a provincial cancer registry, inpatient/outpatient visits, and vital statistics from January 1, 1986 to December 31, 2016. Researchers calculated the incidence rates per 100,000 at every age from 20 to 60 years and estimated annual percent change in incidence (APCi) of yCRC using joinpoint regression analysis. 3,614 individuals were identified with yCRC (49.9% women). The incidence of CRC steadily rose from 20 to 60 years, with a marked increase from 49 to 50 years. Furthermore, there was a trend of increased incidence of yCRC among women. Analyses stratified by age yielded APCi's of 2.49% and 0.12% for women aged 30-39 years and 40-49 years, respectively and 2.97% and 1.86% for men. These findings indicate a steady increase over one-year age increments in
the risk of yCRC during the years approaching and beyond screening age. These findings highlight the need to raise awareness as well as continue discussions regarding considerations of lowering the screening age.


10. Stool Tests like Cologuard are Gaining Popularity Over Colonoscopy (Nov.29/22)

Over time, stool tests — including fecal immunochemical tests, or FIT, and the heavily advertised Cologuard — can be just as effective at saving lives, and they avoid some of the down sides of colonoscopies, experts say. They can be done at home, mailed into a lab and don’t require any special preparation. The main issue with stool tests is they have to be done more often: FIT annually, and Cologuard every three years. In contrast, routine colonoscopies should be done once a decade. The colonoscopy has long been considered the gold standard. However, it is important to note that no test is objectively better than the others. The best colorectal cancer (CRC) screening test is the one you actually choose to take.


11. Researchers Assess Reasons for Non-Follow-up After a Positive CRC Test (Nov.29/22)

While screening by Fecal Immunochemical Test (FIT) can detect colorectal cancers (CRCs) early, successful treatment depends on the patient undergoing follow-up colonoscopy after an unfavourable test result. A paper published by Dutch researchers examined the reasons why some people do not follow up after a positive at-home test.

Reasons for lack of follow-up include concerns about having a colonoscopy, lack of opportunity to discuss next steps with a medical provider, assumptions and perceptions about their personal risk, a belief that the test result is not indicative of cancer, and questioned effectiveness of polyp removal, as well as poor overall health behaviours. The strongest positive association with follow-up was the patient’s belief that their family physician would support colonoscopy, as well as fear of cancer. Such a pattern has global implications for all people at risk of the cancer as it is best treated early. Researchers suggest that personalized screening counselling may help, as well as the involvement of family practitioners.


12. Guardant DNA Blood Test Finds 83% of CRCs in Trial (Dec.15/22)

Guardant Health Inc announced a pivotal trial of its DNA blood test showed it detected 83% of colorectal cancers (CRCs) and 13% of advanced adenomas, a cancer precursor, but the results fell short of a rival stool-based test, sending the company’s shares sharply lower. The results “were much lower versus [researcher] expectations,” and the findings “are likely to disappoint investor expectations”. Cologuard, a stool-based DNA test, identifies 92% of CRCs and 42% of pre-cancerous polyps, according to data from Exact Sciences, which markets the test. This is showing for the first time that a blood test can really detect CRC with high sensitivity. Guardant expects to finish data to the U.S. Food and Drug Administration (FDA) early next year, and hopes to get FDA approval in the very early part of 2024.


13. Life Labs Forms New Collaboration with Natera to Offer Molecular Residual Disease (MRD) Testing for Cancer in Canada (Dec.15/22)

Life Labs announced its new collaboration with Natera, Inc., a global leader in cell-free DNA testing, to offer personalized testing for cancer in Canada through Natera’s Signatera Residual Disease Test. Signatera is a highly sensitive, personalized molecular residual disease assay (MRD) test developed by Natera for treatment monitoring and molecular residual disease (MRD) assessment in patients previously diagnosed with cancer. The test uses circulating tumor DNA (ctDNA) and is personalized for each patient to help assess recurrence risk and help identify relapse up to two years earlier than current standard of care tools.

Signatera testing involves two phases with pre-supplied collection kits. The first phase is an initial test that analyzes both a tumour tissue and blood sample, and the second phase involves subsequent blood tests on an as-needed
basis. It is a safe, non-invasive way to monitor ctDNA levels to help physicians understand treatment efficacy and detect relapse without the inconvenience of repeated tissue biopsies and/or imaging.

Assessment of response to treatment is essential for evaluating treatment choices. Clinical trials of Signatera show that the test provides precise and informative measurement of residual disease for patients who are being treated for solid tumours. Personalized, highly sensitive assays that are based upon blood samples like Signatera help patients and clinicians manage treatment options while avoiding repeated invasive tissue biopsies.


14. Young Adult CRC Clinic Available at Sunnybrook (Dec.5/22)

A recent study led by the University of Toronto doctors has observed a rise in colorectal cancer (CRC) rates in patients under the age of 50. The study mirrors findings from the U.S., Australia and Europe. The growing CRC rates in young people come after decades of declining rates in people over 50, which have occurred most likely due to increased use of CRC screening (through population-based screening programs) which can identify and remove precancerous polyps. Patients diagnosed under the age of 50 have a unique set of needs, challenges and worries. They are unlike those diagnosed over the age of 50. Dr. Shady Ashamalla (colorectal cancer surgical oncologist), and his team at the Sunnybrook Health Sciences Centre understand the needs of this patient population.

Dr. Ashamalla belongs to a multidisciplinary team of experts in the Young Adult Colorectal Cancer Clinic who will work with young CRC patients, regardless of disease stage, to create an individualized treatment plan to support each patient through their cancer journey. Their needs and concerns will be addressed as they relate to:

- Fertility concerns and issues
- Young children at home
- Dating/intimacy issues
- Challenges at work
- Concerns about hereditary cancer
- Relationships with family and friends
- Psychological stress due to any or all of the above

The team of experts consists of:
- Oncologists (medical, surgical, radiation)
- Social workers
- Psychologists
- Geneticists
- Nurse navigator

Should a patient wish to be referred to Sunnybrook, they may have their primary care physician, or their specialist refer them to Sunnybrook via the e-referral form, which can be accessed through the link appearing below. Once the referral is received, the Young Adult Colorectal Cancer Clinic will be notified if the patient is under the age of 50. An appointment will then be issued wherein the patient will meet with various members of the team to address their specific set of concerns.

http://sunnybrook.ca/content/?page=young-adult-colorectal-cancer-clinic

15. CCRAN’s Partnership with “Count Me In” (Dec.1/22)

CCRAN is proud to partner with Count Me In, a nonprofit research initiative, on The Colorectal Cancer Project. This new project is open to anyone in the United States or Canada who has ever been diagnosed with colorectal cancer (CRC). Patients can find out more and join at JoinCountMeIn.org/Colorectal.
Through the project, patients are asked to complete surveys to share information about their experience with CRC, to share biological sample(s), and to allow for the research team to request copies of their medical records. The project team then de-identifies and shares data from these with the entire research community.

Every patient’s story holds a piece of the puzzle that can help us better understand CRC. By discovering more about what drives cancer and sharing this data, CCRAN and the Colorectal Cancer Project believe insights can be gained to develop more effective therapies. One of the aims of the project is to reach populations that have been understudied, including individuals who are diagnosed with CRC at a young age, individuals from marginalized communities who have historically been excluded from research, and patients with metastatic CRC. Together, we can accelerate our understanding of CRC. To learn more or sign up to participate, visit JoinCountMeIn.org/Colorectal.

“Count Me In”, a nonprofit cancer research initiative, is inviting all patients across the United States and Canada who have ever been diagnosed with colorectal cancer (CRC) to participate in research and help drive new discoveries related to this disease. The Colorectal Cancer Project will enable patients to easily share their samples, health information and personal lived experiences directly with researchers in order to accelerate the pace of research.

Patients who have been diagnosed with CRC at any point in their lives can join the project by visiting JoinCountMeIn.org/Colorectal. From there, patients will be invited to share information about their experience through surveys and to provide access to medical records as well as saliva samples and optional blood, stool, and/or stored tissue samples for study and analysis. Researchers from the Broad Institute of MIT and Harvard and Dana-Farber Cancer Institute use this information to generate databases of clinical, genomic, molecular, and patient-reported data that is then de-identified and shared with researchers everywhere. To date, more than 9,000 patients with different cancers have joined Count Me In and shared their data. "We still do not know why there is an alarming rise in CRC in young adults", said Andrea Cercek, MD Co-Director, Center for Young Onset Colorectal and Gastrointestinal Cancers Memorial Sloan Kettering Cancer Center and co-scientific leader of the Colorectal Cancer Project. "What we do know is that this is a global phenomenon that affects otherwise healthy individuals with no known risk factors. The Colorectal Cancer Project will provide researchers important information that will lead to a better understanding of this disease."

Over 250 patients have joined the Colorectal Cancer Project since the launch in fall 2021. Every patient that joins the Colorectal Cancer Project enables us to learn more about colorectal cancer. Pts diagnosed at any age, whether newly diagnosed or years from their diagnosis, can enroll. If you have ever been diagnosed with colorectal cancer, you can visit JoinCountMeIn.org/Colorectal to enroll and have a direct impact on research and future treatment strategies.
Every colorectal cancer patient’s story holds a piece of the puzzle that can help us better understand how to treat this disease. Join our partners at @joincountmein to help generate more data for CRC by sharing your medical records, samples, and unique experiences with researchers everywhere.

All colorectal cancer patients in the United States and Canada have the opportunity to be counted in research.
16. Patients and Caregivers Needed to Help Shape Early Research for a CRC Therapy (Dec.10/22)

The Project:

Site specific immunomodulators (SSIs) are a new class of therapy, made from dead bacteria. This therapy is designed to help the body’s own defense system (‘immune cells’) fight cancer. SSIs may be a potential new treatment for colorectal cancer and have already been shown to be safe in cancer patients. Our team of scientists and clinicians are planning a clinical trial to determine if SSIs can increase the number of patients who survive colorectal cancer metastatic to the liver. The trial will start this Fall and is being led by Dr. Rebecca Auer (Ottawa) and Dr. Paul Karanicolas (Sunnybrook).

Why do we need your help?

We want patients and family members to help us shape our research, which aims to improve the experience of trial participants.

We are currently looking for patients, caregivers, or family members to join our team. As a part of our team, you will:

- Participate in group meetings (online and/or in person) with the research team from May 2022 to March 2024
- Help brainstorm and draft resources and documents for future trial participants
- Provide input on research to evaluate the usefulness of the developed resources

Who can apply?

We are looking for individuals with any of the following:

- A patient, family member, or a caregiver, with lived experience of colorectal cancer, liver metastases, and/or liver surgery
- Interested in helping shape research to assess a new therapy for colorectal cancer

No previous experience with SSIs or research is necessary. An orientation session will provide more information about the research project, and we encourage you to ask any questions you have at any time.

In appreciation for your time, partners will receive compensation for attendance at meetings and activities.

If you are interested in joining our team or would like more information:

Please contact Meredith Conboy, Research Assistant, The Ottawa Hospital Research Institute
Email: mconboy@ohri.ca

17. Announcing CCRAN’s Upcoming Four New Colorectal Cancer Information/Support Groups! (Dec.2/22)

The Colorectal Cancer Resource & Action Network (CCRAN) is pleased to share that it will be launching four colorectal cancer information/support groups to help address the unmet needs of our colorectal cancer patients and caregivers across Canada, stratified according to:

- > 50 years of age, advanced stage disease, facilitated by Filomena Servidio, 1-3 p.m. every 3rd Sunday of the month
- > 50 years of age, earlier stage disease, facilitated by Frank Pitman and Cassandra Macaulay, TBD
- < 50 years of age, advanced stage disease, facilitated by Hayley Painter R.N & Sandra Elhilali, 7-9 p.m., every 3rd Sunday of the month
- < 50 years of age, earlier stage disease, facilitated by Dr. Petra Wildgoose, 2-3 p.m., 3rd every 3rd Sunday of the month

Please stay tuned as we share the details of the launch dates and information for the new support groups. For more information, please contact the head of CCRAN’s National Patient Programs, Cassandra Macaulay at Cassandra.m@ccran.org, for she would be delighted to assisted with any inquiries.
18. CAR T-cell Therapy in CRC (Nov.21/22)

In a recent study published in *Frontiers in Immunology*, researchers assessed the efficacy of chimeric antigen receptor (CAR) T-cells in the immunotherapy of colorectal cancer (CRC). CAR T-cells are a novel cell-based immunotherapy against cancer that is developed genetically. The application of CAR T-cells has transformed the treatment of hematological cancers. Before this therapy can be modified to treat solid tumors, such as CRC, extensive research is necessary as there is scarce clinical data available regarding CAR T-cell treatment for CRC.

Ongoing studies investigate the application of CEA-specific CAR T-cells in patients with CEA-positive CRC. Carcinoembryonic antigen (CEA) is a target of anti-CRC CAR T-cells that have been explored. CEA is an immunoglobulin glycoprotein overexpressed in various human malignancies, including colon, lung, gastric, pancreatic, and ovarian cancers. CEA is among the most significant prognostic and diagnostic tumor indicators and is overexpressed in over 98% of CRC tissue samples. Thus, CEA-targeted treatments have the potential to produce novel CRC therapy techniques. The goal of such studies is to verify efficacy and safety, as well as to determine the right doses and infusion schedule. Another objective of these investigations is to identify adverse effects, particularly cytokine release syndrome. Protocols for administration include hepatic and systemic transarterial delivery, vascular intervention, and intraperitoneal infusion, while the outcomes are awaited. Also under evaluation is a novel combinatorial technique involving human epidermal growth factor receptor 2 (HER2)-specific CAR T-cells along with an oncolytic adenovirus (CAdVEC). Oncolytic adenoviruses reproduce and propagate exclusively within tumors, augmenting their cytotoxicity, enhancing tumor penetration, and reverting immune suppression.

Overall, the study findings showed that CAR T-cells continue to garner evidence supporting their application as a viable immunological method of cancer treatment. This strategy has significantly improved patient treatment in hematological malignancies.


Findings from a recent study have found that positive psychology can help with symptom management and quality of life in patients diagnosed with colorectal cancer (CRC). Positive psychology may be helpful for patients who are processing their diagnosis and treatments and can involve techniques such as benefit finding and post-traumatic growth. Studies have confirmed that patients with CRC are at an increased risk for mood disorders such as depression, bipolar disorder, and anxiety, particularly if the follow-up time is greater than 1 year.

Data were collected using a demographic questionnaire, therapy-related symptom checklist, and quality of life inventory, and positive psychology was assessed using the Carver Benefit-Finding Scale and Post-Traumatic Growth Inventory. According to the study results, the most common symptoms were peripheral neuropathy, fatigue, skin changes, sleep disturbances, and weakness. Psychological distress symptoms were reported in 38.46% of participants and moderate-to-high positive psychology and quality of life levels were reported during acute cancer survivorship. Significant relationships were observed between quality of life and number of symptoms, psychological distress symptoms, benefit finding, post-traumatic growth, and positive psychology. Importantly, positive psychology partially mediated the relationship between symptom frequency and quality of life. According to the study, participants reported high quality of life and moderate-to-high positive psychology.

Based on these findings, the authors concluded that survivors of CRC cope positively with their cancer and treatment. Identifying how survivors adjust to their cancer may help health care providers to provide tailored self-management skills as well.

Image Source: https://www.conferencesforwomen.org/positive-psychology-traits-that-fuel-success-and-a-happier-life/

20. Comprehensive Analysis of the Differences Between Left- and Right-Ride CRC and Respective Prognostic Prediction (Nov.23/22)
In recent years, there has been a growing body of evidence demonstrating that the primary tumor location of CRC is an important prognostic factor. Researchers aimed to analyze the differences between left-sided colon cancer (L_cancer) and right-sided colon cancer (R_cancer) in a set of 335 colon cancer patients.

Results revealed that right-sided colon cancer had lower survival than left-sided colon cancer. R_cancer patients had higher immune scores and lower tumor purity. These patterns of expression of immune checkpoint-related genes and tumor mutation burden (TMB) level were higher in R_cancer than in L_cancer patients. Thus, significant differences were found between L_cancer and R_cancer patients, including clinical features, transcriptome, TMB, immune microenvironment landscape, suggesting that colon cancer can be classified and analyzed into different clinical types with respect to their differences in anatomical location and gene expression, thus aiding in the early diagnosis and prognosis of colon cancer. Researchers established two clinical predictive nomograms (a diagram depicting relationship between 3+ variables) in combination with clinical features to provide a basis for the personalized and precise treatment of L_cancer and R_cancer. These hub genes may become promising biomarkers for the diagnosis, treatment, and prognosis of colon cancer. Additionally, R_cancer patients in low-risk groups may be more beneficial from immunotherapy.

https://bmcgastroenterol.biomedcentral.com/articles/10.1186/s12876-022-02585-3#Sec28

21. Cancer PEP - Patient Empowerment Program is Now Open (Dec.6/22)

CancerPEP (Patient Empowerment Program) is a free six-month home-based comprehensive program that aims to improve the physical and mental health, and overall quality of life of people diagnosed with cancer. The program is being offered by Oncologist Rob Rutledge and Psychology Professor Scientist Dr. Gabriela Ilie. Over 100 patients have already enrolled, and the team is looking to see more colorectal cancer patients included.

For 26 weeks, participants receive a daily email and short PEP video that teach and encourage home-based health-promoting activities:

1. Aerobic exercise
2. Strength training
3. The anti-cancer diet
4. Relaxation and stress reduction techniques
5. Relationship and connection teaching

You may qualify for this program if you:

- have been given a cancer diagnosis of any type or stage, and at any time
- are expected to live for at least one year
- are safe to do mild to moderate aerobic exercise, and strength training or Yoga
- will commit to doing this program daily for six months, AND
- are willing to fill out four quality of life questionnaires over 2 years, and a weekly compliance survey during the program

Learn more by watching this 10-minute video:
https://www.youtube.com/watch?v=Hp9n4kJAZkc&feature=youtu.be

If you’re interested please contact PEP@nshealth.ca, 902-473-7727 or (best) by filling out the contact form found on the Program Details page at CancerPEP.org. A call back can be expected within a few days.
22. News From AYA Can (Jan.9/23)

AYA Can, a national organization advocating for adolescents and young adults (AYA) affected by Cancer in Canada, has partnered with Dr. Perri Tutelman and Dr. Fiona Schulte at the University of Calgary to run a James Lind Alliance Priority Setting Partnership in the area of AYA cancer. The priority setting partnership (PSP) will bring together Canadian patients, caregivers, clinicians, and researchers to establish the top research priorities for AYAs facing cancer. The top research priorities will guide future research in Canada. More updates about the first PSP activity will be shared soon.

23. ExExercise for Cancer to Enhance Living Well (EXCEL) Study (Dec.11/22)

Exercise for Cancer to Enhance Living Well (EXCEL) is a 5-year Canada-wide project, which offers free, 12-week exercise classes designed specifically for individuals undergoing or recovering from cancer treatment. Classes are online through a secure video-conferencing platform, and where possible, in-person (post-COVID). Physical activity can help overcome treatment-related side effects such as fatigue and pain, improve mental health by reducing anxiety and depression, and improve overall quality of life for individuals living with and beyond cancer. Studies show that physical activity may even reduce the risk of recurrence for some cancers. Many urban centres in Canada offer cancer-specific exercise programs, however, rural and remote areas tend to lack exercise resources to support cancer survivors, resulting in lower activity levels, poorer health, and diminished quality of life. Thus, EXCEL targets cancer survivors living in rural and remote regions across Canada, empowering them to move more and providing opportunities to benefit from physical activity.

To learn more about the EXCEL study: https://kinesiology.ucalgary.ca/labs/health-and-wellness/research/research-studies/exercise-cancer-enhance-living-well-excel

To hear about participant experiences: https://www.youtube.com/watch?v=c01oo4Yd3oA

24. Dietary Change Could be a Key to Enhancing Colon Cancer Treatment (Nov.20/22)

A new study from the University of Michigan Rogel Cancer Center finds that dietary change could be a key to enhancing colon cancer treatment. Researchers found in mice cells that a low-protein diet blocked the nutrient signaling pathway that fires up a master regulator of cancer growth. The regulator, mTORC1, controls how cells use nutritional signals to grow and multiply. It’s highly active in cancers with specific mutations, such as colon cancer, and is known to cause cancer to become resistant to standard treatments. A low-protein diet, and specifically a reduction in two key amino acids, changed the nutritional signals through a complex called GATOR. GATOR1 and GATOR2 work together to keep mTORC1 in business. When a cell has plenty of nutrients, GATOR2 activates mTORC1. When nutrients are low, GATOR1 deactivates mTORC1. Researchers found that mice on a low protein diet displayed less early tumor growth and more cancer cell death than controls. These mice also had reduced mTORC1 activation and proliferation. The researchers noted that this suggests that amino acids regulate mTORC1 activity and that limiting amino acids may inhibit early tumor growth. Putting cancer patients on a protein-deficient diet long-term is not ideal. But if you can find key windows – like at the start of chemotherapy or radiation – when patients could go on a low protein diet for a week or two, we could potentially increase the efficacy of those treatments.


25. New Evidence Links Healthy Plant-Based Diets with Lower CRC Risk (Nov.30/22)

Several studies have investigated the relationship between diet and colorectal cancer (CRC), finding that the typical Western diet that is high in fat, red meat, and processed meat increases the risk. Reducing these foods and increasing foods high in dietary fibre is associated with a reduction in risk. Plant-based foods tend to be high in dietary fiber, but only in an unprocessed state. Now, a study that appears in BMJ Medicine has found that a diet high in healthy plant-based foods — whole grains, fresh fruit, and vegetables — is associated with a lower risk of CRC in men. Unhealthy plant-based foods — refined grains, fruit juices, and added sugars — had no beneficial effect on cancer risk.

26. Ultraprocessed Foods Linked to Greater Risk for Colon Cancer, Heart Disease and Death (Dec.2/22)

Ultraprocessed foods like packaged snacks, factory-made breads, soft drinks, breakfast cereal and other ready-to-eat items, can be more affordable and convenient, however, they are also linked to poor health outcomes. Two recent studies find that such foods are linked to an increased risk for colorectal cancer (CRC) as well as cardiovascular and all-cause mortality.

The first study indicated that men who ate the most ultraprocessed food had a 29% higher risk for CRC, especially in the distal colon, compared with men who ate the least ultraprocessed foods. The link persisted even after adjusting for body mass index and dietary nutrition. However, the association between ultraprocessed food and CRC was not seen in women. Eating more ready-to-eat meals made from meat, poultry or seafood and drinking sugary beverages were linked to a greater risk of CRC in men. Ready-to-eat meals were also associated with a higher rate of CRC in women, while yogurt and yogurt-based desserts were linked to a lower risk.

In the other study, people with the least healthy diet had a 32% higher risk for death from cardiovascular conditions and a 19% higher mortality risk from any cause compared to people with healthier diets. People who ate the most ultraprocessed foods had a 27% higher risk for cardiovascular death and a 39% higher risk for death from any cause compared with people who ate the least amount of ultraprocessed foods. A significant proportion of the higher mortality risk associated with an elevated intake of nutrient-poor foods was explained by a high degree of food processing. In contrast, the relation between a high ultraprocessed food intake and mortality was not explained by the poor quality of these foods. These studies bolster calls for improvements in food policies to limit the consumption of overly processed foods.


27. Regular Exercise Improves Outcomes in Patients with CRC (Dec.13/22)

According to a study published in the American Journal of Cancer Research, getting regular exercise was found to improve the survival of patients with colorectal cancer (CRC). The study was the first to find a positive association between the impact of exercise on the gut microbiome of patients with cancer, according to the authors. Additionally, the study found that physical activity is also beneficial to obese patients with cancer, who generally have a less healthy gut microbiome. Study authors added that their findings represent an important step in understanding the impact of a healthy gut on outcomes in patients with CRC.

A patient who is active has a more diverse microbiome and lower abundances of CRC-promoting bacteria, and higher amounts of bacteria that protect against CRC. Nobody needs to be an athlete to get the benefits. It can be easy activities. Just staying active is very beneficial. In fact, regular exercise helps to facilitate a healthy gut microbiome and lowers inflammation, which were observed in patients independent of body mass index, including those considered severely overweight or obese. Inflammation is a key process that drives CRC and it is known that a high BMI causes inflammation around the body. Thus, if BMI is reduced, one will have lower levels of inflammation. Lower inflammation then means risk of death is reduced.


Image Source: https://info.totalwellnesshealth.com/blog/health-benefits-of-exercise

COVID-19 Updates

28. Frequently Asked Questions for COVID-19

Q: What is COVID-19 (or novel Coronavirus Disease - 19)?

A: Coronaviruses are a large family of viruses that can cause illnesses in humans and animals. Coronaviruses can cause illnesses that range in severity from the common cold to more severe diseases such as Severe Acute Respiratory Syndrome (SARS) and most recently, COVID-19. COVID-19 or novel coronavirus originated from an outbreak in Wuhan,
China in December 2019. The most common symptoms associated with COVID-19 can include fever, fatigue, and a dry cough. Though additional symptoms have now been linked with the disease, which may include aches and pains, nasal congestion, runny nose, sore throat, diarrhea, skin rash and vomiting. It is also possible to become infected with COVID-19 and not experience any symptoms or feeling ill. The spread of COVID-19 is mainly through the transmission of droplets from the nose or mouth when a person coughs, exhales or sneezes. These droplets land on surfaces around a nearby person. COVID-19 can be transmitted to that nearby person who may end up touching the surface contaminated with COVID-19 and then end up touching their nose, mouth, or eyes. A person can also contract COVID-19 through inhaling these droplets from someone with COVID-19. Although research is still ongoing, it is important to note that older populations (over the age of 65), those with a compromised immune system and those with pre-existing conditions including heart disease, high blood pressure, lung disease, diabetes or cancer may be at a higher risk of severe illness due to COVID-19.

https://www.who.int/news-room/q-a-detail/q-a-coronaviruses

Q: What can I do to avoid getting Coronavirus?

A: There are various ways in which we can reduce our risk of contracting COVID-19. Below are some measures suggested by the World Health Organization

1. Keep at least 2 metres (or 6 feet) between yourself and other people. This will reduce the risk of inhaling droplets from those infected with COVID-19.
2. Regularly clean your hands for at least 20 seconds with warm water and soap, or an alcohol-based hand rub. This will kill any viruses on your hands.
3. Avoid touching your eyes, nose and mouth. If the virus is on your hands, it can enter the body through these areas.
4. Follow good respiratory hygiene by covering your mouth and nose with a tissue or elbow when you cough and sneeze. This prevents the droplets from settling on surfaces or being released into the air around you.
5. Stay home as much as possible, especially if you are feeling unwell. If you think you may have the Coronavirus, please see “What should I do if I think I have Coronavirus?” section.
6. Please wear a face covering or mask in public when physical distancing is not possible.

https://www.who.int/news-room/q-a-detail/q-a-coronaviruses

Q: Are there special precautions that people with cancer can take?

A: People with cancer (and other chronic ailments such as heart disease, diabetes, high blood pressure and lung disease) are at a higher risk of severe illness due to COVID-19 as cancer is considered a pre-existing health issue. Some cancer treatments including chemotherapy, radiation and surgery can weaken the immune system, making it harder for the body to fight infections and viruses, such as Coronavirus. It is important to diligently follow the World Health Organization’s recommendations above to reduce the risk of contracting COVID-19. If you have any concerns about your risk, it is best to contact your doctor or healthcare team.

Q. Will anything change with regards to my cancer related medical visits?

As each patient and treatment plan is unique, it is always best to contact your health care provider for updated information about your treatment plan. In some cases, it is safe to delay cancer treatment until after the pandemic risk has decreased. In other cases, it may be safe to attend a clinic that is separate from where COVID-19 patients are being treated. Oral treatment options could be prescribed by your care provider virtually, without the need to attend the clinic. Finally, some follow-up appointments or discussions could be held virtually (via skype or zoom for example) or over the phone to minimize your risk. As we know, conditions and protocols are changing daily due to the nature of the COVID-19 outbreak, and vary based on location, therefore, the best first step is to reach out to your care provider for guidance.

https://www.cancer.gov/contact/emergencypreparedness/coronavirus

Should you wish to contact your local public health agency, please see below.

Alberta
COVID-19 info for Albertans
Social media: Instagram @albertahealthservices, Facebook @albertahealthservices, Twitter @GoAHealth
Phone number: 811

British Columbia
British Columbia COVID-19
Social media: Facebook @ImmunizeBC, Twitter @CDCofBC
Phone number: 811

Manitoba
Manitoba COVID-19
Social media: Facebook @manitobagovernment, Twitter @mbgov
Phone number: 1-888-315-9257

**New Brunswick**
New Brunswick Coronavirus
Social media: Facebook @GovNB, Twitter @Gov_NB, Instagram @gnbca
Phone number: 811

**Newfoundland and Labrador**
Newfoundland and Labrador COVID-19 information
Social media: Facebook @GovNL, Twitter @GovNL, Instagram @govnlsocial
Phone number: 811 or 1-888-709-2929

**Northwest Territories**
Northwest Territories coronavirus disease (COVID-19)
Social media: Facebook @NTHSSA
Phone number: 811

**Nova Scotia**
Nova Scotia novel coronavirus (COVID-19)
Social media: Facebook @NovaScotiaHealthAuthority, Twitter @healthns, Instagram @novascotiahealthauthority
Phone number: 811

**Nunavut**
Nunavut COVID-19 (novel coronavirus)
Social media: Facebook @GovofNunavut, Twitter @GovofNunavut, Instagram @governmentofnunavut
Phone number: 1-888-975-8601

**Ontario**
Ontario: The 2019 Novel Coronavirus (COVID-19)
Social media: Facebook @ONThealth, Twitter @ONThealth, Instagram @ongov
Phone number: 1-866-797-0000

**Prince Edward Island**
Prince Edward Island COVID-19
Social media: Facebook @GovPe, Twitter @InfoPEI,

**Québec**
Coronavirus disease (COVID-19) in Québec
Social media: Facebook @GouvQc, Twitter @sante_qc
Phone number: 1-877-644-4545

**Saskatchewan**
Saskatchewan COVID-19
Social media: Facebook @SKGov, Twitter @SKGov
Phone number: 811

**Yukon**
Yukon: Find information about coronavirus (COVID-19)
Social media: Facebook @yukonhss, Twitter @hssyukon
Phone number: 811