COLORECTAL CANCER TREATMENT & CLINICAL RESEARCH UPDATES

Month Ending September 14th, 2023

The following colorectal cancer treatment and research updates extend from August 17th, 2023, to September 14th, 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.
1. TRK Fusion Cancer and How to Test for It
2. Immunotherapy Combined with Targeted Therapy in Patients with BRAF V600E–Mutated CRC
3. VITRAKVI (Larotrectinib) is Now Covered in Ontario, Quebec, Saskatchewan, Manitoba, and New Brunswick
4. Niclosamide Inhibits Oxaliplatin Neurotoxicity while Improving CRC Therapeutic Response
5. Strategies to Predict Immunotherapy Benefit Among Patients With Advanced CRC
6. Statins May Be Linked to Lower Risk of CRC in Patients With Ulcerative Colitis
7. Skincare Tips while on Cetuximab or Panitumumab Treatment for CRC

8. Hepatic Artery Infusion Pump (HAIP) Chemotherapy Program – Sunnybrook Hospital
9. Living Donor Liver Transplantation for Unresectable CRC Liver Metastases
10. In Vivo Lung Perfusion (IVLP) for CRC Metastatic to Lung

11. Study Offered at the Odette Cancer Centre to Treat Recurrent Rectal Cancer

12. Trends in the Incidence of Young-Onset CRC with a Focus on Years Approaching Screening Age
13. Now Available in Canada: AVENIO 324 Gene CGP Panel Matched to FoundationONE CDx Panel
14. LifeLabs Launches Signatera, Offering Canadians an Innovative and Personalized Approach to Managing Cancer
15. Natera Announces Publication of Prospective, Multi-Site CIRCULATE Study in Nature Medicine Demonstrating Signatera’s Ability to Predict Chemotherapy Benefit in CRC
16. New Findings Reveal Why 45-Year-Olds Are Avoiding CRC Screenings
17. Guardant Abandons Cancer Blood Test Trial Early, Restates Confidence in Product Line

18. Young Adult CRC Clinic Available at Sunnybrook Hospital
19. CCRAN’s Partnership with “Count Me In”
20. Patients and Caregivers Needed to Help Shape Early Research for a CRC Therapy
22. Recent Updates in Early Onset CRC: What We Know and Where to Go
23. Older Female CRC Survivors Often Experience Persistent GI Symptoms
24. Ulcerative Colitis Can Raise Your Risk of Cancer
25. Sona’s ‘THT’ Cancer Therapy to be Assessed for Efficacy and Ability to Act as a Catalyst to Generate Immune Responses in Research Study

26. Exercise for Cancer to Enhance Living Well (EXCEL) Study
27. High Fat Diets May Alter Gut Bacteria and Increase CRC Risk

28. Frequently Asked Questions for COVID-19
1. TRK Fusion Cancer and How to Test for It (Sept.13/23)

**What is TRK fusion cancer?**
- TRK (pronounced track) fusion cancer is a term used to describe cancers that are caused by a change to the neurotrophic tyrosine receptor kinase (NTRK) gene called a fusion.
- During this fusion, an NTRK (pronounced on-track) gene joins together, or fuses, with a different gene.
- This joining causes the body to make TRK fusion proteins, which can cause cancer cells to multiply and form a tumor.
- The presence of TRK fusion proteins may be associated with more aggressive cancer.

**Having TRK fusion cancer doesn’t change your original diagnosis, but it just means that your tumor is driven by an NTRK gene fusion.**

**Testing is the only way to find out if NTRK gene fusion is driving your cancer.**

**Who should be tested for NTRK gene fusions?**
- Your doctor may consider testing in people:
  - with solid tumors that are metastatic, and
  - who are likely to experience severe complications from surgical resection, and
  - when there are no satisfactory treatments options available.

**FastTRK**

FastTRK is a clinical testing program for diagnosing NTRK gene fusions.

Sponsored by Bayer, this is a complimentary service for healthcare professionals to find out if their patients' cancer has an NTRK gene fusion.

Talk to your doctor about which tests are recommended for you.
INTRODUCING
Tumour-Agnostic Therapies
Advances in precision medicine have brought therapies that specifically target what is driving a patient's cancer.

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

Sources:
- https://www.bayer.ca/en/media/news/?dt=TmpBPQ==&st=1
2. Immunotherapy Combined with Targeted Therapy in Patients with BRAF V600E–Mutated CRC
(Aug.15/23)

In one of the first clinical trials combining immunotherapy and targeted therapy for patients with BRAF V600E–mutated colorectal cancer (CRC), researchers discovered that a combination regimen of dabrafenib, trametinib, and spartalizumab resulted in long-lasting responses. The study successfully met its primary endpoint and achieved a confirmed response rate of 24.3%, compared with a response rate of 7% in a prior trial where patients were treated with each of the same targeted therapies individually. The researchers also reported improved outcomes in one of the trial’s secondary endpoints: durability. Previously, patients with BRAF V600E–mutated CRC have seen only a short-lived clinical benefit after treatment with BRAF or MEK inhibitors. But the combination therapy resulted in an increased durability of response, with a median progression-free survival of 5 months compared with 3.5 months with BRAF or MEK inhibitors alone. The researchers noted that 57% of the patients continued with the treatment for more than 6 months and 18% continued for more than 1 year.

The findings suggested how targeted therapies in combination with immunotherapies may drive a greater immune response and improve treatment overall. This merits further clinical investigation and preclinical experiments to determine the best targeted approach to increase immune reactivity against [BRAF-mutated] CRC. The researchers acknowledged that the implications of their research may go well beyond CRC.


3. VITRAKVI (Larotrectinib) is Now Covered in Ontario, Quebec, Saskatchewan, Manitoba and New Brunswick (Aug.15/23)

Please find information below regarding public funding for VITRAKVI (Larotrectinib) in Ontario, Quebec, Saskatchewan, Manitoba and New Brunswick.

4. Niclosamide Inhibits Oxaliplatin Neurotoxicity while Improving CRC Therapeutic Response (May 20/23)

Neuropathic pain is a limiting factor of platinum-based chemotherapies. Researchers sought to investigate the neuroprotective potential of niclosamide in peripheral neuropathies (damage to nerves located outside of the brain and spinal cord) induced by oxaliplatin. The results showed in neuron-like cells, niclosamide downregulated the production of oxaliplatin-mediated H2O2, thereby preventing cell death. In colon cancer cells, niclosamide enhanced oxaliplatin-mediated cell death through increased H2O2 production. The study demonstrates that niclosamide increases the therapeutic index of oxaliplatin by both reducing the neurodegenerative side effects of oxaliplatin and enhancing the cytotoxic effects of this chemotherapy on cancer cells. Further investigations focusing on potential neuroprotection by niclosamide could shed light on the benefit that patients could gain from receiving this well-tolerated teniacide in association with other treatments currently available.

https://hal.science/cea-02121953v1

5. Strategies to Predict Immunotherapy Benefit Among Patients With Advanced CRC (Sept.5/23)

Researchers have identified new strategies to help physicians predict which patients with advanced colorectal cancer (CRC) may benefit from immunotherapy, according to a recent study published by Saberzadeh-Ardestani et al in Clinical Cancer Research.

While immunotherapy continues to advance cancer treatment, not all patients with metastatic CRC (mCRC) who have mismatch repair deficiencies may benefit from this treatment. Accordingly, there is a need for predictive biomarkers of response and survival.

In the new study, the researchers discovered that the distance between cells that express PD-1 and PD-L1 within the tumor can help predict the outcome of immunotherapy in patients who have CRCs with mismatch repair.
deficiencies. Among the tumors that were examined in the study, 60% of them had an increased number of cells with PD-1 and PD-L1 in close proximity—suggesting that 60% of these patients were likely to benefit from immunotherapy. The researchers proposed that such data may hold the potential to assist physicians in selecting patients for treatment, whereas the other 40% who may be less likely to benefit from immunotherapy could be treated with combination therapy or another type of treatment.

The findings suggest that this spatial analysis within tumors may be useful to select patients who are more likely to benefit from immunotherapy. If cells expressing these proteins were at or within 10 microns of each other within the tumor, then immunotherapy treatment was able to significantly improve patient survival. The researchers noted that they are currently validating their findings. If the results of their further analysis are positive, their new method would allow physicians to select patients most likely to benefit from PD-1 blockade and spare those least likely to benefit from experiencing the potential toxicities and drug costs of immunotherapy.

6. Statins May Be Linked to Lower Risk of CRC in Patients With Ulcerative Colitis (Sept.5/23)  

According to a recent study published in eClinicalMedicine, cholesterol-lowering statins may reduce colorectal cancer (CRC) incidence and mortality in patients with ulcerative colitis (UC). In this new observational study, investigators analyzed the outcomes of 10,500 patients with inflammatory bowel disease (IBD)—50% of whom received statins and 50% of whom did not receive statins.

After an average follow-up of 5.6 years, the investigators found that 70 patients in the statin group and 90 patients in the non-statin group had been diagnosed with CRC. Further, compared with those who did not receive statins, the patients who did receive statins had a lower incidence of CRC–related mortality (20 vs 37) and all-cause mortality (529 vs 719).

The investigators emphasized that the protective effects of statins were directly proportional to the length of time the patients had been on the drugs and could be demonstrated after 2 years of treatment. They also estimated that 200 patients with IBD needed to be treated with statins to avoid one case of CRC or cancer-related mortality within 10 years of treatment onset. However, the protective effects were only statistically valid for patients with UC. Thus, the new findings provide convincing evidence that statins could be an effective prophylactic for CRC among patients with IBD. Nonetheless, more knowledge must be gathered before the treatment can be recommended for clinical use.  

7. Skincare Tips while on Cetuximab or Panitumumab Treatment for CRC (Aug.28/23)  

Amgen has collaborated with FUSE Health and Dr. Nathan Lamond (Medical Oncologist, Dalhousie University) to produce a 5-minute video on the importance of good skin hygiene for patients on EGFRi therapy. During this talk, Dr. Lamond discusses the importance of good skin care to help prevent or lessen skin side effects caused by certain cancer treatments such as cetuximab and panitumumab used to treat colorectal cancer (CRC). Dr. Lamond provides tips for protecting the skin and using appropriate soaps, cleansers, moisturizers, sunscreens, and lip balms.

To download and view the video:  
https://fusehealth.sharefile.com/d-s2d0a0747b8154e368ed5219e5654421c  

8. Hepatic Artery Infusion Pump (HAIP) Chemotherapy Program – Sunnybrook Odette Cancer Centre (Sept.1/23)  

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

9. **Living Donor Liver Transplantation for Unresectable CRC Liver Metastases (Sept.2/23)**

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.

![Image Source: https://www.slideshare.net/AhmedAdel65/preoperative](https://www.slideshare.net/AhmedAdel65/preoperative)

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

10. **In Vivo Lung Perfusion (IVLP) for CRC Metastatic to Lung (Sept.9/23)**

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.

In Vivo Lung Perfusion Model

https://clinicaltrials.gov/ct2/show/NCT05611034?term=ivlp&draw=2&rank=1
Image Source: https://pie.med.utoronto.ca/TVASurg/project/in-vivo-lung-perfusion/

11. Study Offered at the Odette Cancer Centre to Treat Recurrent Rectal Cancer (Sept.9/23)

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 tumour, focus the ultrasound beam on the target, and provide a real-time thermal mapping to ensure accurate heating of the designated target with minimal affect 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

12. Trends in the Incidence of Young-Onset CRC with a Focus on Years Approaching Screening Age (Sept.10/23)

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.


14. LifeLabs Launches Signatera, Offering Canadians an Innovative and Personalized Approach to Managing Cancer (Sept.1/23)

LifeLabs is pleased to share the launch of Signatera, 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. This innovative test uses circulating tumor DNA (ctDNA) and is personalized for each patient to help assess recurrence risk and identify relapse up to two years earlier than the current standard of care tools. The clinical utility of Signatera across cancer types has been validated by multiple studies. In those trials, Signatera demonstrated predictive values such as:

- 88% sensitivity to relapse (average lead time 8.7 mos)
- 89% sensitivity to relapse (average lead time 9.5 mos)
- 92% sensitivity to relapse (average lead time 4.0 mos)
- 100% sensitivity to relapse (average lead time 2.8 mos)
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.


15. Natera Announces Publication of Prospective, Multi-Site CIRCULATE Study in Nature Medicine Demonstrating Signatera’s Ability to Predict Chemotherapy Benefit in CRC (Aug.1/23)

Natera, Inc., a global leader in cell-free DNA testing, announced the publication of a new study in *Nature Medicine*, which demonstrates the ability of the Signatera molecular residual disease (MRD) test to identify patients with stage II-IV colorectal cancer (CRC) who are at an increased risk of recurrence and predict who is likely to benefit from adjuvant chemotherapy (ACT).

The paper describes results from the GALAXY arm of the ongoing CIRCULATE-Japan trial, which is one of the largest and most comprehensive prospective studies of MRD testing in resectable CRC. The data builds on results previously presented at the 2022 ASCO Gastrointestinal Cancers Symposium (ASCO GI), now with median clinical follow-up extended to 16.74 months and DFS assessment at 18 months.

In the study, 1,039 patients with stage II-IV resectable CRC were monitored prospectively using the Signatera MRD test. Key takeaways include:

- Post-surgical MRD status was predictive of chemotherapy benefit
- Post-surgical MRD status was the most significant prognostic risk factor for recurrence, in a multivariate analysis that accounted for all clinicopathological risk factors currently used for prognostication (HR 10.82, p-value <0.001).
- Pre-surgical detection rate of 95.9% in patients with pathologic stage II-III disease and 93.1% in patients with stage II-IV disease.
- Signatera dynamics are indicative of treatment response

This study provides strong evidence that Signatera MRD-positive patients will benefit significantly from adjuvant therapy, while MRD-negative patients may be safely observed, regardless of clinical or pathological stage.


Exact Sciences, a leading provider of cancer screening and diagnostic tests, convened a steering committee of national experts to design and field the "I Am 45" poll, the most robust survey ever of 45-year-olds in the United States about cancer screening (n=1,005). Despite routine screening starting at age 45 using one of several guideline-recommended methods being the most effective way to reduce risk of dying from colorectal cancer (CRC), many people in this critical age group are not getting screened.

Findings revealed that there are countless reasons why 45-year-olds are not getting screened:

- Lack of time due to everyday life responsibilities
- Lack of awareness about CRC risk factors as well as when and how to screen for CRC
- Fear and stigma
- Lack of recommendation from a healthcare provider (HCP)
- Lack of health insurance
- Prioritization of other areas of health
- Feeling young and in good health

The steering committee that designed the "I Am 45" poll is committed to working to address these potential barriers to improve CRC screening rates and urges 45-year-old Americans to talk with their healthcare providers about selecting and completing the CRC screening test most appropriate for them. The committee will utilize the learnings from the survey to build and enhance programs intended to increase screening for CRC.


17. Guardant Abandons Cancer Blood Test Trial Early (ctDNA), Restates Confidence in Product Line (Sept.6/23)
The Guardant Health COBRA study was designed to evaluate the effectiveness of using minimum residual disease (MRD) testing to improve clinical outcomes in patients with stage II colon cancer after curative-intent surgery. It was planned to run through to 2026 and enroll 1,400 patients but is stopping early. The decision to close it to new enrollees was based on an interim analysis. The company agreed with the decision and shared more details on a call with analysts.

“Management clarified that they canceled enrolling new patients in the COBRA study because of the study’s risky design and use of older generation assay, not because of assay performance. Management stated in the follow-up call that COBRA’s study design had always been a risky one given the challenging cohort population used ... and rigid protocols, but management noted the assay had performed in-line with expectations,” analysts at J.P. Morgan wrote in a note to investors.

The blood test assessed in the study is 2-3 generations behind the current newest version, according to the J.P. Morgan analysts, and Guardant has since made numerous advancements to the assay used in COBRA to improve performance. Guardant said it remains confident in its MRD test. “The field has progressed rapidly since the study was designed over four years ago, and since the study was initiated, we have made tremendous progress with multiple upgrades of our MRD test. Additionally, we have many ongoing studies that will demonstrate the effectiveness of our current MRD tests in colorectal cancer and other settings,” Craig Eagle, chief medical officer at Guardant, said in a statement.


18. Young Adult CRC Clinic Available at Sunnybrook (Sept.5/23)

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), along with Dr. Petra Wildgoose (Hepatobiliary and Colorectal Oncology Surgical Assistant), and their team at the Sunnybrook Health Sciences Centre understand the needs of this patient population.

Dr. Shady Ashamalla, Head Young Adult Colorectal Cancer Program
Dr. Petra Wildgoose, Lead Young Adult Colorectal Cancer Program

Both belong to a multidisciplinary team of experts in the Young Adult Colorectal Cancer Clinic who work with young CRC patients, regardless of disease stage, to create an individualized treatment plan to support each patient through their cancer journey. Patients’ 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

19. CCRAN’s Partnership with “Count Me In” (Sept.1/23)

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 JoinCountMeln.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 JoinCountMeln.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 JoinCountMeln.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.

Learn more at JoinCountMeIn.org/colorectal

20. Patients and Caregivers Needed to Help Shape Early Research for a CRC Therapy (Sept.10/23)

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

21. CCRAN Announces the Launch of 4 New Information/Support Groups (Sept.2/23)

CCRAN is pleased to announce a new format for monthly information/support group meetings. To ensure peer support is relevant, meaningful and timely for each participant, CCRAN has stratified the groups according to disease stage and early vs average onset colorectal cancer

Support Group:
Early Age Onset (< 50), Early Stage Disease (Stages I - III) Patients & Caregivers
Facilitated by:
Dr. Petra Wildgoose, MD

Support Group:
Early Age Onset (< 50), Advanced Stage Disease (Stage IV, metastatic) Patients & Caregivers
Facilitated by:
Ms. Hayley Painter, RN
Meetings will begin with a brief treatment update. Following the presentation, patients and caregivers will be assigned to the support group of relevance to them. Please RSVP to Cassandra Macaulay: Cassandra.m@ccran.org. We look forward to hosting you at our monthly information/support group meetings.

22. Recent Updates in Early Onset CRC: What We Know and Where to Go (Aug.22/23)

Current data estimate that almost 50 new diagnoses of early-onset colorectal cancer (EO-CRC) are being made today with CRC estimated to be the leading cause of cancer death in patients younger than 50 years by 2030. Multiple modifiable risk factors have been posited, including Western dietary patterns (increased red meat and processed sugars, etc.), smoking, and overweight body habitus. In the Nurses’ Health Study II (1991-2015) a western style diet was associated with increased risk of EO-CRC. Still, a unifying cause of EO-CRC has yet to be found supporting a multifactorial cause including diet and lifestyle. Additionally, while inherited CRC is higher in EO-CRC, still, a vast majority are still considered sporadic cases and germline variants cannot explain increases.

One of the most challenging aspects of EO-CRC is the delay in diagnosis. The reasons for this are multifactorial. First, and most obvious, is a lack of awareness by both patients and providers. CRC is most commonly associated with older age. An increase in rates in patients <50 is a relatively new phenomenon and takes time for public consciousness to catch up. A recent survey from the American Association for Cancer Research in 2019 found that a majority of patients were unaware that CRC can occur in patients younger than 50 years, saw more than 2 physicians, and waited more than 6 months to seek medical attention.

While therapies for metastatic CRC have improved significantly over the last decade, our most powerful tool is still early recognition. Efforts to increase visibility are increasing, but widespread recognition is still lagging. We are optimistic that strategies such as decreasing the colonoscopy screening age from 50 to 45 will improve outcomes but have had some resistance with uptake.

Identifying patients at risk of acquiring EO-CRC is of utmost importance. Patients with Lynch syndrome, which represents approximately 5% of CRC, are at the highest risk. Unfortunately, many patients are unaware of the syndrome, increasing the importance of testing all EO-CRC for germline mutations in an MMR gene (MLH1, MSH2, MSH6, PMS2, or EPCAM). Notably, nearly 30% of patients with EO-CRC have a first-degree relative with CRC and represent a high-risk population who can be targeted for screening.

Therefore, a call to action has been declared, as oncologists globally explore trends, challenges in diagnosis, and future directions. Improving outcomes (and reversing the trend) cannot be achieved without a multifactorial approach.

23. Older Female CRC Survivors Often Experience Persistent GI Symptoms (Aug.25/23)

According to data published in *PLOS One*, more than 80% of older women who survived colorectal cancer (CRC) experienced a range of gastrointestinal (GI) symptoms that sometimes persisted for decades. Prior research showed CRC survivors can experience long-term symptoms after treatment; however, data are limited about the extent and impact of GI symptoms for these individuals. Han and colleagues conducted a cross-sectional study utilizing data from the Women’s Health Initiative Life and Longevity After Cancer study to assess risk for and impact of persistent GI symptoms among women who survived CRC. The analysis included 413 postmenopausal women.

The majority (81%) of women in the cohort reported persistent GI symptoms. Gas/bloating appeared to be the most prevalent (54.2%) and most severe symptom reported, followed by constipation (44.1%), diarrhea (33.4%) and abdominal/pelvic pain (28.6%). Researchers identified multiple factors significantly associated with development of GI symptoms after treatment. These included time since cancer diagnosis (< 5 years), advanced cancer stage, high psychological distress, poor dietary habits and low physical activity. Two factors — fatigue and sleep disturbance — appeared to be the most significant risk factors for long-term symptoms. High severity of GI symptoms correlated with poor quality of life, increased daily life interference and low body image satisfaction.

The findings indicate a need for comprehensive interventions for CRC survivors such as psychosocial support, pain management, individualized nutritional counseling and physical rehabilitation.


24. Ulcerative Colitis Can Raise Your Risk of Cancer (Aug.24/23)

If you have ulcerative colitis (UC), you’re probably aware that inflammation is to blame for many of your symptoms. But, what’s less commonly known is that inflammation is also the likely culprit behind an increased risk of colorectal cancer (CRC). People with inflammatory bowel disease, including UC, are about twice as likely to develop CRC compared to those without the disease, according to a study published in 2020 in the journal *Gastroenterology*.

Here’s what happens in the body: When you have UC, your immune system mistakes the lining of your colon for a foreign body and attacks it, causing damage. As your body works overtime, trying to repair the damage, a mutation can occur, increasing your risk for colon or rectal cancer. The greater the inflammatory burden, and perhaps the longer that a person with UC has ongoing inflammation, the greater the risk for developing CRC.

If you have UC there are steps you can take to reduce your risk of CRC:
- Find a UC treatment that works
- Once you find an effective treatment, stick with it
- Maintain a healthy diet
- Exercise regularly
- Get screened for cancer

Image Source: https://patient.gastro.org/ulcerative-colitis/

25. Sona’s ‘THT’ Cancer Therapy to be Assessed for Efficacy and Ability to Act as a Catalyst to Generate Immune Responses in Research Study (Sept.11/23)

Sona Nanotech Inc., recently announced an innovative research initiative to be undertaken with The Giacomantonio Immuno-Oncology Research Group. This study aims to evaluate the efficacy of Sona’s Targeted Hyperthermia Therapy (“THT”) technology in not only attenuating the development of colorectal, breast, and melanoma tumor models in mice but also in facilitating systemic immune responses.

Sona CEO, David Regan, commented, “This innovative study will go significantly beyond our current plans for THT applications to explore the potentially synergistic effect of its use with certain immunotherapy treatments for cancer. In it, we aim to harness the tremendous potential of immunotherapy, leveraging Sona’s biocompatible gold nanorods as a pivotal, catalytic element. This effort marks the beginning of Sona delivering on the ‘mountain of data’ we committed to developing in support of our planned regulatory submissions for human clinical trial approvals.”
The research group is exploring two distinct yet interrelated biological processes with the potential to unlock the "elusive Holy Grail of intra-tumoral cancer immunotherapies, known as the Abscopal Effect”. The first process involves the kinetic excitation of gold nanorods, capable of inducing localized tumor destruction. This exposes potent tumor neo-antigens, which can then be strategically mobilized to immune-responsive sites. This strategy holds the potential of profoundly reshaping and amplifying the efficacy of the immune response against cancer. The second avenue examines the profound impact of intralesional immunomodulation in the context of both local and systemic THT. Together, these objectives, if successful, may establish a strategic framework to illuminate the path towards groundbreaking, innovative, and potent immunotherapeutic interventions for colorectal cancer, breast cancer, and melanoma. The findings of this study will aid in informing and improving Sona’s planned first-in-human studies as that important milestone is approached.

https://www.sonanano.com/tht-cancer-therapy-to-be-accessed-for-efficacy/
Image Source: https://www.sonanano.com/therapies/tht/

### Nutrition / Healthy Lifestyle

#### 26. EXercise for Cancer to Enhance Living Well (EXCEL) Study (Sept.11/23)

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

#### 27. High Fat Diets May Alter Gut Bacteria and Increase CRC Risk (Aug.25/23)

Researchers at the Salk Institute and the University of California San Diego fed lab mice with a genetic predisposition to colorectal cancer a high fat diet. They tracked changes in their gut bacteria and altered digestive molecules called bile acids, which are produced by the liver and help digest food and absorb cholesterol, fats, and nutrients.

They found that a fatty diet increased the levels of certain gut bacteria that, in turn, altered bile acids in a way that increased inflammation and
inhibited the replenishment of intestinal stem cells, which help to repair cellular damage in the body. Those changes can raise the risk of colorectal cancer (CRC), according to Ronald Evans, PhD, a senior study author.

In a 2019 study, a research group led by Evans reported that an increase in bile acids shut down a protein in the gut called the farnesoid X receptor (FXR), which is involved in lipid and energy metabolism and reducing inflammation. The new study shows that the changes in bile acids also affected the proliferation of stem cells in the intestines. The paper noted that stem cells that replenish more slowly may mutate and encourage the growth of CRCs, which often arise from stem cells. Two types of gut bacteria shown to affect bile acids, Ileibacterium valens and Ruminococcus gnavus, were much more prevalent in the guts of mice on high fat diets, according to the study findings.

A high-fat diet seemed to have a more profound effect on the gut microbiome and bile acids than the genetic mutation that made the mice more susceptible to CRC, the researchers said. “We’ve known that a high fat diet, along with a diet high in red meat, tends to increase the risk of colon polyp formation and colon cancer,” Dr. Jesse P. Houghton, a senior medical director of gastroenterology at the Southern Ohio Medical Center, told MNT.

Evans and colleagues suggested that the FXR receptor could be targeted for future interventions to prevent CRC. While human clinical studies are still needed to confirm the study findings and possibly develop new treatments, up to 70% of CRC is preventable through a healthy lifestyle, exercise, and a balanced diet.

Image Source: https://www.njlifehacks.com/high-fat-diet/

### 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/emergencypreparation/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,

**Quebec**
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