The following colorectal cancer treatment and research updates extend from June 9th, 2022, to July 14th, 2022, 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 (Sept.10/21)

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%29+Plus+Pembrolizumab&show_locs=Y#locn

2. TRK Fusion Cancer and How to Test for It (Feb.16/21)
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
3. A Phase II, Open-label, Multicenter, Study of an Immunotherapeutic Treatment for the MSI High CRC Metastatic Population (Sept.16/21)

The purpose of this study is to look at the effectiveness of the vaccine DPX-Survivac in combination with the drugs cyclophosphamide and the immunotherapy 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 (Sept.16/21)

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://sunnybrook.ca/trials/item/?i=293&page=49335](https://sunnybrook.ca/trials/item/?i=293&page=49335)

5. How Amgen and AstraZeneca’s Asthma Drug Tezspire Holds Promise for CRC (May 18/22)

In a new study published in Science Translational Medicine, researchers showed a thymic stromal lymphopoietin (TSLP)-targeted antibody inhibited colorectal tumors in two mouse models. In December, the FDA approved Amgen and AstraZeneca’s anti-TSLP antibody Tezspire, or tezepelumab, to treat asthma. Scientists at the Benaroya Research Institute (BRI) suggest that treating colorectal cancer (CRC) with an anti-TSLP antibody drug could potentially be translated to humans as well. TSLP is a cytokine produced primarily by surface cells at barrier tissues, including the colon. High expression of TSLP in tumors also correlated with severe CRC in human patients.

The researchers then administered an anti-TSLP neutralizing antibody in two mouse models of CRC. The treatment shrank tumors just as those TSLP receptor-expressing regulatory T cells, or Tregs, diminished in the colon. Hoping to improve upon immuno-oncology agents, a team at the Dresden University of Technology in Germany recently found that inhibiting the B7H4 and B7H3 proteins could be a promising strategy in slowing or even shrinking colon cancer. Scientists at Memorial Sloan Kettering Cancer Center proposed that inhibiting the protein ENPP1 could make tumors more visible to the immune system. In a mouse model of CRC, the team showed that removing ENPP1 could improve the response to checkpoint inhibitors.

Now, the findings on TSLP may provide a new avenue for developing therapies against colorectal cancer, and TSLP blockade may be a treatment strategy worth further investigation for the disease.


6. CRC Practice Changes After Attending ASCO 2022 (Jun.8/22)

Here are the practice changes after attending the ASCO 2022 Conference:

1. Test for circulating tumor DNA (ctDNA) in patients with stage II colon cancer to help determine whether to recommend adjuvant chemotherapy. Tie et al presented data from their randomized controlled trial of ctDNA monitoring versus standard of care. The patients without ctDNA were not given any adjuvant chemotherapy.
Such an approach really limits the number of patients who receive adjuvant chemotherapy without any compromise in survival.

2. Test patients with stage II and III rectal adenocarcinoma tumors for mismatch repair deficiency (dMMR) and, if present, refer them to Memorial Sloan Kettering. Results from the first 12 patients treated with ICPI (dostarlimab) alone for 6 months achieved a 100% complete clinical and radiographic response and are being observed closely. To date, none has relapsed and none has gone on to radiation/surgery.

3. Use panitumumab (pani) along with FOLFOX or FOLFIRI to treat left-sided metastatic colorectal cancer (mCRC) that is not dMMR. The PARADIGM randomized controlled trial demonstrated a statistically significant 3.6-month improvement in median survival with pani as opposed to bevacizumab, and at 5 years, the OS was 32% compared with 21%. The overall response rate was higher as well (80.2% vs 68.6%).

https://www.practiceupdate.com/expertopinion/6019/3? elsca1=emc_enews_expert- insight&elsca2=email&elsca3=practiceupdate_oncology&elsca4=newsletter&rid=MTU2MDg2ODgxNjQzS0&lid=20844130

7. ctDNA Analysis Guiding Adjuvant Therapy in Stage II Colon Cancer (Jun.4/22)

According to this study, the presence of circulating tumor DNA (ctDNA) after surgery predicts very poor recurrence-free survival, whereas its absence predicts a lower risk of recurrence. However, the benefit of adjuvant chemotherapy for ctDNA-positive patients is not well understood.

Researchers conducted a trial to assess whether a ctDNA-guided approach could reduce the use of chemotherapy without compromising recurrence risk. Patients with stage II colon cancer were randomly assigned in a 2:1 ratio to have treatment decisions guided by either ctDNA results or standard clinicopathological features. Of the 455 patients who underwent randomization, 302 were assigned to ctDNA-guided management and 153 to standard management. A lower percentage of patients in the ctDNA-guided group than in the standard-management group received adjuvant chemotherapy (15% vs. 28%). In the evaluation of 2-year recurrence-free survival, ctDNA-guided management was non-inferior to standard management. Three-year recurrence-free survival was 86.4% among ctDNA-positive patients who received adjuvant chemotherapy and 92.5% among ctDNA-negative patients who did not.


8. Aspirin May Help Slow Down CRC Evolution (Jun.13/22)

Researchers at the University of California, Irvine, reveal for the first time that aspirin changes the way colorectal cancer (CRC) cell populations evolve over time, making them less able to survive and proliferate. Cancer arises because cells evolve from a healthy state toward a pathogenic state where the cells divide without stopping. This happens when cells acquire a number of mutations. The team found that aspirin affects these evolutionary processes and slows them down. Specifically, aspirin reduces the rate of tumor cell division and increases the rate of cell death. Now the team wants to find out whether aspirin has similar effects on cancers affecting other organs in the body.

https://www.practiceupdate.com/expertopinion/6019/3? elsca1=emc_enews_expert-insight&elsca2=email&elsca3=practiceupdate_oncology&elsca4=newsletter&rid=MTU2MDg2ODgxNjQzS0&lid=20844130

9. Exelixis Launches Phase III Trial of XL092 in Certain CRC Patients (Jun.21/22)

Exelixis began a Phase III trial of its next-generation tyrosine kinase inhibitor, XL092, in patients with mismatch repair-proficient (pMMR), microsatellite stable (MSS) metastatic colorectal cancer (mCRC). The STELLAR-303 trial will compare the combination of XL092 with Roche’s Tecentriq against Bayer’s Stivarga in about 600 patients with RAS wild-type or RAS-mutated tumors without high microsatellite instability or mismatch repair deficiency. Patients must have progressed or be intolerant to standard therapy to partake in the study. The primary endpoint of the trial is overall survival, with progression-free survival, objective response rate, and duration of response as secondary endpoints. Researchers will also study the efficacy of the drug combination in people with RAS-mutated disease as an exploratory endpoint.

https://www.practiceupdate.com/expertopinion/6019/3? elsca1=emc_enews_expert-insight&elsca2=email&elsca3=practiceupdate_oncology&elsca4=newsletter&rid=MTU2MDg2ODgxNjQzS0&lid=20844130

10. Treos Bio, Roche Begin Combination Immunotherapy Study in Microsatellite-Stable CRC (Jul.1/22)

Treos Bio has dosed the first colorectal cancer (CRC) patient in its Phase II clinical trial evaluating the off-the-shelf immunotherapy PolyPEP1018 with Roche’s anti-PD-L1 drug Tecentriq (atezolizumab). The trial, dubbed OBERTO 301, will enroll 28 patients with microsatellite-stable, metastatic colorectal cancer (mCRC), who have previously received two or three lines of treatment. The study’s primary goal is to assess the safety and tolerability of the immunotherapy combination, and the secondary aims include evaluating objective response rates, duration of response, progression-
free survival, and overall survival. In a Phase I/II trial, the company looked at the activity of PolyPEPI1018 as an add-on immunotherapy to standard-of-care maintenance therapy in mCRC. The company is hoping to further explore the findings seen in this earlier trial in the Phase II study of PolyPEPI1018 and Tecentriq.


11. In Metastatic RAS Wild-Type Left-Sided CRC, Panitumumab Proves Superior to Bevacizumab (Jul.10/22)

The preferred targeted therapy for left-sided RAS wild-type metastatic colorectal cancer (mCRC), in combination with standard chemotherapy, is panitumumab, not bevacizumab, based on a head-to-head comparison in the phase III PARADIGM trial. Panitumumab plus chemotherapy yielded the longest overall survival ever reported in a prospective phase III trial in first-line mCRC. The use of panitumumab, which is an inhibitor of epidermal growth factor receptor (EGFR), improved overall survival by 3.6 months as compared with the vascular endothelial growth factor receptor (VEGF) inhibitor bevacizumab. Median overall survival was 37.9 months vs 34.3 months, respectively.

It has long been believed that the sequence of treatment in mCRC does not matter as long as patients had access to the drugs at some point in their treatment. This trial demonstrates that, for RAS wild-type and left-sided mCRC, the choice of the initial biologic with chemotherapy does matter and that initial treatment with panitumumab with FOLFOX [fluorouracil, leucovorin, oxaliplatin] chemotherapy is superior to initial treatment with bevacizumab plus FOLFOX chemotherapy. The results from PARADIGM highlight the importance of RAS testing at initial diagnosis of metastatic disease in left-sided CRC and tailoring initial therapy based on the results.

Image Source: https://www.mims.com/hongkong/drug/info/vectibix/?type=brief

12. P-28 Real-World Observational Study of MVASI in mCRC Patients in Canada: Baseline Patient Characteristics (Jun.1/22)

MVASI is a recombinant immunoglobulin G1 monoclonal antibody binding the vascular endothelial growth factor. Following comprehensive analytical characterization, MVASI was shown to be comparable to the reference product bevacizumab. It became one of the first therapeutic biosimilars approved by Health Canada for the treatment of all previously approved bevacizumab indications, including metastatic colorectal cancer (mCRC). This study aimed to characterize Canadian mCRC patients treated with MVASI and to describe the real-world safety and effectiveness of MVASI.

A retrospective observational chart review included adult patients who received ≥1 MVASI cycle as their first-line biologic treatment for mCRC. Baseline demographics and cancer characteristics were collected from medical records within six months of pre-MVASI initiation (index date). MVASI safety and effectiveness data collection spanned from index date to chart review date. The initial data described herein were collected approximately one-year post-MVASI availability; a second wave of data collection will include centers where MVASI has been available for approximately two years, thereby allowing for increased follow-up period. Patients with mCRC included in the first wave were generally representative of the Canadian mCRC population treated with first-line bevacizumab. Compared with other published Canadian studies, differences in patient characteristics included a longer period of first-line therapy initiation and a higher proportion of patients with RAS mutation. It is anticipated that upcoming additional observations from this study will refine the real-world profile of this patient population.

https://www.oncolinfroncology.org/article/so923-7534/2200809-2/fulltext

13. New Research Adds to Momentous Month for CRC Treatment (Jun.22/22)

Researchers at the University of California, San Diego recently published promising preclinical work on a new combination therapy to treat colon cancer. The team tested a combination treatment of a plant virus and an antibody that activates natural killer (NK) immune cells. The therapy eliminated all tumors and prevented recurrence, demonstrating 100% survival in a mouse model of colon cancer. They also tested it in mouse models of melanoma, which increased survival. The therapy leverages cowpea mosaic virus, a plant virus that infects legumes but is harmless to people and animals. It also utilized an antibody dubbed anti-4-1BB. Cowpea mosaic virus attracts NK cells to the tumor microenvironment. The antibody binds to receptors on the

Cowpea Mosaic Plant
cells and stimulates them out of their “immunosuppressed state.” Together, the virus and antibody attract more NK cells to tumors while enabling them to attack the cancer cells. While the combination therapy was most impressive in the colon cancer model, improvement was also seen in the melanoma model. Based on the data, more research is needed to understand whether this therapy is effective against a broad range of cancers, or whether the real potential is for intraperitoneal disseminated disease.

Image Source: https://www.eurekalert.org/news-releases/684238

SURGICAL THERAPIES

14. Hepatic Artery Infusion Pump (HAIP) Chemotherapy Program – Sunnybrook Odette Cancer Centre (Jul.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

15. Living Donor Liver Transplantation for Unresectable CRC Liver Metastases (Jul.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.

In LT-LT, a piece of healthy liver is surgically removed from a living donor and transplanted into the recipient, immediately after the recipient’s diseased liver has been entirely removed. The concept of LT-LT is based on (X) the remarkable regenerative capacity of the human liver and (ii) the availability of healthy liver for patients awaiting transplant.

Image Source: 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

**RADIATION THERAPIES/INTERVENTIONAL RADIOLOGY**

16. Study Offered at the Odette Cancer Centre to Treat Recurrent Rectal Cancer (Oct.9/21)

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 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

**SCREENING**

17. Trends in the Incidence of Young-Onset CRC with a Focus on Years Approaching Screening Age (Jul.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 jointpoint 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.

https://academic.oup.com/jnci/article-advanture/doi/10.1093/jnci/djaa220/6112947?guestAccessKey=af490637-e51e-44d0-81b8-d1f2d97b60c9

18. CRC: Screening Options and Potential Emerging Role for Pharmacists (Jul.1/22)

The pharmacists’ role in providing direct patient care and impacting health outcomes holds great potential. Today, pharmacists are perceived as a partner in care and can influence adherence to provider-prescribed treatment plans, such as prescription fulfillment and screenings. One example is the Kentucky Board of Pharmacy’s 2021 approval of the pharmacy protocol that specifies the criteria and procedures for a pharmacist to provide education and information specific to colorectal cancer (CRC). As part of the protocol, when appropriate, a pharmacist may initiate noninvasive, stool-based CRC screening with a customer by distributing a take-home fecal immunochemical test (FIT) or stool DNA test (e.g., SDNA-FIT)—making it even easier for patients to follow their health care providers’ recommended screening guidelines. CRC is treatable and preventable when caught early. Removing barriers to access and opening paths to prevention and detection

https://clinicaltrials.gov/ct2/show/NCT02528175?term=magnetic+resonance+guided+focused+ultrasound&recr=Open&rank=1
align with the pharmacists’ promise to advance health equity and embrace and advocate for changes that improve patient care.

Image Source: https://moffitt.org/endeavor/archive/confused-about-colon-cancer-screening/

19. Why Adults in Their 40s and 50s Need to Get Screened (Jul.8/22)

About 30% of colorectal cancer (CRC) diagnoses are in people under the age of 55 in the U.S. The message that screening colonoscopies save lives has clearly penetrated the older age groups. However, this message does not seem to be permeating clearly through the younger age groups. Over the past few years, the recommended age for CRC screenings was lowered from 55 to 45 in the U.S., but a more robust public health messaging push may be required to get more adults to the doctor’s office for these life-saving checkups.

Barriers to colorectal screening are complex. In the younger age group, who are the gainfully employed subset of the population, there may be an inability to take off work, cost, insurance coverage, lack of physician referrals, and attitudes and beliefs. While combined CRC screening rates for recommended age groups were 66%, the rates for people in low-income households were 56%. For those without insurance, it was even lower, at just under 40%. Developing and implementing a national screening policy with a standardized screening message that can be conveyed to patients is key. The importance of proactive screening initiatives in underserved areas cannot be understated.


OTHER

20. Young Adult CRC Clinic Available at Sunnybrook (Jul.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

21. CCRAN’s Partnership with “Count Me In” (Jul.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 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.

22. Patients and Caregivers Needed to Help Shape Early Research for a CRC Therapy (Jul.10/22)

The Project:
Site-specific immunomodulators (SiIs) 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. SiIs 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 SiIs 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 Karanastos (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 SiIs 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@oto.ca

23. Experts Are Alarmed as CRC Rates, Deaths Increase in Young People (Jun.29/22)

Despite declines in older people, colorectal cancer (CRC) rates and deaths among younger people have been rising at rates that have experts concerned and looking for answers. Perhaps most worrisome is the fact that younger people are being diagnosed with advanced CRC in increasing numbers. A recent study in the journal Cancer Epidemiology, Biomarkers & Prevention found that distant-stage CRC, or cancer that has spread to other parts of the body, is making up a rising proportion of diagnoses in young patients, particularly Hispanics and non-Hispanic Blacks in the U.S.

CRC rates should be low and stable. That’s why the United States Preventive Task Force changed guidelines to begin colon cancer screening at age 45. But that doesn’t help people younger than that. The authors of the study in Cancer Epidemiology, Biomarkers & Prevention concluded that in patients too young for screenings, “vigilant attention” must be paid to symptoms and comprehensive family histories should be taken so earlier screenings can be offered.


24. New Classification System Proposed for CRC to Guide Treatment and Clinical Trials (Jul.1/22)

A team of clinician-scientists and scientists, led by the National Cancer Centre Singapore (NCCS) and A*STAR’s Genome Institute of Singapore (GIS) together with collaborators in Europe and South Korea, used single cell techniques to uncover a central dichotomy for colorectal cancer (CRC) cells, leading to a proposed update of the classification system for the disease. These findings, published in Nature Genetics, have implications for drug development and treatment approaches in CRC.

The current classification systems for CRC do not adequately highlight the molecular underpinnings of the disease. The research team examined the malignant (epithelial) cell subtypes and defined their properties to understand their interactions with other cells using single cell profiling, so that they could accurately describe the heterogeneity of CRC. The team found that the malignant cells belong to two major epithelial subtypes, that they have termed intrinsic-consensus molecular subtypes (iCMS), consisting of iCMS2 and iCMS3, uncovering a central dichotomy that cut across previous classifications of CRC.

Colorectal cancer is widely classified by two systems, microsatellite instable (MSI-H) and microsatellite stable (MSS) CRC. CRC with MSI-H is considered to be very responsive to immunotherapy while MSS cancers are refractory to immunotherapy. Results showed one-third of MSS tumors were iCMS3 subtype and had cancer cells much more similar to MSI cancers rather than other MSS cancers. Understanding the similarities between MSI-H cancers and iCMS3 MSS cancers could lead to an identification of components that can be exploited to adapt and modify
immunotherapy regimens, that might work best in these patients with biology similar to MSI-H cancers. Conversely, understanding the distinct biology of iCMS2 MSS cancers could allow targeted drug development focused on this group of CRC. The research team plans to perform further analyses to characterize the biological properties, interactions and drug response of iCMS2 and iCMS3 cells, and also re-analyze data from clinical trials to identify differences in treatment response between these two cancer types.


25. CPEN Awards Nominations (Jul.14/22)

Have you or your colleagues excelled in cancer patient education?

Do you have new and innovative programs that have resulted in improved patient outcomes?

We want you to be recognized for your hard work! This is a reminder to consider nominating your team, your program, yourself, or a colleague for one of three awards offered by CPEN:

- **Founders Distinguished Service Award**
  
  As CPEN’s highest form of recognition, this award is given to a CPEN member for her/his outstanding contribution to the practice and profession of patient education.

- **Excellence in Cancer Patient Education**
  
  Recognizes any group or individual who has significantly contributed to cancer patient education and demonstrates health literacy best practices.

- **Rising Star Award**
  
  Recognizes a CPEN member with fewer than 10 years of patient education experience who demonstrates commitment to advancing the field of cancer patient education and/or is dedicated to supporting the needs of patients and caregivers.

To read more and submit a nomination, visit the link below. Nominations must be received by Friday, August 12, 2022.


**NUTRITION/HEALTHY LIFESTYLE**

26. The #1 Worst Drink for CRC (Jun.19/22)

Researchers from the Harvard TH Chan School of Public Health compared data about the incidence of colorectal cancer (CRC) and death from the disease to information about how much participants were consuming sugar-sweetened beverages (SSBs) and how much fructose was in their diet. Drinking these beverages was linked to a higher chance of getting proximal colon cancer (i.e., cancer in the first and middle parts of the colon) and of dying from those cancers, especially when the formation of the tumors is already well under way. While the researchers note that further studies are needed over long periods of time, sugary soft drinks certainly seem to worsen CRC tumors. The study also found that recent SSB consumption (in the past 10 years) was linked with increased risk in a way that past consumption was not. These results provide further support for current dietary guidelines and policies to limit SSB consumption to improve the health of the general population.

Image Source: https://soifdesante.ca/en/32/sugar-sweetened-beverages

27. Microbial Link Between Western-Style Diet and CRC Risk (Jun.27/22)

New research builds the case that a Western-style diet, rich in red and processed meat, sugar and refined grains/carbohydrates, is tied to higher risk of colorectal cancer (CRC) through the intestinal microbiota. Investigators from Brigham and Women’s Hospital with collaborators analyzed dietary patterns as well as DNA from Escherichia coli strains found in more than 1,000 colorectal tumors. The team looked for bacterial strains carrying a distinct genetic island known as polyketide synthase (pks). Pks encodes an enzyme that has been shown to cause mutations in human
cells. Overall, the team found that Western diet was associated with colorectal tumors containing high amounts of pks+ E. coli but not with tumors containing little to no amount of pks+ E. coli. This is the first study to link Western diet with specific pathogenic bacteria in cancer. Further research is needed to investigate which component of western-style diet and lifestyle relates to CRC containing this bacterial species.


28. Understanding How Diet and The Microbiome Impact CRC Rates (Jun.14/22)

Previous studies have shown that certain bacteria species present in the gut are associated with colorectal cancer (CRC). Researchers at the University of Cincinnati’s College of Medicine examined the relationship between bacteria in the fecal microbiota, or microbiome, and rates of CRC in younger populations. The microbiome is a term used for the collection of microbes, including microorganisms like bacteria, that live on or in the human body.

The research found two species of bacteria most closely associated with causing CRC were not found in higher levels among young patients, meaning these bacteria are unlikely to be responsible for increased cancer rates in young people. Five other bacteria were found in higher levels in young people, including one species that is associated with a sulfur microbial diet, or a diet that is both high in processed meats, low-calorie drinks and liquor and low in raw fruits, vegetables and legumes. While more research is needed, a tangible takeaway from the study is for young people to eat more raw fruits and vegetables and legumes and less processed meats in their diets.


29. Upcoming EXCEL Presentation: Living an ACTIVE Life With and Beyond CRC (Jul.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. This project will increase the accessibility of exercise programs for rural and remote cancer survivors. 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.

Join us on August 21st at CCRAN’s National Online Support Group Meeting to learn more about the benefits of physical activity for individuals living with and beyond colorectal cancer (CRC)), discuss tips for becoming and staying active, plan ahead to move more, and discover a wide range of free cancer-specific exercise resources or programs. The session will be led by Chad Wagoner, a Clinical Exercise Physiologist with the American College of Sports Medicine with a PhD in Human Movement Science from the University of North Carolina at Chapel Hill. His research centers around the development and evaluation of implementation for community-based exercise oncology programs in addition to examining the role of Clinical Exercise Physiologists within clinical cancer care to better connect those living with cancer to appropriate exercise oncology resources.

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
30. 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-acoronaviruses

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.
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 @CDCoB
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 @GovofNunavut, Twitter @GovofNunavut, Instagram @govnunavut
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