The following colorectal cancer treatment and research updates extend from February 17\textsuperscript{th}, 2022, to March 17\textsuperscript{th}, 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.

**CONTENT**

**DRUGS / SYSTEMIC THERAPIES**

1. Phase II LEAP Clinical Trial to Treat mCRC
2. TRK Fusion Cancer and How to Test for It
3. A Phase II, Open-Label, Multicentre, Study of an Immunotherapeutic Treatment for the MSI High CRC Metastatic Population
4. Phase III Study at the Odette Cancer Centre Comparing Arfolitixorin vs. Leucovorin: Both in Combination with SFU, Oxaliplatin, and Bevacizumab in Patients with Advanced CRC
5. Phase I/II trial of encorafenib, cetuximab and nivolumab in patients with MSS BRAFV600E mCRC – ASCO GI 2022 Update

**SURGICAL THERAPIES**

6. Hepatic Artery Infusion Pump (HAIP) Chemotherapy Program – Sunnybrook Hospital
7. Living Donor Liver Transplantation for Unresectable CRC Liver Metastases

**RADIATION THERAPIES/INTERVENTIONAL RADIOLOGY**
8. Study Offered at the Odette Cancer Centre to Treat Recurrent Rectal Cancer
9. Short- vs. long-course chemoradiation in TNT – An Update from ASCO GI 2022

SCREENING

10. Trends in the Incidence of Young-Onset CRC with a Focus on Years Approaching Screening Age
11. Screening: Key to Finding Colon Cancer and Preventing Death

OTHER

12. Young Adult CRC Clinic Available at Sunnybrook Hospital
13. CCRAN’s Partnership with “Count Me In”
14. Antibiotic Use Linked to Colon Cancer Risk in Younger People
15. CRC Striking More and More Women and Young People
16. Study Finds Taller Adults May Be at Increased Risk for CRC

NUTRITION/HEALTHY LIFESTYLE

17. Can Diet and Lifestyle Habits Be Used to Predict Cancer Recurrence and Death in Patients with Colon Cancer?
18. Exercise Linked to Better Life with CRC
19. Could Sugary Drinks Be to Blame for the Rise in CRC Among Younger Adults?

COVID-19 UPDATES

20. How Effective are COVID Vaccines Against Omicron?
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_loc=Y#locn

2. TRK Fusion Cancer and How to Test for It (Feb.16/21)
Tumour-Agnostic Therapies

Advances in precision medicine have brought therapies that specifically target what is driving a patient’s cancer.

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

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

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

Advantages of tumour agnostic therapies:

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

Change required to adopt tumour agnostic therapies in Canada:

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

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

5. Phase I/II trial of encorafenib, cetuximab and nivolumab in patients with MSS BRAFV600E mCRC – ASCO GI 2022 Update (Mar.-4/22)

Based on the findings from the landmark BEACON CRC trial, the combination therapy of Encorafenib + cetuximab was approved (FDA, Health Canada) for the treatment of patients with BRAFV600E-mutated metastatic colorectal cancer (mCRC). BRAFV600E mutations do not occur frequently in CRC (present in approximately 10% of CRCs), but they confer a poor prognosis to patients. Since these patients do not respond well to standard therapies such as chemotherapy, the combination therapy fulfilled an unmet need for more effective treatment options. A recent phase I/II trial (NCT04017650) aimed to explore the efficacy of adding immunotherapy to the above-mentioned combination therapy of encorafenib and cetuximab for patients with BRAFV600E mCRC. The patients who were included in the study specifically had microsatellite stable (MSS) tumours, an indication, on its own, that they are unlikely to respond to treatment with immunotherapy. However, in preclinical trials, the researchers found that treatment with a BRAF inhibitor (Encorafenib) and an EGFR inhibitor (cetuximab) for patients with MSS BRAFV600E mCRC caused a switch from microsatellite stable status to microsatellite instability high (MSI-H) status, which is a predictor for positive response to immunotherapy. As such, the researchers aimed to test this novel combination of immunotherapy plus targeted therapies in this patient subgroup. Microsatellite instability high (MSI-H); a biomarker that describes the condition of a tumour having a high likelihood of developing mutations, resulting from impaired DNA mismatch repair (MMR). A tumour that is MSI-H is characterized by a high number of mutations. This biomarker is present in about 5% of CRCs and is a predictor for positive response to immunotherapy. Microsatellite stable (MSS); a biomarker that describes the condition of a tumour having a normally functioning DNA mismatch repair (MMR). The majority (95%) of CRCs are MSS. MSS tumours are characterized by low “detectability” by the body’s immune system, which means that these tumours are not responsive to immunotherapy. The study patients with MSS BRAFV600E mCRC who had received one or two previous lines of therapy but no prior immunotherapy were enrolled in the study. The triplet combination of immunotherapy (nivolumab) plus encorafenib and cetuximab proved to be an effective and promising treatment in the context of the previously reported results from the BEACON study, resulting in a 50% overall response rate, with all patients achieving at least a partial response. The disease control rate was 96% among the 22 patients enrolled in the study. Furthermore, the combination therapy was well tolerated by patients with no toxicities that caused patients to need to stop treatment. A phase II trial (SWOG 2107) to evaluate this combination of
targeted therapies with or without nivolumab in a larger BRAFV600E MSS mCRC patient population across the US is currently underway. The researchers concluded that the findings from this phase I/II clinical trial showed that the addition of immunotherapy (nivolumab) to the combination of targeted therapies Encorafenib and cetuximab produced a high response rate and an acceptable safety and toxicity profile among patients with previously treated, microsatellite stable, BRAF V600E-mutated metastatic colorectal cancer.


SURGICAL THERAPIES

6. Hepatic Artery Infusion Pump (HAIP) Chemotherapy Program – Sunnybrook Odette Cancer Centre (Oct.15/21)

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

Presently at Sunnybrook Odette Cancer Centre, HAIP is being used in patients with colorectal cancer that has spread to the liver that cannot be removed surgically and has not spread to anywhere else in the body. Patients who have few (1-5) and very small tumors in the lungs may be considered if the lung disease is deemed treatable prior to HAIP.

If you believe you may benefit from this therapy and/or would like to learn more about the clinical trial, your medical oncologist or surgeon may fax a referral to 416-480-6179. For more information on the HAIP clinical trial, please click on the link provided below.

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

7. Living Donor Liver Transplantation for Unresectable CRC Liver Metastases (Oct.1/21)

Approximately half of all colorectal cancer (CRC) patients develop metastases, commonly to the liver and lung. Surgical removal of liver metastases (LM) is the only treatment option, though only 20-40% of patients are candidates for surgical therapy. Surgical therapy adds a significant survival benefit, with 5-year survival after liver resection for LM of 40-50%, compared to 10-20% 5-year survival for chemotherapy alone. Liver transplantation (LT) would remove all evident disease in cases where the colorectal metastases are isolated to the liver but considered unresectable.

While CRC LM is considered a contraindication for LT at most cancer centers, a single center in Oslo, Norway demonstrated a 5-year survival of 56%. A clinical trial sponsored by the University Health Network in Toronto will offer live donor liver transplantation (LDLT) to select patients with unresectable metastases limited to the liver and are non-progressing on standard chemotherapy. Patients will be screened for liver transplant suitability and must also have a healthy living donor come forward for evaluation. Patients who undergo LDLT will be followed for survival,
disease-free survival, and quality of life for 5 years and compared to a control group who discontinue the study before transplantation due to reasons other than cancer progression.

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

RADIATION THERAPIES/INTERVENTIONAL RADIOLOGY

8. 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

9. Short- vs. long-course chemoradiation in TNT (total neoadjuvant treatment) – An Update from ASCO GI 2022 (Mar.4/22)

In Locally Advanced Rectal Cancer (LARC) that has high-risk features (i.e. higher tumour stage, presence of tumour cells in the surrounding lymphatic and vascular systems), total neoadjuvant therapy (TNT) is the clear standard of care due to the increased disease-free survival (DFS) benefit associated with this treatment approach compared to neoadjuvant chemoradiation alone (chemoradiation delivered before surgery). However, in the key trials that provided the evidence to support the use of TNT in patients with LARC (RAPIDO and PRODIGE 23 trials), there was no indication as to whether short-course or long-course radiation was preferred. In several randomized controlled trials, it was shown that short-course and long-course radiation produced similar disease control rates, with comparable safety and toxicity. Overall, patients tend to prefer short-course radiation as it means less hospital time, and less time away from work and family. Compared to long-course radiation, short-course radiation shortens overall treatment time by about a month, which is a definite advantage especially during the COVID-19 pandemic. However, when a non-surgical watch-and-wait approach is desired by the patient, despite similar pathologic control rates there is a tendency among cancer centres to lean towards long-course chemoradiation as there is more data available on the use of long-course chemoradiation in a non-surgical approach. Both short-course and long-course chemoradiation are reasonable and evidence-based radiation therapy options for TNT in patients with locally advanced rectal cancer (LARC). For most patients with LARC, short-course chemoradiation will give equal results to long-course chemoradiation and is preferred due to financial and logistical reasons. However, in a watch and wait approach, long course radiation is preferred by many centres due to a more clinical data despite very comparable response rates to short-course chemoradiation.


SCREENING
10. Trends in the Incidence of Young-Onset CRC with a Focus on Years Approaching Screening Age (Apr.10/21)

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.

https://academic.oup.com/jnci/advance-article/doi/10.1093/jnci/djaa220/6119347?guestAccessKey=af490637-e51e-44d0-81b9-d1f2df7b60c9

11. Screening: Key to Finding Colon Cancer and Preventing Death (Mar.4/22)

It’s the second leading cause of cancer deaths in U.S. men and women combined, but regular screening for colorectal cancer (CRC) is key to preventing deaths. Screening allows for early detection of signs of CRC, when it’s easier to treat and prevent. About a year ago, the screening age for the general public — referring to those at an average risk — dropped to 45. Those at high risk should ask their doctor about whether to start screening earlier.

While there is no sure way to prevent CRC, there are certainly ways to lower your risk;
- high fiber diet
- exercise (regular 30 minutes a day, 5 days a week)
- limit red and processed meats
- drink less alcohol
- avoid smoking

https://www.nbc11news.com/2022/03/04/screening-key-treating-colon-cancer-preventing-death/
Image Source: https://health.clevelandclinic.org/colorectal-cancer-screening-methods/

OTHER

12. Young Adult CRC Clinic Available at Sunnybrook (Oct.12/21)

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:

OTHER
• 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

13. CCRAN’s Partnership with “Count Me In” (Nov.1/21)

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 180 people from across the US & CA have said "Count Me In" to join the Colorectal Cancer Project. By sharing information via surveys and access to medical records & samples, patients can have an impact on the future of colorectal cancer. Learn more at JoinCountMeIn.org/Colorectal


14. Antibiotic Use Linked to Colon Cancer Risk in Younger People (Mar.1/22)

The term gut microbiome refers to the collection of microorganisms living in the gastrointestinal tract. These microorganisms have many functions that contribute to optimal health. Scientists believe that many diseases are linked to a shift away from the healthy balance of these organisms. Antibiotics can disrupt this balance of the gut microbiome, which can lead to the over- or underproduction of certain chemicals that experts believe to be important for regulating the immune system. Anti-anaerobic drugs kill anaerobic bacteria — those that do not need oxygen to live. These bacteria make up the vast majority of the human gut microbiome. This imbalance may even contribute to the development of some cancers.

A UK study, whose findings appear in the British Journal of Cancer, identified a link between antibiotic use and the risk of developing colon cancer before 50 years of age. This link was stronger in younger people. Using routine 1999–2011 data from across Scotland, the scientists found 7,903 people with a colorectal cancer (CRC) diagnosis and matched them to 30,418 people who did not have a cancer diagnosis. They split data into two groups: early onset and late onset. Those in the first group received their diagnosis before reaching 50 years of age, whereas those in the late onset group were 50 years old or older at the time of diagnosis. There were 445 people in the early onset group and 7,458 in the late onset group. Overall, antibiotic use was associated with an estimated 49% higher risk of colon cancer in those younger than 50 years and an estimated 9% higher risk in those aged 50 years and over. Antibiotic use was not significantly associated with an increased risk of rectal cancer in either of the age groups. Also, the risk did not seem to be linked to the duration of the antibiotics course. Anti-anaerobic antibiotics had an association — although not a statistically significant one — with an increased risk of colon cancer in both age groups. Non-anti-anaerobic antibiotics did have a statistically significant difference in CRC risk in the younger age group but not in the older age group. While there isn’t enough evidence to conclude that antibiotics are definitely increasing people’s risk, it provides another piece of the puzzle. The study authors say it is likely that the antibiotic-associated changes in the microbiome disrupt the gut bacteria that usually stimulate the immune system. This disruption may encourage pathogenic, or disease-causing, bacteria to move in. This recolonization is likely to be carcinogenic. In other words, it is not the antibiotics that are carcinogenic, but the changes in gut flora that occur following their use. An understanding of which antibiotics might increase the risk, how this happens, and how much they increase risk by, is thus required.
15. CRC Striking More and More Women and Young People (Mar.4/22)

The incidence of colorectal cancer (CRC) has been rising in people under the age of 45 for the past 30 years, according to a report released during Colorectal Cancer Awareness Month. Experts are at a loss to explain the increase, but diet, inflammation and the microbiome, or a combination of all three, may be involved.

The main symptoms of CRC include:
- unexplained changes in bowel habits (i.e., diarrhea or constipation)
- changes in the size or shape of the stool
- blood in or on the stool (ranging from bright red to dark black)
- persistent abdominal pain or discomfort
- unexplained weight loss

Dr. Carole Richard, chief of digestive surgery at Montreal’s CHUM hospital centre, explained that primary care physicians must be alert to different symptoms that even the youngest patients now have. Using the example of a young patient complaining of rectal bleeding, she notes that the first instinct and likelihood is that it is going to be a benign condition (i.e., hemorrhoidal problems). Dr. Richards concludes that physicians must be vigilant.

16. Study Finds Taller Adults May Be at Increased Risk for CRC (Mar.4/22)

A new meta-analysis, and the largest one to date, adds to evidence that taller adults may be more likely than shorter ones to develop colorectal cancer (CRC) or colon polyps that can later become malignant. It is important to note that the study does not prove causal effect, nor that taller stature is as dominant a risk factor as age or genetics. Instead, the study strengthens long-observed links between taller stature and CRC risk.

The researchers first identified 47 international, observational studies involving 280,660 cases of CRC and 14,139 cases of colorectal adenoma. They also included original data from the Johns Hopkins Colon Biofilm study, which recruited 1,459 adult patients undergoing outpatient colonoscopies to explore the relationship between cancer and bacteria on the walls of the colon, known as biofilm. Because the definition of tallness is different around the world, the Johns Hopkins team compared the highest vs the lowest height percentile of various study groups. The findings suggest that, overall, the tallest individuals within the highest percentile of height had a 24% higher risk of developing CRC than the shortest within the lowest percentile. Every 10-cm / 4 in increase in height was found to be associated with a 14% increased risk of developing CRC and 6% increased odds of having adenomas. One possible reason for the link is the correlation between adult height and body organ size. Where there is more active proliferation in organs of taller people, there is an increased probability of mutations leading to malignant transformation.

Although not directly comparable because of the difference in measurement scale, tallness may impart an order of magnitude of colorectal cancer risk similar to better-known modifiable factors such as cigarette smoking, moderate alcohol consumption, and high intake of processed red meat. Currently, gastroenterologists focus on genetic and age-related risks for recommending CRC screenings, often neglecting height. More research is needed before it can be confirmed at what height one would need earlier CRC screening.

17. Can Diet and Lifestyle Habits Be Used to Predict Cancer Recurrence and Death in Patients with Colon Cancer? (Mar.4/22)
developed predictive models based on the clinical, pathologic, diet and lifestyle characteristics of patients with colon cancer to estimate their 5-year DFS and OS. Among the 1,024 patients included in the study, there were 394 disease recurrences and 311 deaths after an average follow-up of 7.3 years. The researchers found that adding patient-reported diet and lifestyle factors to the clinical and pathologic characteristics meaningfully improved the prediction of patient outcomes. Taking favourable diet and lifestyle factors into consideration, such as increased physical activity, improved 5-year DFS of all patients and improved 5-year DFS by 6.3% for patients with good-risk clinical and pathologic features, 21.4% for patients with average-risk clinical and pathologic features, and 42.6% for patients with poor-risk clinical and pathologic features. In other words, improvements to diet and lifestyle factors became increasingly important to improving 5-year DFS as clinical and pathologic features worsened.

Diet and lifestyle factors can inform prediction models for recurrence and survival outcomes among patients with stage III colon cancer. These models could serve as important tools to predict patients’ personalized survival outcomes. Through diet and lifestyle changes, patients can work together with their clinicians to meaningfully impact their cancer outcomes.

18. Exercise Linked to Better Life with CRC (Feb.17/22)

Colorectal cancer (CRC) patients who exercised (and stuck to it) experienced an improvement in their functional capacity and quality of life (QoL), a meta-analysis suggested. Researchers examined qualitative data on 372 CRC patients from 11 randomized controlled trials (RCTs) across three types of exercise intervention (home-based, supervised, or mixed) who were compared to 334 CRC patients not enrolled in an exercise intervention. In a pooled analysis of the 11 studies, six showed a supervised or mixed exercise intervention had a significant effect on CRC patients, while five showed home-based interventions just missed significance for impact. However, a sensitivity analysis showed significant benefit to all three types of interventions both for functional capacity and QoL among those who adhered the closest — completing 80% or more of their sessions. They concluded that such results do not necessarily imply that low physical intervention adherence for this population does not provide any benefits. However, the higher the adherence, the higher are the chances of acquiring benefits in the QoL and functional capacity.

19. Could Sugary Drinks Be to Blame for the Rise in CRC Among Younger Adults? (Feb.16/22)

While the reason behind the spike in colorectal cancer (CRC) cases is not known conclusively, experts suspect the foods we eat play a large role. Researchers analyzed health data collected from tens of thousands of female nurses 1991 and 2015 with a focus on the effect of sugar-sweetened beverages over time. They found that adult women who drank two or more 8-ounce sugary drinks a day had more than twice the risk of developing CRC before age 50 than people who drank less than one. The risk increased 16% with each daily serving. For women who regularly consumed sugary drinks in their teens, the risk was even greater, at 32% per serving.

To understand the mechanism behind this, Dr. Lewis Cantley and his team at the Dana-Farber Cancer Institute in Boston gave mice, predisposed to cancer polyps, a small dose of sugary water each day. The sugar caused polyps to grow much larger, without causing an insulin resistance or obesity. Cantley’s research finds it is the combination of glucose and fructose, usually found in sugary drinks, that efficiently feeds the polyp. The glucose that would normally be stored in the polyps is diverted into making fats and proteins as fructose enters alongside it, driving polyp growth. More research is needed to translate this finding to people. As research continues into the causes of CRC and the role sugary drinks may play, experts say transitioning away from processed foods, sugar and regularly exercising are important steps in prevention.
COVID-19 UPDATES

20. How Effective are COVID Vaccines Against Omicron? (Mar.14/22)

Omicron is spreading rapidly across the globe, and researchers are trying to gauge how vaccines are holding up against this latest variant of the coronavirus. So far, one- or two-dose vaccines provide far less protection than those paired with a booster, but they still do appear to protect against severe disease. Current figures indicate that vaccines offer 30-40% protection against Omicron infection and around 70% protection against hospitalization without boosters. Newer research is showing that full vaccination plus a booster shot provide stronger protection against infection with Omicron. Data confirms that a third dose increases antibody production and may boost effectiveness against infection to about 75% and as much as 99% for severe disease.

Although there is a great degree of protection, the Omicron variant can evade the protection of vaccines to a degree. This translates to more breakthrough infections, most of which are mild, but more serious in those who have organ transplants, are immunocompromised, or are on chemotherapy. Thus, it is important that people who’ve had two doses of the mRNA vaccine receive a booster as quickly as possible. To date, it is the most effective method for restoring protection.

https://www.healthline.com/health-news/by-the-numbers-covid-19-vaccines-and-omicron?slot_pos=article_1&utm_source=Sailthru%20Email&utm_medium=Email&utm_campaign=daily&utm_content=2022-03-15&apid=35071678&rvid=f0f57ada60cbcff8355009cb5e3a7d953ab892aca30a377e264fc111a7cfb4#key-takeaways


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 @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 @santeqc
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