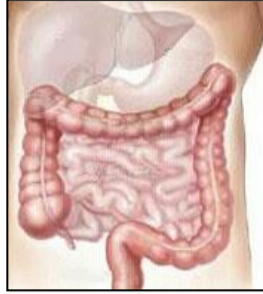


## COLORECTAL CANCER RESEARCH UPDATES Month Ending May 24<sup>th</sup>, 2013



The following colorectal cancer research update extends from April 20<sup>th</sup>, 2013 – May 24<sup>th</sup>, 2013 inclusive and is intended for informational purposes only.

### CONTENT

#### **DRUGS / SYSTEMIC THERAPIES**

1. Genes May Predict Onset of Peripheral Neuropathy
2. Regorafenib May Be Successful in mCRC When Side Effects Are Proactively Managed
3. Avastin & Flesh-Eating Disease
4. Erbitux and Vectibix Compared in Colorectal Cancer Trial
5. Statins Linked to Better Chemoradiotherapy Response Among Rectal Cancer Patients

#### **SURGICAL THERAPIES**

6. Radical Resection Trumps Local Excision in Stage I CRC
7. Surgery Extends Life for Metastatic Colorectal Cancer Patients
8. Surveillance Colonoscopy After Colorectal Cancer Resection May Be Safely Delayed

#### **SCREENING**

9. Primary Care Counseling Ups Colorectal Cancer Checks

#### **PSYCHOSOCIAL**

10. Depression Tied To Early Death in Cancer Survivors

#### **OTHER**

11. Low Undetected Colorectal Cancer Risk Among Patients with Ulcerative Colitis
12. Previstage GCC Colorectal Cancer Staging Test

#### **NUTRITION / HEALTHY LIFESTYLE**

13. Female Smokers and Colon Cancer Risk
14. Sleep Duration Associated with Higher Colorectal Cancer Risk
15. Glucosamine & Chondroitin Studied for Colon Cancer Risk
16. More Exercise Leads to Longer Life
17. High Fibre Does Not Reduce Colorectal Cancer Risk
18. Milk Associated with Reduced Colorectal Cancer Risk
19. Vitamin D Protects From Cancer
20. Obese Women Run Higher Colorectal Cancer Risk
21. Coffee and Cancer
22. Link Between Diet and Colorectal Cancer

**1. Genes May Predict Onset of Peripheral Neuropathy** (Apr.23/13)

Mayo Clinic researchers have reported that they've found that patients with mutations in *three specific genes* were more likely to suffer peripheral neuropathy from chemotherapy. Currently, doctors have no way to predict who will have the side effect, how severe it will get, nor how long it will last. At the recent meeting of worldwide cancer researchers (AACR, or American Association of Cancer Researchers), scientists described how they studied more than 20,000 specific genes in 119 patients—over half of whom had developed peripheral neuropathy during chemotherapy. They pinpointed three genes, in which mutations were clearly associated with developing neuropathy. Their next step will be to expand their study of the entire genome in as many as 1000 patients. The ultimate goal would be to use these types of genetic clues to potentially predict which patients might suffer side effects from specific drugs. The study, which implicates the genes **EPHA5, ARHGEF10, and PRX**, is the first to mine large swaths of the human genome for predictors of chemotherapy side effects. Further research into these genes and others may enable clinicians to use genomic information to more safely deliver these potentially toxic treatments.

<http://www.mayoclinic.org/news2013-rst/7407.html>  
<http://fightcolorectalcancer.org/taq/genetics>

**2. Regorafenib May Be Successful in mCRC When Side Effects Are Proactively Managed** (Apr.26/13)

Adverse events (AEs) associated with regorafenib, indicated for the treatment of metastatic colorectal cancer, are manageable if a proactive strategy is applied that includes prophylactic treatment and education for the patient, caregiver, and healthcare provider. The U.S. Food and Drug Administration approved regorafenib (Stivarga®), an oral multikinase inhibitor, in September 2012 for patients with metastatic colorectal cancer previously treated with:

- chemotherapy (fluoropyrimidine, oxaliplatin and irinotecan),
- anti-VEGF therapy, and,
- if KRAS wild-type, anti-EGFR therapy (such as erbitux and vectibix).

Health Canada approved the drug in March 2013. The approval was based on the CORRECT trial, which demonstrated significantly higher rates of overall and progression-free survival for regorafenib versus placebo. While regorafenib showed an acceptable safety profile, patients experienced AEs such as:

- hand-foot skin reaction,
- hypertension,
- fatigue,
- diarrhea and
- oral mucositis.

And some patients showed an elevation of liver enzymes (AST and ALT) and hyperbilirubinemia (elevated bilirubin). However, the overall discontinuation rate for treatment-related adverse events for patients receiving regorafenib was low (8.3% [n=505 patients] vs 2.7% [n=255 patients] for placebo), suggesting many AEs can be managed. Oral anticancer agents represent an adherence and persistence challenge for patients who also may frequently experience treatment-related AEs, leading to discontinuation. To maximize adherence of patients with metastatic colorectal cancer taking regorafenib, the study took a strategic, proactive approach to AE management that included education and reinforcement as well as frequent clinic visits soon after treatment initiation. They found that hand-foot skin reaction occurs early during treatment and can be prevented or managed by prophylactic strategies including the use of emollient or keratolytic creams, removal of calluses, and proper protection of joints and pressure points. In addition, serious liver abnormalities, which were observed in a small proportion of patients, should be monitored frequently in the first two cycles of treatment so that dosing can be adjusted if necessary. The study concluded that “proactive AE management may improve the patient's treatment experience and maximize patient adherence, allowing patients to continue their regorafenib therapy with minimal interference in their daily lives.”

<http://www.oncologynurseadvisor.com/full-clinical-benefits-of-regorafenib-in-mcrc-attainable-when-aes-are-proactively-managed/article/290667/>

**3. Avastin & Flesh-Eating Disease** (May 3/13)

Necrotizing fasciitis, also known as flesh-eating disease, has been found in 52 patients who took cancer drug Avastin from November 1997 to September 2012, reported *The Globe and Mail*. Avastin is used to treat colorectal cancer, lung cancer, and brain cancer, both alone and in combination with other chemotherapeutic agents. So far, 17 people worldwide taking Avastin who developed necrotizing fasciitis have died, said *The Globe and Mail*. Health Canada, the division of the Canadian government

responsible for public health, and Avastin's maker Roche jointly issued a notice to the Canadian public and medical professionals warning of the possible risks and symptoms. The U.S. Food and Drug Administration (FDA) issued a similar notice in March, added *The Globe and Mail*. But given that more than one million patients have taken Avastin in the same timeframe as the 52 cases of necrotizing fasciitis, the risk is **small** and the drug is not being recalled. Most of the patients who developed flesh-eating disease had colorectal cancer. Twenty-one of the 52 had gastrointestinal perforation, fistula formation or wound-healing complications, according to the Health Canada notice. Roche added that patients with compromised immune systems or diabetes are at a higher risk for developing necrotizing fasciitis. The flesh-eating disease is caused by a bacterium called *Streptococcus pyogenes*.

<http://www.medicaldaily.com/articles/15152/20130503/cancer-drug-avastin-increase-risk-necrotizing-fasciitis.htm>

#### 4. **Erbix and Vectibix Compared in Colorectal Cancer Trial** (May 4/13)

Amgen announced that its Phase 3 trial ASPECCT ('763), evaluating Vectibix (panitumumab) vs. Erbitux (cetuximab) as monotherapy for the treatment of chemo-refractory metastatic colorectal cancer (mCRC), met its primary endpoint of **non-inferiority** for overall survival in patients with wild-type KRAS tumors. ASPECCT is a global, randomized, parallel assignment, open-label, Phase 3 non-inferiority trial (N=1,010 patients) evaluating the effect of Vectibix vs. Erbitux on overall survival for mCRC in patients with wild-type KRAS tumors. Patients were randomized in a 1:1 ratio to receive either intravenous Vectibix 6mg/kg every 14 days or intravenous Erbitux 400mg/m<sup>2</sup> starting dose followed by 250mg/m<sup>2</sup> every seven days. Vectibix, a human anti-epidermal growth factor receptor (EGFR) antibody is approved for the treatment of metastatic colorectal carcinoma with disease progression on or following fluoropyrimidine-, oxaliplatin-, and irinotecan-containing chemotherapy regimens. Erbitux, an epidermal growth factor receptor (EGFR) antagonist is approved for KRAS mutation-negative (wild-type), EGFR-expressing metastatic colorectal carcinoma in combination with FOLFIRI (irinotecan, 5-fluorouracil, leucovorin) for third-line treatment, or in combination with irinotecan (if refractory to irinotecan-based chemotherapy), or as a single agent (after failure of both irinotecan- and oxaliplatin-based regimens or if irinotecan-intolerant).

<http://www.empr.com/egfr-antagonists-go-head-to-head-in-colorectal-cancer-trial/article/292435/#>

#### 5. **Statins Linked to Better Chemoradiotherapy Response Among Rectal Cancer Patients** (May 13/13)

Patients with rectal cancer experienced improved pathologic response to neoadjuvant (pre-surgical) chemoradiotherapy when using statins in a study presented at the American Society of Colon and Rectal Surgeons Annual Meeting in Phoenix. Researchers evaluated 407 patients with rectal cancer who underwent preoperative neoadjuvant chemoradiotherapy between 2000 and 2012 at a single medical institution, including 99 patients also on statin therapy upon treatment initiation. Pathological response to chemoradiotherapy was assessed with a grade of 0 indicating complete response, 1 indicating the presence of individual or small groups of tumor cells, 2 "residual cancer outgrown by fibrosis" and 3 "extensive residual cancer." The pathways that were uncovered were involved with lipid metabolism, suggesting that too much lipid might be associated with worse outcomes. Also, there has been some recent data in other cancer types that statin therapy improves outcome for patients being treated with chemotherapy. Therefore, researchers decided to review their experience of rectal cancer patients that were on a lipid-lowering drug during chemoradiation treatment. Statin users were older and had a significantly higher BMI than nonusers. Response to therapy, defined as an AJCC grade of 0-2, occurred more frequently among users (88.9% vs. 80.2%), as did stronger response, defined as an AJCC grade of 0 or 1 (65.7% vs. 48.7%). Tumor size, distance from anal verge and cancer stage did not differ significantly according to statin use. "Statin use during neoadjuvant chemoradiation in rectal cancer is associated with improved pathological response in this retrospective study," the researchers concluded. "This data encourages design of [a] prospective investigation combining statins and neoadjuvant chemoradiation as a way of potentially improving patient response."

*Mace AG. S73: Statin Therapy Is Associated With Improved Pathologic Response to Neoadjuvant Chemoradiotherapy in Rectal Cancer. Presented at: The American Society of Colon and Rectal Surgeons Annual Meeting 2013; April 27–May 1, Phoenix.*

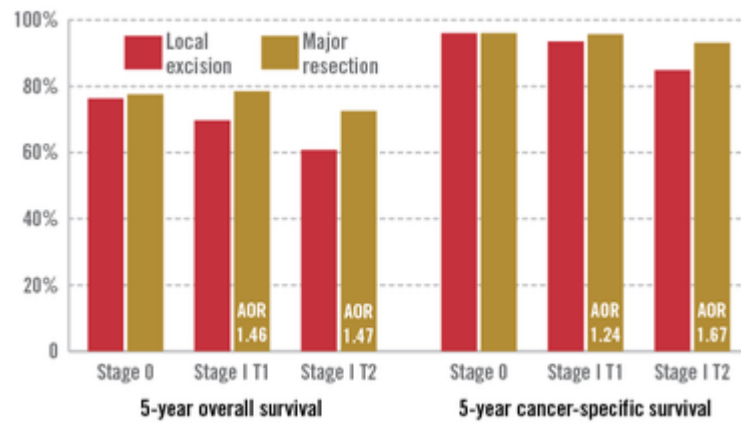
## **SURGICAL THERAPIES**

#### 6. **Radical Resection Trumps Local Excision in Stage I CRC** (Apr.16/13)

Local excision of early invasive stage I colon or rectal cancer confers significantly worse 5-year overall and cancer-specific survival than does radical resection, according to an analysis of a large national database. This was true for stage I T1 and T2 disease; that is, for patients with tumor invading the sub-mucosa as well as for those with tumor invading the muscularis propria of the colorectum. In contrast, 5-year survival rates were equivalent with local excision compared with radical resection in patients with stage 0 disease, also known as carcinoma in situ. Researchers recommend that it is safe to perform local excision for stage 0 lesions – that is, carcinoma in situ or severely dysplastic polyps. Refined selection criteria for T1 cancers are required and should be the focus of further research. The use of local

excision as a definitive treatment should be carefully considered for patients with T2 colorectal cancer, especially when treating younger, fit patients.

### 5-year outcomes in early colorectal cancer



Notes: Based on data from 43,494 patients in the SEER database. AOR = adjusted odds ratio.  
Source: Dr. Bhangu IMNG Medical Media

Seventy percent of patients had colonic cancers, 30% rectal. Stage 0 cancers were present in 8.2%, while 91.8% of patients had stage I cancers, 51% of which were T1, 49% T2. Eighteen percent of subjects underwent local excision, while the rest had major resections. Five-year overall survival was nearly an absolute 8% better in patients with stage I disease treated by radical resection.

<http://www.internalmedicineneews.com/single-view/radical-resection-trumps-local-excision-in-stage-i-crc/b6020a06ad4da8be51adb61e759165df.html>

### 7. Surgery Extends Life for Metastatic Colorectal Cancer Patients (Apr.25/13)

Individuals with colorectal cancer that has metastasized to the liver or lung live longer after curative surgery plus chemotherapy than their counterparts who receive palliative chemotherapy alone, report researchers. The findings should encourage the use of palliative surgery in this population rather than relying on chemotherapy as the standard approach. Younger patients and those with two or fewer metastases showed the greatest benefit in survival with palliative resection, suggesting the need for careful selection of patients who receive this treatment. "Clearly, only patients who would benefit from palliative resection should be considered for this procedure," report researchers. The team analyzed data for 1015 mCRC patients aged 16 to 88 years who were treated between 2000 and 2009 and had an overall survival (OS) time of 21 months. The most common site for metastatic disease was the liver, at 58%. In all, 168 (16.5%) patients underwent a metastasectomy with curative intent; on the liver in 86% of cases and on the lung in 16%. Median OS was 83 months. A total of 158 (94%) of these patients received chemotherapy after their surgery. Researchers report a significant difference in the median progression-free survival time for those who received surgery in addition to chemotherapy, at a respective 7.7 versus 6.6 months for those who did not receive surgery. The median OS among patients who received palliative resection was significantly longer than that for patients who did not, at 21.4 versus 14.1 months, respectively. Of the remaining patients who did not undergo surgery, 87% were treated with chemotherapy, with oxaliplatin the most commonly used agent.

Kim, Tae-You, et al., *The beneficial effect of palliative resection in metastatic colorectal cancer. British J of Cancer. 108, 1425-1431.*

### 8. Surveillance Colonoscopy After Colorectal Cancer Resection May be Safely Delayed (May 2/13)

The time between colorectal cancer resection and the first postoperative surveillance colonoscopy may be safely extended beyond the current recommendation of 1 year, according to data presented at the American Society of Colon and Rectal Surgeons Annual Meeting in Phoenix. Researchers evaluated 151 patients (mean age, 68 years) who had undergone segmental colectomy or proctectomy between 2002 and 2010. Procedures included right colectomy (51.7% of cases), low anterior resection (21.2%), sigmoid colectomy (18.5%), left colectomy (7.3%) and transanal resection (1.3%). All participants received preoperative and one or more postoperative colonoscopies, with a mean time of 460 ± 285 days between surgery and postoperative colonoscopy. Incidence of new cancer or polyps of 1 cm or larger observed on postoperative colonoscopy was recorded. Stage 0 cancer was present in 2.6% of the cohort; 30.5% had stage I, 33.8% had stage II, 27.8% had stage III and 5.3% had stage IV cancers. Adenomatous polyps were observed upon initial surveillance colonoscopy in 24 cases, including seven with polyps of 1 cm or larger. New cancer was undetected, but investigators said four patients experienced anastomotic recurrence, most often (75% of cases) among those who underwent rectal resection. No significant correlations were observed between cancer stage and either polyps on colonoscopy or recurrence. "In our institution, performing surveillance colonoscopy at 1 year resulted in the detection of only seven missed polyps [of 1 cm or larger] and no missed synchronous cancers," the researchers wrote. "Anastomotic recurrences were rare and the vast majority was in the rectum, which could be evaluated by an in-office flexible sigmoidoscopy. Extending the time to first colonoscopy after resection may be safe, and would help conserve valuable resources including physician and facility time."

## SCREENING

### 9. Primary Care Counseling Ups Colorectal Cancer Checks (Apr.29/13)

Any consultation with a primary care physician and one that includes a comprehensive explanation of the benefits of colorectal cancer (CRC) screening significantly increase the likelihood patients will undergo recommended testing within 9 months, according to results from a new study. "A unique finding of our study is that the more elements patients reported their [primary care physicians] discussing, the greater the likelihood of those patients completing screening" report researchers. Nine months after an automated telephone call highlighted benefits of CRC screening, investigators surveyed members of the Kaiser Permanente Northwest health management organization in January 2010. Each participant was at average risk for colorectal cancer, considered overdue for screening, and aged 50 to 80 years. A total of 883 people from a random sample of 2000 participants, for a 44% response rate, rated the comprehensiveness of any screening discussion with their primary care physician in the previous 2 years. Patients reported discussion about benefits and frequency of CRC testing, as well as specific test information, accuracy, and potential complications. In addition, patients indicated whether they were asked if they understood screening and whether they wanted additional information. Investigators compiled these 7 components into a score ranging from 0.0 (no response to all 7 components) to 1.0 (yes to all 7 components).

*Mosen, David, et al., More Comprehensive Discussion of CRC Screening Associated With Higher Screening - See more at: <http://www.ajmc.com/publications/issue/2013/2013-1-vol19-n4/More-Comprehensive-Discussion-of-CRC-Screening-Associated-With-Higher-Screening/3#sthash.0QEnjd0r.dpuf> Am J Manag Care. 2013;19:265-271.*

## PSYCHOSOCIAL

### 10. Depression Tied To Early Death in Cancer Survivors (May 16/13)

Depressed cancer survivors are twice more likely to die prematurely than those who do not suffer from depression, a new study has warned. Researchers examined whether depressive symptoms observed between one and ten years after cancer diagnosis were linked to an increased risk of premature death two to three years later. Their work focused on survivors of endometrial cancer, colorectal cancer, lymphoma or multiple myeloma, where little work looking at this potential link has been done to date. They analyzed data collected from several large population-based surveys in 2008 and 2009. A total of 3,080 cancer survivors completed questionnaires to identify symptoms of depression. The authors found that depressive symptoms increased the risk of death: clinically high levels of depressive symptoms were more common in those who died than in those who survived. Overall, after controlling for treatment, type of cancer, co-morbidity, and metastasis, one-to-ten-year cancer survivors with depression were twice as likely to have died early. "Paying attention to the recognition and treatment of depressive symptoms in this patient group is key. The next step is to investigate the possible mechanisms that might explain the association between depressive symptoms and death from cancer," researchers said. "We also need to better understand whether treatments for depressive symptoms in cancer patients have life-prolonging effects," they added.

*Mols, Floortje, et al., Depressive symptoms are a risk factor for all-cause mortality: results from a prospective population-based study among 3,080 cancer survivors from the PROFILES registry. J of Cancer Survivorship. May 2013. Online Edition.*

## OTHER

### 11. Low Undetected Colorectal Cancer Risk Among Patients with Ulcerative Colitis (May 8/13)

Preoperative dysplasia (unusual development or growth in the colorectum) among patients with ulcerative colitis undergoing colectomy (removal of colon) was linked to a low risk for undetected synchronous colorectal cancer in a study presented at the American Society of Colon and Rectal Surgeons Annual Meeting in Phoenix. Researchers evaluated the medical records of 2,130 patients with ulcerative colitis (UC) who underwent proctocolectomy, restorative proctocolectomy or total colectomy between August 1993 and July 2012. Preoperative colorectal dysplasia was detected in 15% of the cohort. "The literature to date varies widely with regard to the importance of dysplasia as a marker for colorectal cancer (CRC) at the time of colectomy," the researchers wrote. "This study aims to accurately characterize the extent to which the preoperative detection of dysplasia is associated with undetected CRC in patients with UC." Undetected CRC was observed in 10 patients, including six cases located in the ascending colon, two in the transverse colon, one in the descending colon and one in the rectum. There was no incidence of multiple cancers. Investigators calculated a 1.8% risk for undetected CRC among patients with

preoperative low-grade dysplasia and a 6.9% risk among those with preoperative high-grade dysplasia. "This is the largest report to date analyzing the risk of undetected CRC in patients with UC and preoperative dysplasia," the researchers wrote. "The presence of dysplasia in our study was associated with a very low risk of CRC at the time of colectomy. Our findings will help inform the decision-making process for patients with UC who are considering intensive surveillance vs. surgical intervention after a diagnosis of dysplasia."

*Murphy J. S41: Dysplasia in Ulcerative Colitis as a Predictor of Undetected Synchronous Colorectal Cancer: Is the Risk Lower Than We Think? Presented at: The American Society of Colon and Rectal Surgeons Annual Meeting 2013; April 27–May 1, Phoenix.*

## 12. **Previstage GCC Colorectal Cancer Staging Test** (May 16/13)

DiagnoCure Inc announced that results from a large validation study of the Previstage™ GCC Colorectal Cancer Staging Test have been selected for presentation at the 2013 American Society of Clinical Oncology® (ASCO®) Annual Meeting, taking place in Chicago, Illinois from May 31 to June 4, 2013. The results of the second phase of the VITAR (Validating Indicators to Associate Recurrence Risk) study, which included 463 untreated stage II (T3N0) colon cancer patients from North American and European clinical sites will be presented during this annual meeting. These patients had not been treated with adjuvant chemotherapy mainly because their lymph nodes appeared cancer-free by examination under the microscope, yet 10% of them had a disease recurrence or died from cancer afterwards. This new study supports the prognostic value of the Previstage™ GCC assay independently of traditional histopathology risk factors. In order to establish a risk of recurrence for the stage II patients, the study focused on the positive LN ratio (LNR), defined as the number of nodes in which cancer cells were identified with the Previstage™ GCC test, divided by the total number of nodes examined. The company believes that Previstage™ GCC has the potential to improve management of untreated stage II colon cancer.

<http://www.news-medical.net/news/20130516/Previstage-GCC-Colorectal-Cancer-Staging-Test-study-to-be-presented-at-2013-ASCO-Annual-Meeting.aspx>

## **NUTRITION & HEALTHY LIFESTYLE**

### 13. **Female Smokers and Colon Cancer Risk** (Apr.30/13)

Smoking's connection to cancer is well-established. Now, researchers say cigarettes increase the odds for developing colon cancer, especially for women. Women who have ever smoked have an almost 20% increased risk for colon cancer, compared with women who never smoked, according to the new study. Women who smoke even 10 or fewer cigarettes a day increase their risk for colon cancer. "Because colon cancer is such a common disease, even this moderate smoking accounts for many new cases," maintain researchers. "A lot of colon cancer can be prevented if people don't smoke -- especially women." The study involved data on more than 600,000 men and women, aged 19 to 67, surveyed by the Norwegian Institute of Public Health. Participants answered questions about their smoking habits, physical activity and other lifestyle factors. Over 14 years of follow-up nearly 4,000 people developed colon cancer, and the odds were greatest for smokers, women in particular. The risk for colon cancer increased 19% among women who smoked and 8% for men who smoked. The more years a woman smoked, the earlier she started smoking, and the more packs of cigarettes smoked a year, the greater her risk of developing colon cancer. Women who smoked for 40 years or more increased their risk for colon cancer almost 50%, the researchers said. Their risk was especially high for developing proximal, or right-sided, colon cancer, with a type of tumor specifically related to smoking. Researchers were surprised the link between smoking and colon cancer was so much greater for women, and said the reasons aren't clear. Although this study shows an association between smoking and colon cancer, it does not establish a cause-and-effect relationship. However, the link between smoking and colon cancer is more than a coincidence. "Colon cancer is a smoking-related cancer," researchers said. "That has recently been established by the International Agency for Research on Cancer of the World Health Organization." Based on a review of prior research, the WHO says long-term smoking appears to double the risk of colon cancer. It also increases risk for bladder and pancreatic cancer, according to the agency.

*Gram, Inger Torhild et al., The Increased Risk of Colon Cancer Due to Cigarette Smoking May Be Greater in Women than Men. Cancer Epidemiology, Biomarkers & Prevention . May 2013 22:862-871; Published OnlineFirst*

### 14. **Sleep Duration Associated with Higher Colorectal Cancer Risk** (Apr.30/13)

A new study is the first to report a significant positive association between long sleep duration and the development of colorectal cancer, especially among individuals who are overweight or snore regularly. The results raise the possibility that obstructive sleep apnea may contribute to cancer risk. This current study adds to the very limited literature regarding the relationship between sleep duration and/or sleep quality and colorectal cancer risk. "The novel observation of increased risk among regular snorers who sleep long raises the possibility that sleep apnea and its attendant intermittent hypoxemia may contribute to cancer risk", report researchers. The study utilized data from two prospective cohort studies. A biennial questionnaire was sent to participants in each cohort to collect information on demographics,

lifestyle factors and disease endpoints. Participants estimated their total hours of sleep in a 24-hour period and were asked if they snore. A total of 76,368 women and 30,121 men formed the baseline population for this analysis. At baseline the median age was 53 years for women and 56 years for men. The researchers documented a total of 1,973 incident colorectal cancer cases. In subgroup analyses, men or women who were overweight or who were regular snorers and who reported sleeping 9 hours or more per day had approximately a 1.4 to 2-fold increased risk of developing colorectal cancer compared to overweight or regular snorers with 7 hours of sleep per day. The authors suggest that the association between the self-reported long sleep duration and incident colorectal cancer may be explained by obstructive sleep apnea, which involves repetitive episodes of complete or partial upper airway obstruction occurring during sleep despite an ongoing effort to breathe. The major predisposing factor for obstructive sleep apnea (OSA) is excess body weight, and loud snoring is a common symptom of sleep apnea. According to the authors, sleep disruption caused by OSA may reduce sleep quality and increase sleepiness, resulting in longer reported sleep durations. Furthermore, intermittent hypoxemia similar to that which occurs in OSA has been shown in animal models to promote tumor growth.

<http://www.sciencenewsline.com/articles/2013043020280002.html#footer>

15. **Glucosamine & Chondroitin Studied For Colon Cancer Risk** (Apr. 30/13)

Glucosamine and chondroitin may be an effective treatment in reducing the risk of colorectal cancer (CRC), according to this study. Glucosamine is a natural compound that is found in healthy cartilage. It is supported by strong scientific evidence for its effectiveness in treating osteoarthritis of the knee. Chondroitin was first extracted and purified in the 1960s. It is currently made from natural sources such as shark or beef cartilage, or by synthetic means. There is much support for the use of chondroitin together with glucosamine for improving symptoms and possibly reversing the process of osteoarthritis. In the current study, scientists evaluated the potential use of glucosamine and chondroitin in reducing the risk of CRC. They analyzed information from 75,137 Washington residents who had participated in the Vitamins and Lifestyle (VITAL) study between 2000 and 2002. All participants completed a questionnaire detailing their supplement use and were followed for CRC through 2008. The results suggested that people who used a combination of glucosamine and chondroitin at least four days a week for over three years had a 45% lower risk of CRC, compared to non-users. This link appeared to vary depending on body mass index. There was a lack of significant effect of glucosamine alone on CRC risk. The researchers concluded that glucosamine and chondroitin combined may merit further study as a possible preventative for CRC. More information is needed before firm conclusions can be made.

*Kantor ED, Lampe JW, Peters U, et al. Use of glucosamine and chondroitin supplements and risk of colorectal cancer. Cancer Causes Control. 2013 Mar 26. [Epub ahead of print]*

16. **More Exercise Leads to Longer Life** (May 2/13)

Colorectal cancer patients and survivors who sit less and exercise more actually live longer, according to a carefully designed study. Researchers found that cancer survivors who got exercise equaling about 150 minutes per week of moderate to vigorous walking had a 28% lower risk of death *from any cause* than those who did less than 60 minutes per week of walking. And no matter their job, people who spent 6 or more hours a day of their *leisure time* sitting (reading, watching TV, computer etc) had 36% higher risk of death from any cause, than people who sat 3 hours or less per day during leisure time. Perhaps most striking, those who reported leisure-time sitting of more than 6 hours *after they were diagnosed* with colorectal cancer had a 62% higher risk of dying from colorectal cancer. This was the first-ever study of the association between leisure-time sitting and death rates, but also one of the first-ever prospective, long-term studies of exercise and survival that was beautifully designed and analyzed. Using a national study of 184,000 people who filled out questionnaires at the beginning of a 16-year study, researchers focused on 2293 people who developed either localized or regional—but not metastatic—colon or rectal cancer during that time. (The average time of survival after their diagnosis was almost 7 years.) They compared the participants' reported exercise and sitting times both before and after diagnosis with death from colorectal cancer or any other cause. The study authors wrote, "Our results add to mounting evidence that physicians should consider counseling colorectal cancer survivors to adopt a physically active lifestyle ... 150 minutes per week of moderate intensity activity, such as walking, and to avoid prolonged sitting."

*Associations of Recreational Physical Activity and Leisure Time Spent Sitting With Colorectal Cancer Survival," March 1 2013 Journal of Clinical Oncology (JCO 31:876-885); Medline abstract [http://Medscape.com/medline/abstract/23341510]; "Get Off Your Bottom," David Kerr, April 19 2013 Medscape.*

[http://fightcolorectalcancer.org/research\\_news/2013/05/get\\_off\\_your\\_butt\\_more\\_exercise\\_less\\_sitting\\_lead\\_to\\_longer\\_lives\\_for\\_crc\\_survivors](http://fightcolorectalcancer.org/research_news/2013/05/get_off_your_butt_more_exercise_less_sitting_lead_to_longer_lives_for_crc_survivors)

17. **High Fibre Does Not Reduce Colorectal Cancer Risk** (May 3/13)

After other factors are taken into account, it appears that a high fiber intake does not, after all, have an effect on colorectal cancer risk. There has been conflicting evidence over whether dietary fiber – in the form of cereals, fruits and vegetables – is protective against colorectal cancer. Researchers at the Harvard School of Public Health report a survey of all the evidence and conclude fiber is not protective after all. The studies covered nearly a quarter of a million people in the U.S. and Europe. In the U.S. fruit

and vegetables were the main fiber contributors and in Europe cereals were the main source. Fiber intake varies from 14 to 28 grams per day for men and 13 to 24 grams per day for women. A simple analysis suggested the highest fiber intakes were linked to a 16 per cent decrease in colorectal cancer risk. But when all other confounding factors were accounted for – age, red meat, milk, alcohol intake – the association between dietary fiber and cancer disappeared. But researchers maintain that it is still worth including plenty of fiber in your diet, for it is known to protect against other chronic conditions such as heart disease and diabetes.

<http://www.newsfix.ca/2013/05/04/high-fiber-does-not-reduce-colorectal-cancer-risk/>

**23. Milk Associated With Reduced Colorectal Cancer Risk** (May 12/13)

Higher milk and calcium intake go with lower risk of colorectal cancer, according to a study. Research has suggested that wide variation in colorectal cancer between countries could be linked to dietary factors. Researchers at Brigham and Women's Hospital have carried out an analysis of ten studies from five countries, covering about half a million people. Of these nearly 5,000 individuals developed colorectal cancer during the follow up. Milk consumption turned out to be linked with a decreased risk of colorectal cancer. In short, each two 8-oz glasses per day increase in milk consumption was associated with a 12% decrease in risk of cancer. And higher calcium intake went with lower risk too. Increasing calcium intake to 1000 milligrams per day could result in 15% fewer cases of colorectal cancer in women and ten per cent fewer among men, say the researchers.

<http://www.newsfix.ca/2013/05/12/milk-associated-with-reduced-colorectal-cancer-risk/>

**24. Vitamin D Protects From Cancer** (May 12/13)

Exposure to sunlight may help manufacture enough vitamin D to protect from colorectal cancer. As summer reaches its height, most of us are reaching for sun protection lotions to ward off skin cancer and the signs of aging. But a dose of sunlight can be good for you, say researchers in California. They have looked at studies on the variation of colorectal cancer rates by US state. There is more colorectal cancer in northeastern states than there is in the southwestern states. The team suggests that this is linked with the amount of UVB reaching the population from sunlight. The southern states are simply sunnier. UVB helps the body to make vitamin D and this helps to protect against cancer. Of course, sunlight can promote skin cancer, but works in conjunction with other risk factors. Fear of skin cancer should not keep you indoors. The researchers say that those who live in the south can get enough vitamin D through modest daily exposure to mid-day summer sun. Those living elsewhere would need to spend more time outside to get enough sun.

<http://www.newsfix.ca/2013/05/12/vitamin-d-protects-from-cancer/>

**25. Obese Women Run Higher Colorectal Cancer Risk** (May 16/13)

A study reveals that a high body mass index among women increases their risk of colorectal cancer. Scientists at Stony Brook University in the USA looked at a group of 2,300 patients attending for regular colonoscopy exam. This showed that increasing body mass index (BMI) was linked to increasing risk of polyps that indicated cancer. The link, however, was only significant for women. Those with a BMI over 40 had a 5.2 times greater risk of colon cancer compared to those with a BMI of 25 or less. The difference between men and women might be explained by women having more body fat, the researchers say. More work is needed to clarify this. In the meantime, doctors should take this risk into account when advising overweight or obese women about attending for colonoscopy.

<http://www.albeportal.ca/2013/05/obese-women-run-higher-colorectal-cancer-risk/>

**26. Coffee and Cancer** (May 18/13)

There is no link between coffee consumption and the risk of colorectal cancer, according to a study. Previous research has suggested that coffee may protect against cancer of the colon and rectum. Researchers at the Karolinska Institute in Sweden have carried out the large study on coffee and cancer, covering over 61,000 women aged between 40 and 74. At the start of the study, all the women were free of cancer, and had a wide range of coffee consumption. Details of this, and many other dietary factors were taken into account. The women were then followed up for 9.6 years on average. Those who drank four or more cups of coffee a day were no more at risk of colorectal cancer than those who never, or rarely, drank coffee. So those who worry about coffee can at least be reassured by this study. Coffee does contain antioxidants – in common with tea, fruit and vegetables – which might have been expected to offer some cancer protection. However, if there is a beneficial effect, it was not strong enough to show up in this study.

<http://www.newsfix.ca/2013/05/18/coffee-and-cancer/>

**27. Link Between Diet and Colorectal Cancer** (May 21/13)



A study suggests that women whose diet gives them a high level of blood sugar run an increased risk of colorectal cancer. Various studies have linked dietary factors with colorectal cancer. Now a new report from the Nurses' Health Study says that glycemic load is important. This refers to the ability of the diet to raise blood sugar. A high intake of refined sugars would raise glycemic load more than, say, a high intake of complex carbohydrates like whole grains and vegetables. In this study, those with the highest fifth of dietary glycemic load had three times the risk of colorectal cancer compared to those in the lowest fifth. Total carbohydrate and fructose intake also had a link to cancer risk. The researchers do not, as yet, fully understand the association between high glycemic load and colorectal cancer, but suggest that inflammation promoted by insulin and insulin-like growth factors could play an important role.

<http://www.alberniportal.ca/2013/05/link-between-diet-and-colorectal-cancer/>