



Fred Hutchinson Cancer Research Center
CORE Family Studies
1100 Fairview Ave. N
M4-B402
P.O. Box 19024
Seattle, WA 98109-1024

Address Service Requested

20-year Summary of CCFRC Accomplishments

- ❑ The Colon Cancer Family Registry Cohort (CCFRC) is the largest family study of colorectal cancer in the world! Currently we've recruited about 43,000 study participants from over 15,000 families between 1998 and 2012 across the United States, Canada, Australia, and New Zealand.
- ❑ The CCFRC resources have been used for more than 300 different projects and resulted in over 400 original peer-reviewed publications [CCFRC Publications Link: <http://coloncfr.org/publications>].
- ❑ Research Highlights
 - **Lynch Syndrome:** Lynch syndrome is an inherited genetic predisposition to colorectal and some other cancers. The CCFRC has found that people with Lynch syndrome vary greatly in their cancer risk, and this is influenced by environmental factors. Colorectal cancer risk is higher if people drink alcohol, smoke cigarettes, or are overweight, and the risk is lower if people take aspirin or exercise regularly.
 - **Other Inherited Cancer Syndromes:** We are trying to identify genetic causes of other inherited syndromes. These are people known as "Type X", who have a family history of cancer, but don't have Lynch Syndrome.
 - **Risk Prediction:** Combining all genetic and environmental risk factors together, we are now in a position to calculate a person's risk of colorectal cancer. By using a person's body weight, diet, smoking, alcohol intake, aspirin use, screening and history of cancer in family members, we can estimate an individual's risk of colorectal cancer in the future. We hope to also study more about biomarkers in blood to see if we can add this as a measure to help estimate a person's risk of developing colorectal cancer. The CCFRC also wants to explore if something like this could be done routinely in a medical clinic.
 - **Survivorship:** We continue to look for factors that help determine a cancer patient's survival, whether that be tumor characteristics, genetic markers, or lifestyle and behavioral attributes. Right now, we have a project looking at neighborhood characteristics and cancer survival as well!
 - **Microbes/Immune System:** You've probably started hearing about immunotherapy as a treatment for cancer. Maybe you've heard of the microbiome, looking at the ways in which our bacteria (particularly in the gut) may influence our risk of disease. Did you also know there are immune cells in tumors? We hope to look at immune system factors that could provide insight into cancer prevention, treatment, and survival.
 - **Early Onset Colorectal Cancer:** As you'll see in one of the articles in this newsletter, recent screening guidelines changed because colorectal cancer is becoming more common in people under age 50. We are very interested in knowing why this is the case and hope to research which genetic and environmental factors increase the risk of cancer in younger adults.



CORE news

Colorectal Research in Epidemiology
Colon Cancer Family Registry Cohort

1100 Fairview Avenue North, M4-B402, Seattle, WA 98109-1024
1-800-276-0127 • corestudies@fredhutch.org • FredHutch.org/corestudies

As 2019 begins, it is a great time to share with you the latest edition of CORE News. At this time of year, you may be thinking about New Year's resolutions, which is great because this edition is all about the importance of lifestyle factors. Yes, we're talking about healthy behaviors, including physical activity, cancer screening, and diet that can help improve colon cancer outcomes.

This edition provides an update on recommended colorectal cancer prevention and screening guidelines. Did you know that 45 is the new 50 (in terms of recommended age for initial colonoscopy screening)? – learn what this recommendation is based upon. Ever heard of Cologuard? We provide a Q&A on this newer cancer screening tool. Also, we report back on a small pilot study you may have been involved in using ActiGraph activity monitors to measure your physical activity and sleep behavior. And please make sure to try the healthy recipe, based on some recent news about nuts. Share with your family and friends – they might be interested in the research supporting this tasty snack.

In other news, we are excited to announce that CORE Studies has been funded for another 5 years! That means that we will continue to reach out to you for updated health information. For some of you this will be your 5th interview! Take a peak inside to get a quick highlight of our research accomplishments over the past 20 years and some of our current research questions that we are excited to explore.

It's hard to express the magnitude of our gratitude for our CORE Studies research participants. We could not have continued the CORE Studies without your personal contributions to colorectal cancer research. Your time and dedication has meant the world to myself and the entire CORE Family Studies team. You should be proud to be part of the largest international consortium of colon cancer research in the world! Thank you for your continued participation in CORE Studies, and we hope you have a happy and healthy new year!

Sincerely,

Polly A. Newcomb, PhD, MPH
Principal Investigator



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Robert Hood/Fred Hutch News Service

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CURES START HERE



Why age 45? An update on colorectal cancer screening guidelines

The American Cancer Society (ACS) has updated its colorectal cancer screening guidelines! Among guideline changes, the new screening age for people of average risk for colorectal cancer is 45 instead of 50. This recommendation includes all screening methods such as colonoscopy and stool-based tests. What evidence led to this change? A study led by ACS researchers found there is an increasing rate of new cases in young and middle-aged adults for colon and rectal cancers in the US (Siegel, RL; et al. Colorectal Cancer Incidence Patterns in the United States, 1974–2013. JNCI: Journal of the National Cancer Institute, 2017; Volume 109, Issue 8). Screenings, however, have reduced the rates of colorectal cancer in adults. Changing the screening age for average-risk adults to 45 will result in more saved lives from colorectal cancer, according to the ACS Guideline Development committee.

Changing the initial screening age from 50 to 45 is not the only ACS age-specific update. Here's a list of all the updated colorectal cancer screening age recommendations...

- People of average risk of colorectal cancer should begin regular screening at age 45.
- People who have a life expectancy of more than 10 years and are in good health should continue regular screenings through age 75
- People ages 76 through 85 will decide with their medical providers if screening is needed based on personal preference, life expectancy, overall health, and prior screening history
- People over 85 no longer need screenings

There are several testing options to choose from for colorectal cancer screenings, so it's a good idea to talk with your healthcare provider about test recommendations. It's also important to check insurance coverages for each testing option. Don't forget these tests will not be effective unless they are repeated when recommended!

Cologuard® Q&A

We are adding a question to the next CORE Studies survey about Cologuard®. You may have heard of Cologuard® in the media, from a friend, or from your doctor. You may have even done a kit before. But what exactly is it? We answer some basic questions here.

What is Cologuard®?

Cologuard® is an FDA-approved, non-invasive, and multi-target stool DNA screening test for colorectal cancer and pre-cancer. It is non-invasive because it is done without putting anything into your body. It is also a multi-target test because it detects blood and certain genetic mutations in DNA found in the stool. It is a new type of cancer screening test that has been available since August 2014..

How does it work?

1. Talk to your healthcare provider, so they can order the Cologuard® kit (it must be prescribed)
2. The kit will be shipped to your most convenient address
3. Follow instructions provided in the kit to complete the test - No bowel prep is required!
4. Properly package and mail the kit to Exact Sciences Laboratories using a prepaid UPS label
5. Samples are typically tested within 2 weeks of arrival to the lab and results are sent to your doctor who will follow-up with you on any recommendations

How much will it cost?

- Cologuard® is covered by Medicare with zero co-pay or deductible for eligible participants.
- Eligible patients should be fully covered by most private insurers
- More than 85% of all Cologuard® patients have no out-of-pocket costs for screening.

How often should Cologuard® be used?

- Recommended every three years.

How is Cologuard® different from FOBTs (Fecal Occult Blood Tests)?

Cologuard®	FOBT
<ul style="list-style-type: none"> • Detects for blood and altered DNA in the stool • Addresses the entire digestive tract • Requires only one bowel movement • Does not require a diet modification prior to testing 	<ul style="list-style-type: none"> • Detects for blood in the stool • Addresses further up the digestive tract • Recommends multiple bowel movements • Requires a diet modification prior to testing

Is this test right for me?

Yes, if ➡	You are 50 years or older You are of average risk for colon cancer
No, if ➡	You have a personal history of colon cancer, polyps, or other related conditions You have a family history of colon cancer You have tested positive for another colon cancer screening in the last six months

Can Cologuard® replace a colonoscopy?

- No, Cologuard® is not meant to replace a colonoscopy. This serves as another screening tool clinicians can offer to their patients.



Physical Activity, Sleep, and Health (PASH) Study

Some of you may remember being contacted about and participating in a small side project we did to measure physical activity and sleep using a small device called an Actigraph that is worn on the wrist. We wanted to thank those who responded to us and give a quick update.



For this study, participants were a random subset of CORE cases and relatives, between the ages of 20 and 74. Individuals were sent an introductory letter and consent form, then mailed an Actigraph device along with a sleep/activity log and short survey. They were asked to wear the Actigraph and complete the activity log for 7 days.

Thanks to our CORE volunteers, we got excellent feedback about the Actigraphs. First, we had a high completion rate of people enrolled in the study (91%)! All people who participated wore the Actigraph for the required amount of time despite some complaints about the Actigraph being bulky or ugly, hard to wear under clothing, or the wrist strap being too short. Thank you for your perseverance!



From the data we collected, we found that although people appear to be getting enough sleep (averaging 7 hours per night), their sleep quality was often disturbed, with 97% reporting some disturbance on their survey. People reported trouble sleeping due to waking, pain, needing to use the bathroom, trouble breathing, snoring, feeling cold or hot, bad dreams, or other reasons.

In terms of exercise, people who are normal weight and younger have more moderate to vigorous activity, not unsurprisingly. Interestingly though, we did find that men have less light activity and more sedentary activity than women. Could this be due to the distribution of household tasks, childcare, or types of work between men and women? We'll have to do more research to find out!

The other news is we didn't see any apparent activity or sleep differences between people who've had cancer and those who haven't. It is thought that cancer treatment can affect someone's sleep, even long-term, and may impact their physical mobility afterwards. We would like to examine this more in a larger study. Thanks to this small pilot project and our CORE participants, we now know some of the issues we can expect from working with Actigraphs!

Go Nuts – A Healthy Alternative!

A recent study led by researchers at the Yale Cancer Center showed that those with stage III colon cancer who regularly eat tree nuts are at significantly lower risk of cancer recurrence (42% lower) and mortality (59% lower) than those who don't regularly eat nuts. Tree nuts include almonds, walnuts, hazelnuts, cashews, and pecans. If you want to read more about this study, here is the reference: Fadelu, T., et al. Nut Consumption and Survival in Patients With Stage III Colon Cancer: Results From CALGB 89803 (Alliance); Journal of Clinical Oncology 2018 36:11, 1112-1120.

If you're looking for a healthier and nuttier alternative to sweets after this holiday season, try this recipe! This healthy cookie recipe brings together almonds and tart cherries to provide vitamin E, calcium, magnesium, disease-fighting anthocyanins, and sleep-regulating melatonin. We hope you enjoy!

Ingredients:

1 cup whole-wheat flour	1 large egg
1 cup almond flour	¼ cup unsweetened applesauce
½ teaspoon salt	½ teaspoon almond extract
¼ teaspoon baking soda	¾ cup dried tart cherries
4 tablespoons unsalted butter, softened	¾ cup sliced natural almonds
½ cup packed light brown sugar	

Step 1: Preheat oven to 350°. Line 3 baking sheets with parchment paper or lightly oil to avoid sticking.

Step 2: In a medium bowl, combine whole-wheat flour, almond flour, salt, and baking soda. In a large bowl, beat butter with sugar until creamy; beat in egg, applesauce, and almond extract. Stir in dry ingredients until combined, then stir in cherries and almonds.

Step 3: Spoon dough by heaping teaspoons onto prepared baking sheets, 2 inches apart. Bake 15 minutes, until golden. Cool on pans 2 minutes; transfer to wire racks. Yields approximately 36 cookies.

