PASS IT ON

FOR INDIVIDUALS AND FAMILIES WITH A HISTORY OF CANCER

NEWSLETTER OF THE CANCER GENETIC COUNSELING SERVICE

MEET OUR TEAM

OUR FAMILY TREE HAS GROWN!

Welcome to the winter edition of *Pass It On*. After a long hiatus, we are resuming our quarterly newsletter as a means to communicate with our patients about key advances in the field of cancer genetics. We have some exciting changes in our program to share with you! In addition to our Detroit and Farmington Hills locations, we are now providing services in Macomb, Flint, Lansing, and Bay City. We also are excited to announce two new members of the Cancer Genetic Counseling team- Courtney Attard and Rachel Hagen.

COURTNEY ATTARD, MS, CGC

RACHEL HAGEN, MS, CGC

Courtney and Rachel both joined the team in June 2016 after graduating with their Master's degree in Genetic Counseling from Wayne State University. Rachel received her BS in Molecular Biology and Biotechnology from the University of Michigan-Flint in 2014. Courtney obtained her BS in Genomics and Molecular Genetics from Michigan State University in 2010. They are excited to provide genetic counseling as part of the Karmanos team and look forward to continued involvement in teaching and research.

CANCER GENETIC COUNSELING TEAM

MICHAEL SIMON, M.D., MPH
Director

Dr. Michael Simon is a professor in the Department of Oncology. He received his Bachelor of Science in Biology as well as his medical degree from the University of Illinois. He also holds a Master's of Public Health from the University of Michigan. In addition to his other oncology clinical responsibilities, Dr. Simon leads the Cancer Genetic Counseling Service. He is also actively involved in oncology research as well as training residents and fellows.

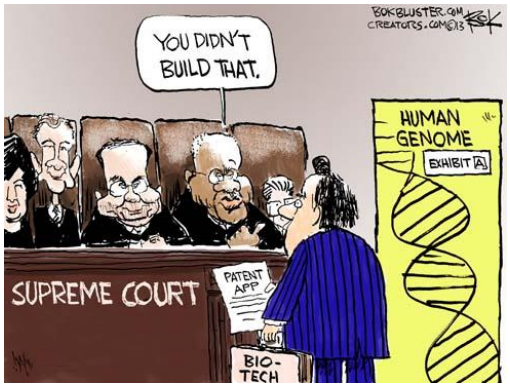
NANCIE PETRUCELLI, MS, CGC
Senior Genetic Counselor

Nancie Petrucelli has over 20 years of clinical genetics experience and currently serves as the Coordinator and Senior Genetic Counselor of the Cancer Genetic Counseling Service at the Barbara Ann Karmanos Cancer Institute. She received her Master's degree at the University of Cincinnati and is certified by the American Board of Genetic Counseling. She currently holds the rank of Adjunct Associate Professor of Oncology. In addition to her clinical responsibilities, she is also actively involved in education and teaching as well as clinical research.

WHAT'S NEW IN CANCER GENETICS?

A BRIEF INTRODUCTION TO PANEL TESTING

A lot has changed in the world of cancer genetics over the past five years. The field has moved from a testing strategy that initially focused on genetic testing for a single gene or hereditary cancer syndrome to a more expanded approach of testing multiple genes simultaneously or what is more commonly referred to as panel testing. This transformation is in large part due to a 2013 Supreme Court decision that ruled human genes can no longer be patented. This decision invalidated key patent claims owned by Myriad Genetics on the *BRCA1* and *BRCA2* genes. Following this decision, several labs announced plans to begin offering genetic testing panels and this competition led to more comprehensive test options that contained more genes at a lower cost.



WHAT ARE THE BENEFITS?

The expanded testing approach through panels increases the likelihood that a mutation will be identified in a family. Individuals can then use this information to guide their medical management and cancer screening moving forward. The goal of this information is to inform you of your own cancer risk and ways to reduce this risk. It will also allow an individual's doctor to develop a management program unique to them. This information can also help family members who may be at an increased risk of developing certain cancers and might benefit from more frequent cancer screening.

WHAT IF I'VE ALREADY HAD BRCA1/2 TESTING?

Many women have been tested for *BRCA1* and *BRCA2* in the past. Though these are the genes most commonly implicated in hereditary breast cancer, we have learned there are many other genes that may account for a personal and/or family history of breast and ovarian cancer. If you have only had *BRCA1/2* testing, there may be additional genetic testing options for you to consider. Please contact us for more information or to set up an appointment.

POSSIBLE GENETIC TEST RESULTS

What can genetic testing tell me?

Many people have a family history of cancer, but only 5-10% of cancer is hereditary. Hereditary refers to individuals who were born with a genetic change (mutation) in a gene that can increase the risk for certain types of cancer and be passed from parent to child. Genetic testing can help provide insight regarding possible hereditary risk factors in your family. See below for possible test results.

POSTIVE

- A mutation was identified
- May provide explanation for personal and/or family history of cancer
- Increased risk(s) for certain types of cancer and management recommendations specific to the gene that has a mutation
- Genetic testing for relatives may be recommended

NEGATIVE

- No genetic changes were identified
- Overall cancer risk(s) depends on your personal medical history and family history
- Genetic testing for relatives (other than children) may be recommended since there may be a hereditary risk in the family that you did not inherit
- There may be a hereditary risk in the family due to a gene that was not tested or has not been discovered

VARIANT OF UNKNOWN SIGNIFICANCE

- A genetic change was found, but it is unclear if the change increases the risk for cancer
- Sometimes referred to as an inconclusive result or a VUS
- Cannot be used to explain personal and/or family history
- Should not be used to guide cancer treatment decisions or cancer screening recommendations
- If the lab is able to reclassify the result as positive or negative, an amended report will be issued to the ordering provider and you will be contacted with the update

Every edition of *Pass It On* will feature detailed information on a different hereditary cancer syndrome or gene. In this edition, we take a closer look at the *CHEK2* gene!

SPOTLIGHT ON *CHEK2*

What is *CHEK2*?

CHEK2 is a recently discovered hereditary cancer gene. Similar to BRCA1/2, individuals born with a mutation in *CHEK2* are at increased risk for developing certain types of cancer.

What are the risks associated with *CHEK2*?

CHEK2 gene mutations are associated with an increased risk of breast and colon cancer. While the general population, lifetime risk of breast cancer in women is 12 percent (or 1 in 8 women), women with a *CHEK2* mutation are at approximately a 23-48 percent lifetime risk of breast cancer. Both men and women with *CHEK2* mutations are at an increased risk of colon cancer, however, an exact percentage is not known at this time.

How would a CHEK2 mutation change my medical care?

Due to the increased risk of breast cancer, it is recommended that women with a *CHEK2* mutation are screened for breast cancer more thoroughly and more often. This includes an annual mammogram *AND* an annual breast MRI, each of these alternating every six months. For the colon cancer risk, it is recommended that both men and women with *CHEK2* mutations undergo screening colonoscopies every five years beginning at age 40.

Are my children at-risk for my *CHEK2* mutation?

If a person is found to have a *CHEK2* mutation, there is a 50 percent (or 1 out of 2) chance that each of their children could also inherit the same mutation. Both men and women are at-risk to inherit and pass-on these mutations.

How does my *CHEK2* mutation impact my insurance?

There is a federal law currently in place to prevent against health insurance and employer discrimination based on an individual's genetic information. This law is known as the Genetic Information Non-Discrimination Ace (GINA) and was enacted in 2008. This law does not protect against obtaining disability, life, or long-term care insurances. These regulations may also vary based on the type of insurance you have or your place of employment. If you have questions regarding genetic discrimination, our team of genetic counselors are a great resource for more details.

THE CANCER GENETIC COUNSELING SERVICE

The Cancer Genetic Counseling Service can help you learn about the impact your personal and family history has on your chance of developing cancer, as well as the risk to other family members. It can also help you understand your options for prevention, early detection, and treatment.

NEED TO MAKE AN APPOINTMENT?

The Cancer Genetic Counseling Service is helpful to anyone who has anxiety and/or concern about their risk of cancer. This service is useful if you have any of the following:

- Several relatives with cancer
- A personal or family history of a rare or unusual cancer, such as ovarian or male breast cancer
- A relative with more than one type of cancer
- A personal or family history of cancer under the age of 50

CONTACT US AT 313-576-8748 FOR ADDITIONAL INFORMATION OR TO SCHEDULE AN APPOINTMENT

WANDA SHEARD
Administrative Assistant
Wanda Sheard has been working with the CGCS for more than 15 years and is a valuable member of our team. She would be happy to set up an appointment for you or point you in the right direction! We currently see patients in Detroit, Farmington Hills, Macomb, Flint, Lansing and Bay City.

Looking for more information? Check out our website!

http://www.karmanos.org/genetics