

## CONSENT FORM for POPULATION BASED BRCA GENETIC TESTING IN CANADA

**PRINCIPAL INVESTIGATORS:** Dr. Steven Narod  
Dr. Mohammad Akbari  
**SITE:** Women's College Research Institute  
Veritas Genetics  
**FUNDER:** Basser Global Prize

Our research group at Women's College Hospital would like to invite you to take part in a new research study of genetic testing for BRCA1 and BRCA2 in Canadian men and women. This study is called 'Population based screening for BRCA genetic testing in Canada'. The study team includes, Dr. Steven Narod, Dr. Mohammad Akbari, Dr. Kelly Metcalfe and Dr. Joanne Kotsopoulos. Nicole Gojska is the study genetic counsellor.

Please read this consent form carefully. You may have this form and all information concerning the study explained to you. You may take as much time as you wish to decide whether or not to participate. Feel free to discuss it with your friends and family, or your family doctor. If you have any questions, please contact Nicole Gojska, Genetic Counsellor at 416-323-6400 ext. 2727 or Dr. Steven Narod at 416-351-3765.

### **BACKGROUND**

Breast cancer is the most common cancer among Canadian women and affects approximately 1 in 9 women. In men, prostate cancer is the most common cancer, affecting about 1 in 8 men in their lifetime. The majority of these cancers (>90%) happen for reasons we do not fully understand. However, approximately 5-10% of all cancers are hereditary and due to a mutation (or change that causes the gene to not work properly) in a gene that is passed down from one generation to the next. Two such genes, include BRCA1 and BRCA2. About 1 in 200 Canadians have a mutation in BRCA1 or BRCA2. Women with a BRCA mutation have a high lifetime risk of developing breast and ovarian cancer. Men with a BRCA mutation are at increased risk of developing prostate and other cancers. Several options are available to detect cancers early or reduce the risk of cancer from happening. For women, these options can include intensified screening, taking medications to reduce cancer risks or preventative surgery. For male BRCA carriers, options can include additional prostate screening (using both the PSA blood test and a digital rectal exam) starting at a younger age.

Currently, genetic testing for BRCA1 and BRCA2 is offered to eligible women and men by provincial programs, such as the Ontario Ministry of Health and Long Term Care or British Columbia Ministry of Health. For individuals interested in genetic testing, there are eligibility criteria that must be met in order to qualify for testing, including age at cancer diagnosis, ethnicity, and family history of breast or ovarian cancer. Therefore, BRCA testing in Canada is only available to selected individuals with a strong personal or family history of cancer. As standard practice, an eligible patient is currently provided in-person genetic counseling at a local genetics clinic prior to BRCA testing. Wait-times for clinic appointments vary, but may be up to 6 months to one year. The average time to receive test results after giving a blood (or saliva) sample is 6 – 8 weeks in Ontario; however, this varies based on province and can take up to 8 – 10 months.

To date, patients who are not eligible have limited options to pay out of pocket for genetic tests, available through out of country laboratories; however, the cost of testing ranges from \$700 - \$1500 USD. Much of this testing is provided using a direct to consumer (DTC) approach. This approach to genetic testing means that testing is initiated directly by the patient, rather than through a healthcare provider like a genetic counsellor, and may or may not require a physician to order the genetic test.

We wish to make genetic testing for BRCA1 and BRCA2 accessible to all Canadians at an affordable price, \$150 USD (plus \$15 for shipping). Through widespread testing, we aim to identify men and women with a genetic predisposition to developing cancer using a guided DTC genetic testing approach. We wish to bring DTC genetic testing for BRCA1 and BRCA2 to all Canadians that is guided by medical professionals with ongoing, long-term follow-up and management options, particularly for individuals identified with a BRCA1 or BRCA2 mutation.

### **PURPOSE OF RESEARCH STUDY**

The purpose of this research project is to establish a population based model for BRCA genetic testing in Canada. You are being asked to participate because you are over the age of 18 and are currently living in Canada.

We hope that through this population based approach, we can identify BRCA mutation carriers in Canada before they

develop cancer so that they can be offered preventive, risk-reducing options. We also aim to measure the levels of satisfaction and cancer-related worry (level of worry and feelings both before and after genetic testing) associated with a population based, guided direct to consumer approach to BRCA genetic testing. It is hoped that our research may lead to accessible genetic testing for hereditary cancers in Canada.

### **WHO IS ELIGIBLE TO PARTICIPATE?**

- Women and men who are living in Canada (ie. have a Canadian mailing address)
- Women and men who are 18 years of age and above

Individuals who are not currently eligible for a provincially-covered test, as well as to those who may qualify but prefer not to wait several months for an appointment or result through their province or local genetics program are eligible for the study. If you are interested in BRCA genetic testing, you may also wish to speak with your doctor or local genetic counsellor to determine if you are eligible to receive this genetic test (at no cost) based on your provincial criteria.

It is anticipated that 10, 000 women and men across Canada will participate in this study. The length of this study for participants is 1 year. The entire study is expected to take 3 years or will be completed when we enrol 10, 000 participants.

### **WHAT WILL HAPPEN DURING THIS STUDY?**

If you are eligible and choose to participate in this study, you give permission for the study team to collect limited information on your personal and family history of cancer. You will also be asked to answer questions related to your level of worry about developing cancer. You will have access to a genetic counselling video prior to deciding to participate in this study, which features a qualified Women's College Hospital genetic counsellor.

If you participate, you will be provided a link to our partners at Veritas Genetics. Veritas Genetics is a genetic testing company in the United States offering testing for BRCA1 and BRCA2.

As part of the study, you will gain access to the BRCA genetic test from Veritas Genetics at a discounted price of \$165 USD. If you participate, you will provide consent and pay \$165 USD out of pocket to Veritas Genetics to receive the BRCA genetic test. The study team at Women's College Hospital will not profit or receive funds from Veritas Genetics. Veritas Genetics will ship a saliva (spit) collection kit to you. Genetic testing will be done at Veritas Genetics using this saliva sample. Women's College Hospital does not guarantee the accuracy of the genetic testing performed by Veritas Genetics. Any diagnostic genetic laboratory may produce false positive or false negative results due to a variety of reasons. Your genetic test results will be available within approximately 2 weeks from the time your saliva sample is received by Veritas Genetics.

No DNA will be held at Women's College Hospital for the purpose of BRCA genetic testing during the study period. Once you receive your BRCA genetic test results, you will have the option to have your leftover saliva sample (stored as DNA) transferred from Veritas Genetics to Women's College Hospital to be stored and used for future studies on cancer susceptibility. If you do not wish to consent to have your leftover saliva sample transferred, it will remain at Veritas and will be de-identified and used for future studies for a period of one year. You may provide consent as to how your leftover saliva sample is used on page 5 of this consent form and on the Veritas Genetics consent.

### **Test Results:**

A copy of your genetic test results will be sent to our study team at Women's College Hospital by Veritas Genetics. This study will report either: 1) *negative*, meaning no known cancer-predisposing mutations were found based on our current knowledge or 2) *positive*, meaning a mutation (pathogenic or likely pathogenic variant) with a known clinical impact was found or 3) *variant of uncertain significance*, meaning a genetic change (or variant) was found in BRCA that is not conclusively shown to cause cancer and the significance is currently unknown. VUS results will be reported as additional findings in both negative and positive reports. Negative and VUS reports will be made available to participants directly by Veritas Genetics via email notification and download from the Veritas Genetics web portal. Positive reports will be given to participants directly by the WCH study team, after initial results disclosure over the telephone.

Patients who receive a positive result will be notified the genetic counsellor, Nicole Gojska and Dr. Narod. Follow-up

appointments will be offered, in person or by telephone, to discuss the implications of participants' carrier status, to provide genetic counselling and to arrange appropriate referrals. If you prefer, you can be referred to a local genetics clinic in your area.

If your results are negative, this does not mean you will not develop cancer. If you have a family history and would like more information about additional genetic testing, you may wish to speak with a genetic counsellor at your local genetics clinic. A negative (uninformative) result can sometimes be frustrating and can increase worry, or it can provide relief. Follow-up genetic counselling (by a Veritas Genetics genetic counsellor or the Women's College Hospital genetic counsellor) will also be available upon your request.

If you receive an inconclusive or variant of uncertain significance result, you will be notified by Veritas Genetics. Veritas Genetics will be available upon request to provide follow-up or additional information regarding your result. However, if you would like to speak with the study team at Women's College Hospital we will be available to provide counselling and additional information. Our knowledge of genetics is evolving and we may know more in future about particular variants. You may also wish speak with your primary healthcare provider and be referred to a local genetics clinic for long-term follow-up.

Only the BRCA1 and BRCA2 genes are included in this test. Other genes related to cancer predisposition or other medical conditions will not be tested. If you wish to learn more about additional testing, beyond BRCA1 and BRCA2, please contact Veritas Genetics directly or speak with your family doctor or local genetic counsellor.

One year after you receive your BRCA genetic test results, you will be asked to complete a brief follow-up questionnaire if you receive a positive BRCA test result. If you receive a negative or inconclusive result, you will be randomly (like flipping a coin) selected to complete the follow-up questionnaire. This questionnaire will be available online and is meant to evaluate your level of satisfaction, health and risk-reducing strategies and your level of worry related to developing cancer following participation in this study. In addition, if you provide additional consent (on page 6), the study team may communicate with you in the future regarding your interest in new or follow-up research studies.

## **BENEFITS**

You may or may not benefit from participating in this study. It is anticipated that information collected from this study will help provide all Canadians with access to genetic testing for hereditary breast and ovarian cancer. Genetic test results from this study may also allow you to better manage your health and understand your risks for developing specific types of cancers.

## **RISKS**

There are no known risks associated with the collection of saliva. In addition to any unforeseeable risks in this study, potential risks of this testing are primarily psychological in nature. An increased risk of cancer or uninformative test results can lead to psychological consequences including feelings of depression, regret and distress. If you receive a positive result, you may also be faced with making important decisions about cancer risk-reducing options and other aspects of your health. Please consider whether you feel emotionally ready to receive information about your BRCA mutation status and take time to consult with family, friends and other healthcare providers. If you require additional support, you may speak with the research team who can discuss additional support options available to you.

As of May 4, 2017, the Genetic Non-Discrimination Act (GNA), formerly known as Bill S-201 was passed into law in Canada. This law protects individuals from the use of genetic test results for means of discrimination by potential or existing insurers. Under GNA, insurance providers cannot request or require that a person undergo genetic testing or disclose previous and/or future genetic test results. However, GNA does not prohibit insurers from using information about pre-existing or previously diagnosed medical conditions. Family history is not protected by GNA. No information in regards to your genetic test results will be given by Women's College Hospital or members of the study team to your insurance company without your authorization, unless, in the unexpected and very unlikely event, Women's College Hospital or members of the study team are obliged by legal process to do so. You may contact the study team for additional information about GNA.

## **CONFIDENTIALITY**

Your medical history and study information will be kept strictly confidential. Your confidentiality will be respected to the extent permitted by applicable laws and regulations and your study records will not be publicly available. No information that discloses your identity will be released or published without your specific consent. Your identity will not be used in any reports or publications about the study; you will only be identified by a study number. All information collected from the baseline, genetic test results and follow-up questionnaires will be kept behind locked doors and in secure computer files and is subject to the confidentiality and privacy regulations of Women's College Hospital. This information will not become part of your medical record. If you participate, your information will be available only to the research team. Veritas Genetics will share relevant demographic, as well as personal and family history information, collected on the company's web portal at the time of placing your myBRCA test kit order, with the Women's College Hospital study team. The study team at Women's College Hospital will not share information collected on the initial study questionnaires with any other party, including Veritas Genetics. Information regarding your medical history or test results will not be disclosed to any family members, insurance companies or healthcare provider without your consent.

## **PARTICIPATION**

Your participation in this study is voluntary. You may withdraw from the study at any time. You can choose not to participate or you may withdraw at any time by notifying the study team by telephone. If any new information becomes available that is relevant to your decision to continue to participate or withdraw, it will be provided to you or your legal representative by the study team as it becomes available. You will not have to provide a reason for withdrawal. If you withdraw your consent, information collected about you prior to your withdrawal will still be used. No new information will be collected and no testing will be performed without your permission. You may cancel the BRCA genetic testing performed on your sample at any time prior to the test being completed; however, Veritas Genetics cannot process a refund if you withdraw from the study after the laboratory has begun processing your sample. If you withdraw from the study after the saliva collection kit has been sent to your mailing address, there is a non-refundable kit fee of \$100. If you withdraw from the study your saliva sample or leftover DNA sample will be discarded at your request.

In no way does signing this consent form waive your legal rights, nor does it relieve the study team or involved institutions from their legal and professional responsibilities. The study team may end the study at any time and for any reason.

## **ADDITIONAL USE & TRANSFER OF SAMPLE:**

After completion of BRCA1 and BRCA2 genetic testing on your sample, any leftover sample (from your original saliva sample) may be returned to Women's College Hospital by Veritas Genetics for future research at Women's College Research Institute (provided your consent). This sample will be used for research purposes only and will not be sold. Your samples will be stored in freezers at the Women's College Hospital (Toronto, ON). If you do not choose to have your sample transferred to Women's College Hospital, this will not affect your BRCA1 and BRCA2 testing or follow-up in any way.

Any samples remaining at Veritas Genetics (if you choose not to have your sample transferred) may be stored indefinitely except as prohibited by law in the United States. The Women's College Hospital study team will not be responsible for the additional use of your sample by Veritas Genetics. Briefly, leftover sample will be de-identified (name and all personal identifying information removed) by Veritas Genetics. As indicated on the Veritas Genetics consent form, your de-identified sample may be used for new test development and/or laboratory quality assurances purposes by Veritas or their collaborators. If you do not wish your sample and test information to be used by Veritas following your BRCA test results, you may opt out of additional use of your sample on the Veritas Genetics consent form.

Any DNA changes or variants identified through your BRCA genetic testing by Veritas Genetics may be shared in ClinVar or other HIPAA (Health Insurance Portability and Accountability Act) -compliant public databases by Veritas Genetics, intended to aid the medical community in the interpretation of genetic changes and conditions. In all cases, your sample information will be de-identified before any information is shared.

## **REQUEST FOR MORE INFORMATION**

If you have any questions regarding participation in this study contact: Nicole Gojska, Genetic Counsellor at 416-323-6400 ext. 2727 or [thescreenproject@wchsopital.ca](mailto:thescreenproject@wchsopital.ca). If you have any questions about your rights as a research participant, please call Nancy Walton, Chair of Research Ethics Board at (416)351-3732 ext. 2325. This person is not involved with the research project in any way and calling will not affect your participation in the study.

**DOCUMENTATION OF IMPLIED INFORMED CONSENT**

Study Title: POPULATION BASED BRCA GENETIC TESTING IN CANADA

Name of participant:

By completing the questions below, I confirm that:

- I have read each page of the consent form and have downloaded a copy;
- I have contacted the research team with any questions and they have been answered to my satisfaction;
- I understand the requirements of participating in this research study;
- I understand the potential risks and benefits of participating in this research study;
- I understand the alternatives to participating in this research study;
- I understand the rights of research participants;
- I have reviewed all the study materials, including the WCH genetic counselling video;
- I understand that my participation is voluntary and that I may discontinue participation in the study at any time;
- I understand that this study evaluates the BRCA1 and BRCA2 genes and will not test for other genes related to breast and ovarian cancer or other medical conditions;
- I understand that if I want more information about other genetic conditions or genetic tests, it is my responsibility to speak with a local genetic counsellor or health care provider;
- I authorize access to my personal health information and research study data as explained in this form;
- I authorize Veritas to release my BRCA genetic test results to the study team at Women's College Hospital;
- I have agreed, or agree to allow the person I am responsible for, to participate in this research study

I give permission to the study team to contact me if additional information is needed in the future.

YES \_\_\_\_\_ NO \_\_\_\_\_

Contact Information: Telephone: \_\_\_\_\_ Email: \_\_\_\_\_

I give permission to the study team to contact me for future studies and follow-up outside of this study period.

YES \_\_\_\_\_ NO \_\_\_\_\_

I give permission to Veritas Genetics to release any *leftover* DNA sample to the study team at Women’s College Hospital for future studies on cancer susceptibility, after completion of the study.

YES \_\_\_\_\_ NO\* \_\_\_\_\_

\* If *NO*, your sample will remain at Veritas for future use for a period of one year, as per the Veritas consent form.

If *YES*: Please select one of the following options:

- I would like to be told about any future genetic testing results, which could provide information about my health and personal risk to certain types of cancers
  - I want my sample to be *anonymised* and I do not wish to know the results of any research performed, even if it may provide information relevant to my health, specifically my personal risk of certain types of cancers
- OR**
- My leftover, DNA sample may *not* be used for research; however, I would like to be contacted regarding future research

Please check the appropriate box:

- I **consent** to participate in this study. By checking this box, you are indicating that you have read and understood this consent form and that you agree to participate in this study.