If you carry a BRCA gene alteration you could discuss the benefits and limitations of prostate screening with your GP from the age of 40. There is no proven useful screening for male breast cancer. It remains important to remain chest aware and to report any concerns to your GP, you may also wish to consider discussing clinical examinations of the chest with your GP when you attend for your prostate screening.

What about my children?

If you do not carry the BRCA gene alteration found in your family, your children cannot inherit it. If you do carry it, they will each have a 1 in 2 (50%) chance of inheriting it. They may wish to have a genetic test when they are adults to inform them about their risk and suitable screening. Many men worry particularly about their daughters. You may find the 'Hereditary Breast and Ovarian Cancer' leaflet helpful as it gives more information for women. As their risk of developing cancer below the age of 30 is low, we would not usually begin any screening for them until at least this age. Some men choose to delay testing until their children are in their 20s, when it is more relevant for them. It can be difficult to talk to your sons, daughters or other relatives about this. We can discuss this with you further if you wish.

This leaflet is based, with permission, on a leaflet produced by:

The West Midlands Regional Genetics Service

Birmingham Women's and Children's NHS Foundation Trust

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BRCA1 and BRCA2 for men

Information for men from families with a known alteration in the BRCA1 or BRCA2 gene

Ospidéal San Séamas
Seirbhís Dé agus A Phobail

ST. JAMES'S HOSPITAL

What are genes ?

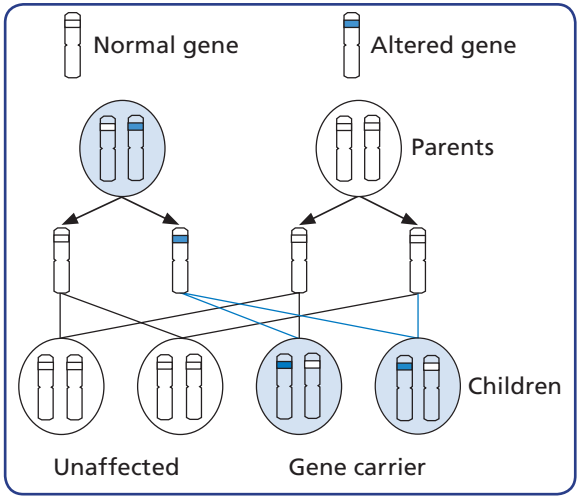
Genes are instructions which tell our bodies how to work. We each have approximately 20,000 genes. Most of our genes come in matching pairs. We inherit one copy of a gene from our mother, and one copy from our father. Each gene has a specific job in the body.

What do BRCA1 and BRCA2 do ?

BRCA1 and BRCA2 are important in controlling how our cells grow and in repairing damage in our cells. By doing this job, the genes help to protect us from getting cancer. If a gene contains an alteration (similar to a spelling mistake in the gene's instruction), the gene can no longer do its job properly. Women with a BRCA gene alteration have a higher risk of breast and ovarian cancers and men with a BRCA gene alteration have a higher risk of prostate and breast cancers.

How are BRCA1 and BRCA2 inherited ?

We have two copies of each BRCA gene. People who have a BRCA alteration have one altered copy and one working (normal) copy of the gene. Each time they have a child; there is a 1 in 2 (50%) chance that they will pass on the working copy and a 1 in 2 (50%) chance that they will pass on the altered copy. This is called dominant inheritance and is shown in the diagram below.



Although the cancers which are most often linked with BRCA1 and BRCA2 generally occur in females (breast and ovarian cancer), both women and men can carry an altered copy of a BRCA gene.

What does it mean for men who carry a BRCA alteration ?

The implications for men who carry a BRCA gene alteration depend on whether the alteration is in BRCA1 or BRCA2. Men who carry a BRCA1 gene alteration, may have a slightly higher risk of male breast cancer. About 1% or 1 in 100 men who carry BRCA1 develop breast cancer. Recent evidence suggests there may be a slight increase in the risk of prostate cancer in the region of 15-20%. Men who carry a BRCA2 gene alteration, have a higher lifetime risk of developing prostate cancer. It is estimated that 20-25% of men who carry a BRCA2 alteration develop prostate cancer. Most of these prostate cancers occur over the age of 45. Men who carry a BRCA2 alteration also have a higher chance of getting breast cancer. The chance of this is about 6-8%.

How do I know if I have a BRCA gene alteration?

If someone in your family is known to have a BRCA gene alteration, you could have a blood test to see if you also carry it. We would arrange an appointment for you to discuss the implications of testing. It is sometimes useful to think about how you and other family members might feel about the results and how you might cope with this. It can also be helpful to consider what screening you may have if you carry the alteration. Some people worry that genetic testing can affect their ability to obtain life insurance. The Oireachtas passed an Act in 2005 to prevent such discrimination. Further information about this can be found at: http://www.insuranceireland.eu/.

Is there any screening available ?

For men who have a BRCA gene alteration, there are screening tests available for prostate cancer and recent evidence suggests that prostate cancer screening may be of benefit to men with BRCA1/2 gene alterations. Prostate screening involves a blood test to measure the level of a marker called PSA (prostate specific antigen). The doctor may also examine the prostate by inserting a finger into the back passage to check that the prostate is not enlarged. PSA levels may be raised in prostate cancer, but these tests will not detect all cases of prostate cancer. PSA levels can also be raised in men who do not have cancer. Often, a man with a raised PSA level does not have prostate cancer but this can cause unnecessary investigations and anxiety. If a man has a raised PSA, he may need another PSA test, an examination or a biopsy.