

Which genes increase the risk of these cancers?

The two genes which we know are important in breast, ovarian and possibly prostate cancer when they are altered in this way are called BRCA1 and BRCA2. There may be other important genes which have not yet been discovered.

What if a man inherits an altered BRCA1 gene?

If a man inherits an altered BRCA1 gene his lifetime risk of developing prostate cancer is increased to 1 chance in 16. He may have a slightly increased chance of developing breast cancer and possibly colorectal cancer. Each of his children will have a 50/50 chance of inheriting the altered gene from him.

How do you know if you have an altered gene?

If someone in your family is known to have an altered BRCA1 gene it means that you can also be tested. We ask you to come to the clinic at least twice before giving a sample to discuss the implications of being tested and how you would feel about the result. We ask you to return to the clinic for the results 4 weeks later. We will offer you follow up appointments after the result.

What screening is available for men who carry the altered gene, or who are at 50/50 risk of having the altered gene?

No screening test for prostate cancer has been shown to detect all cases of cancer and sometimes results of tests can be abnormal, even in men who do not have cancer. This can cause a great deal of anxiety as well as unnecessary investigations. However, if a man is found to be at increased risk of prostate cancer he can discuss screening with his GP who will advise him about what is available locally.

Last updated Mar 2002

Prostate screening involves examination of the prostate and a blood test. To examine the prostate, the doctor inserts a finger into the back passage to check that the prostate is not enlarged. The blood test measures the level of a substance called PSA (Prostate Specific Antigen) that is raised in prostate cancer.

If you notice any changes in your bowel habits, for example bleeding from your back passage, pain, persistent diarrhoea or constipation, your GP may suggest that you have a bowel examination.

Otherwise bowel screening is not necessary.

If you notice any lumps or bumps in your chest it would be wise to go to your doctor.

For more information:

If you need more advice about any aspect of inherited cancer, you are welcome to contact:

Clinical Genetics Departments

Northern Scotland (main base Aberdeen)

Tel: 01224 552120 Fax: 01224 559390

(Aberdeenshire, Moray, Highland, Western & Northern Isles, Argyll & Bute)

Tayside (main base Dundee)

Tel: 01382 632035 Fax: 01382 645731

(Perth & Kinross, Angus, North East Fife)

South East Scotland (main base Edinburgh)

Tel: 0131 651 1012 Fax: 0131 651 1013

(Borders, Lothian, South West Fife)

West of Scotland (main base Glasgow)

Tel: 0141 201 0808 Fax: 0141 201 0361

(Glasgow, Ayrshire, Dumfries & Galloway, Stirling, Lanarkshire, Falkirk)

If you need more advice about cancer and support groups, please contact:

Maggies Centres

Telephone: 0131 5373131

www.maggiescentres.org

Seen in clinic by.....

This leaflet was originally designed by Guy's & St. Thomas' Clinical Genetics. Updated by Genetic Interest Group Scotland.

Genetic Testing for men

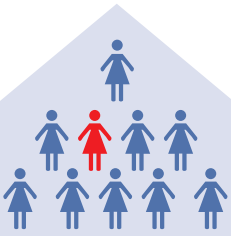


Information for men
from families with a
known alteration in the
BRCA1 gene

How common are breast, ovarian and prostate cancer

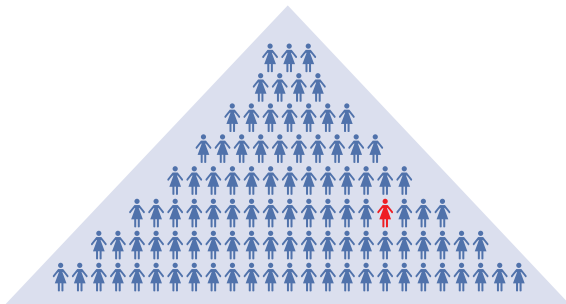
In the UK, breast cancer affects 1 in 10 women during their lifetime. Most of these women are aged over 60. It is very rare for men to develop breast cancer.

Breast Cancer



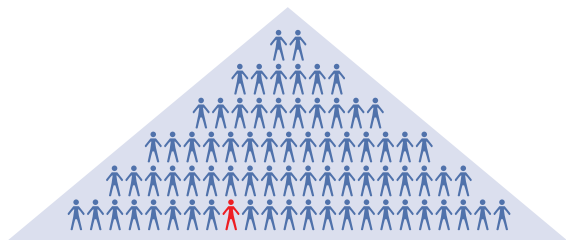
Ovarian cancer is less common. In the UK, about 1 in 100 women are affected in their lifetime. Most of those women have been through the menopause.

Ovarian Cancer



Around 1 man in 50 develops prostate cancer before the age of 75. After age 75 prostate cancer is more common.

Prostate Cancer



What is inherited cancer?

In some families, women over several generations develop breast or ovarian cancer. Sometimes men in these families may also have had prostate cancer or colorectal cancer. As these cancers are fairly common, especially in men over the age of 75, they may not be linked with breast or ovarian cancers. Occasionally men in these families have had breast cancer.

In a very small number of families some relatives may have inherited a **gene** making them more likely to get cancer.

What are genes?

Our genes are the unique set of instructions inside our bodies which makes each of us individual. There are many thousands of different genes, each carrying a different instruction.

As well as determining how we look, our genes control the way each cell or building block of the body works. Specific genes control specific cell types. Some genes are particularly important in controlling the way the cells in the breasts and ovaries grow. These genes may also be important in the growth of cells in the prostate.

We inherit two copies of each of our genes, one from our mother and one from our father.

Why do some genes increase the risk of cancer?

The instructions in each gene are like a code. Sometimes the code differs from that of a normal gene.

For example, imagine the code for a normal gene is:

1-2-3-4-5-6-7-8-9-10-11-12-13

The gene passed down through the family may have a slightly different code;

1-2-3-4-5-6-7-9-9-10-11-12-13

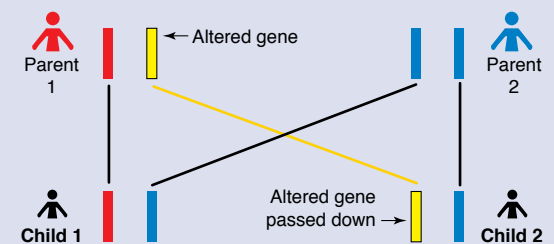
This gene will give slightly different instructions to the cells it controls than a gene with a normal code. We call this an **altered gene**.

If the altered gene is one that controls breast, ovarian and possibly prostate cells, there is a higher chance that breast, ovarian or prostate cancer may develop.

How can an altered gene be inherited?

If one parent (either the mother or the father) has an altered BRCA1 or BRCA2 gene, this can be passed down to a child.

Each child has a 50/50 chance of inheriting that parent's altered gene and a 50/50 chance of inheriting that parent's normal gene. For example:



Child 1 inherits a normal gene from parent 1 and from parent 2. This child does not inherit the altered gene. The risk of breast/ovarian cancer is not increased. The altered gene will not be passed on to his/her own children. The risk of breast, ovarian and prostate cancer is not increased.

Child 2 inherits a normal gene from parent 2 but altered gene from parent 1. If this child is a girl her risk of breast/ovarian cancer is increased. This child (a boy or girl) could pass the altered gene on to his/her own children. If the child is a boy, the risk of prostate, breast and colorectal cancer may be increased.