Genetic testing

Discover Your Genetic Risk Of Cancer: A comprehensive test analysing 31 genes, allowing personalised surveillance and early detection

Accessible genetic testing using a simple saliva test which can be done at home. The test identifies inherited genetic variants known to increase the risk of various cancers, allowing you to monitor higher-risk areas and catch any changes early.

Our DNA is made up of many genes, which each have different functions. Each gene comes in different "versions", called genetic variants. Some variants of a gene increase risk of disease, including cancer. Some variants increase the risk of multiple types of cancer, as they affect the initial processes involved in a cell becoming cancerous, which is not specific to a particular tissue or organ. Other genes increase the risk of certain types of cancer, for example the BRCA1 and BRCA2 gene variants are primarily associated with breast and ovarian cancer.

Having a risk variant does not mean you will definitely get cancer - it just means that you have inherited an increased risk through your DNA. There are many environmental risk factors which further increase risk of cancer, such as smoking, UV exposure, exposure to toxic chemicals and so on. Overall, it is estimated that 5-10% of cancers have a genetic variant that contributed to the cancer susceptibility.

Hereditary cancer testing is used to detect these risk variants, to tell an individual whether they have an increased risk of cancer from their genetics. This empowers the individual to make changes to their lifestyle and engage in a care pathway with more frequent screening, which will enable earlier detection if cancer does develop.

- ✓ **Aid early cancer detection**
- ✓ **Identify available risk management programmes and screening programmes**
- ✓ **Reduce risk of developing associated cancers**
- ✓ **Patient and their family can make informed choices**

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FAQs

Who should have a genetic test for cancer?
Those with family history of cancer are more likely to have an inherited genetic risk and should consider testing. A genetic cause of cancer is suspected when there are certain traits to a cancer, or recurring cancer seen throughout a family. If you have any of the following features in a first or second degree relative, you may also have inherited a genetic risk of cancer:

- ❑ Early age of cancer onset
- ❑ Multiple primary tumours (multiple different cancers which have arisen separately rather than spread from one tumour site)
- ❑ Multifocal tumour sites (when multiple distinct tumours have arisen separately within the same organ/tissue, indicating a more complex disease)
- ❑ Bilateral tumour appearance in paired organs (e.g., tumours in both breasts)
- ❑ Same tumour type between relatives
- ❑ Rare tumour types
- ❑ Rare tumours associated with birth defects

Taking a genetic test would enable you to identify risk variants and make lifestyle and screening choices accordingly. If your test does indicate an increased risk, you may want to ask family members to get tested too.

However, sometimes genes can mutate randomly during reproduction, meaning you could have a risk variant even though your parents don't. Further, you may have inherited a risk variant from your parents, even though they may not have developed cancer. Therefore, we offer hereditary cancer testing to anyone over 18 years of age regardless of personal or familial cancer history.

How can I get a genetic test?
Ask your doctor or nurse to contact Cambridge Clinical Laboratories. Alternatively, contact us directly and we can arrange for you to have the test independently.

How will I get the results?
Your results will be sent to your doctor or nurse if they requested the test for you.
If you booked the test through Cambridge Clinical Laboratories directly, our partner private GP will contact you to deliver your results. Scan to see a sample results report:

What happens if I have high risk genetic variants?
We can organise an appointment with a genetic counsellor if you have any high-risk variants. A genetic counsellor will explain what the implications of this result are, including how you should monitor your risk and the possible implications for family members.

Does the NHS use this test?
The NHS offers some genetic testing if you meet a specific criteria, including having a family member with an identified risk variant or very strong family history of cancer. The NHS also offers BRCA testing for people with 1 or more Jewish grandparents. However, you must be referred by a specialist, and if you qualify for BRCA testing, this does not include the other 29 genes included in our panel.

What genes does the test analyse?
The 31 genes tested are: APC, ATM, BAP1, BARD1, BMPR1A, BRCA1, BRCA2, BRIP1, CDH1, CDK4, CDKN2A, CHEK2, EPCAM, HOXB13, MLH1, MSH2, MSH6, MUTYH, NF1, NTHL1, PALB2, PMS2, POLD1, POLE, PTEN, RAD51C, RAD51D, SMAD4, STK11, TP53, VHL.

Scan here to see a full list of what these genes are,
the location in your genome and the function of these genes: