

# The PALB2 Gene

## Why have I been given this information sheet?

In recent years a gene called PALB2 has been shown to be linked to breast cancer in some families. We are now able to offer a test to see if there is a problem with this gene in families with a certain pattern of cancer. Usually you will be offered testing of BRCA1 and BRCA2 before or at the same time as testing of PALB2.

## What is the PALB2 gene?

PALB2 works in a similar way to the BRCA1 and BRCA2 genes, and helps to protect against developing breast cancer. Current research does NOT suggest having a PALB2 gene alteration is linked with ovarian cancer.

## How is the PALB2 gene inherited?

Changes to this gene are passed on in the same way as changes to BRCA1 or BRCA2. The leaflet you have been given about the BRCA1 and BRCA2 genes shows the way that an altered copy of PALB2 can also be inherited.

## What happens if an alteration to PALB2 is found in my family?

This would give some explanation for the pattern of cancer in your family. However, as this gene was only shown to be linked to breast cancer quite recently, there is still some uncertainty about how alterations in PALB2 can affect the risks of cancer in a family.

Finding a change in this gene in a family allows us to offer 'predictive' testing to relatives to see if they have inherited this gene change or not. It also allows us to give advice on risk management and screening to relatives based on the current understanding of PALB2.

For women with a PALB2 gene change the risk of breast cancer is thought to be high, with different research suggesting the risk over a lifetime is between 30% and 60%. There is not thought to be an increased risk of ovarian cancer.

For men there may be an increase in the risk of developing breast cancer, though the chances of this remain relatively low. There is NO evidence to suggest that the risk of prostate cancer is significantly increased. The risk of pancreatic cancer may be slightly increased for both men and women.

### **What checks are advised for families with a PALB2 gene change?**

There is not yet clear and specific guidance for what checks will best manage the risks of cancer for individuals with a PALB2 gene change. If you have a change to one of these genes then recommendations will be made based on the current scientific knowledge and any guidelines that have been published. Your genetic counsellor or doctor will discuss this with you, and is likely to include both screening and risk reducing surgery options.

There may be risks of other cancers associated with PALB2 but the level of risk is not thought to be high and it is unlikely that you will benefit from extra screening. However it is still important to be aware of symptoms and report any that develop to your GP.

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