Oxford University Hospitals
NHS Trust

Oxford Regional Genetic Department

MYH Polyposis

Information for families with a history of bowel cancer or polyps
What is MYH?

MYH is an inherited condition which causes people to be predisposed to developing bowel polyps and cancers.

What is a polyp?

A polyp is a small non-cancerous growth. Polyps usually occur in the colon (large bowel). It is normal for an adult to develop 1 or 2 polyps as they get older but it is unusual to have lots of polyps. When lots of polyps occur we call this Polyposis.

Polyps are usually harmless. If they are left for several years some types of polyps can develop into cancers. If someone has lots of polyps it is more likely that one of them might develop into a cancer.

Some people are more prone to developing lots of polyps because of an inherited condition. One of these conditions is called MYH, after the gene which causes it.

What is the MYH gene?

Genes are instructions which tell our bodies how to work. We each have about 30,000 genes. All our genes come in pairs as we get one copy from our Mother and one from our Father. Each gene has a specific job. The MYH gene is important in repairing damage to cells. If part of the gene is missing or altered it will not be able to do its job properly. If this happens in the MYH gene it can cause lots of polyps to develop, increasing the risk of bowel cancer.
How does MYH run in families?

MYH is inherited in a way called autosomal recessive.

We each have two copies of the MYH gene. It is only if we inherit an alteration in both copies of the gene that problems occur. Lots of polyps develop because there is no working copy of the gene. People who have one altered and one working copy are carriers of MYH, but do not develop the condition themselves. This is because they still have a working copy of the gene which compensates for the altered one.

When a couple has a child they each pass on one copy of each gene at random. If both parents are carriers for MYH there are 4 possible combinations of the genes that the child may receive. This is shown in the diagram below.
Can you test for MYH?

It is possible to look at the MYH gene by taking a blood sample. If possible, it is best if this test is first done in someone who has had cancer or lots of polyps.

The test looks for the most common alterations. It is not possible to look at the whole gene as it is too large and the test would take too long.

You may have been offered testing for MYH if:
- You have had between 5 and 100 polyps.
- The individuals affected with bowel cancer at a young age in your family have been in one generation (brothers and sisters), rather than parents and children.
- Genetic tests for other inherited bowel cancer conditions have not found a cause for the pattern of cancers (or polyps) in your family.

What happens next?

If tests show that MYH is the cause of the cancers or polyps in your family, it is possible to offer genetic testing to other family members.

If the tests do not find any MYH alterations it is unlikely that MYH is the cause of the cancers or polyps in your family. We would not be able to offer testing to family members. They should continue with any bowel screening already recommended.

What does it mean for my relatives?

We would be happy to discuss genetic testing with other family members. Relatives living outside this region could ask their GP to refer them to their local genetics service.
After testing, people who have alterations in both their MYH genes will need bowel screening every 2 years.

Family members who have only one altered copy of the MYH gene (carriers) are not thought to have a high enough risk for screening to be beneficial. Family members with two working copies of the gene have the same risk of bowel cancer as the general population.

In families with MYH, the risk for the next generation is often low, as the chances of both parents being carriers for MYH is small.

What does bowel screening involve?

Bowel screening involves a procedure called a ‘colonoscopy’ to be carried out. To have a colonoscopy you must first empty the bowel by taking strong laxatives. A colonoscope is a long flexible tube containing a tiny camera (about the thickness of your index finger). It is passed through the anus and along the bowel to look for polyps or abnormalities. You will be given mild sedation so it is not usually too uncomfortable.
There are two benefits of a colonoscopy. Firstly, it is able to detect cancers early when they are more treatable. Secondly, during the procedure, any polyps found can be removed. This reduces the chances of cancers forming.

What symptoms should I look out for?

You should be aware of any persistent unexplained tiredness or any unusual bowel symptoms. This might include blood in your stools, passing mucus, unexpected weight loss or persistent change in bowel habits. You should ask your GP for further advice about these. You should make your doctor aware of the family history and may wish to take this leaflet with you.

If anyone else in the family develops any cancers or polyps please let us know so we can update our advice.

Further Information

http://www.cancerresearchuk.org/
http://www.macmillan.org.uk/Home.aspx
If you need more advice please contact:

**Oxford Cancer Genetics Service**
Department of Clinical Genetics
Churchill Hospital
Old Road
Headington
Oxford
OX3 7LE

Telephone: **01865 226 034**
Fax: **01865 223 572**
If you need an interpreter or need a document in another language, large print, Braille or audio version, please call 01865 221473 or email PALSJR@ouh.nhs.uk

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