University Hospital Southampton NHS
NHS Foundation Trust

MYH associated polyposis (MAP)

Information for patients

What is MYH associated polyposis (MAP)?

MAP is an inherited genetic condition which predisposes to bowel polyps and bowel cancer.

A polyp is a small non-cancerous growth. Polyps usually occur in the colon (large bowel). It is normal for an adult to develop one or two polyps as they get older, but it is unusual to have lots of polyps.

Polyposis refers to a condition in which a person develops many polyps in the bowel. Polyps are usually harmless, but 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 associated polyposis (MAP), after the gene that causes it which is called MutYH.

What is the MYH gene?

Genes are instructions, which tell our bodies how to work. We each have about 25,000 genes. All of our genes come in pairs as we get one copy from each parent.

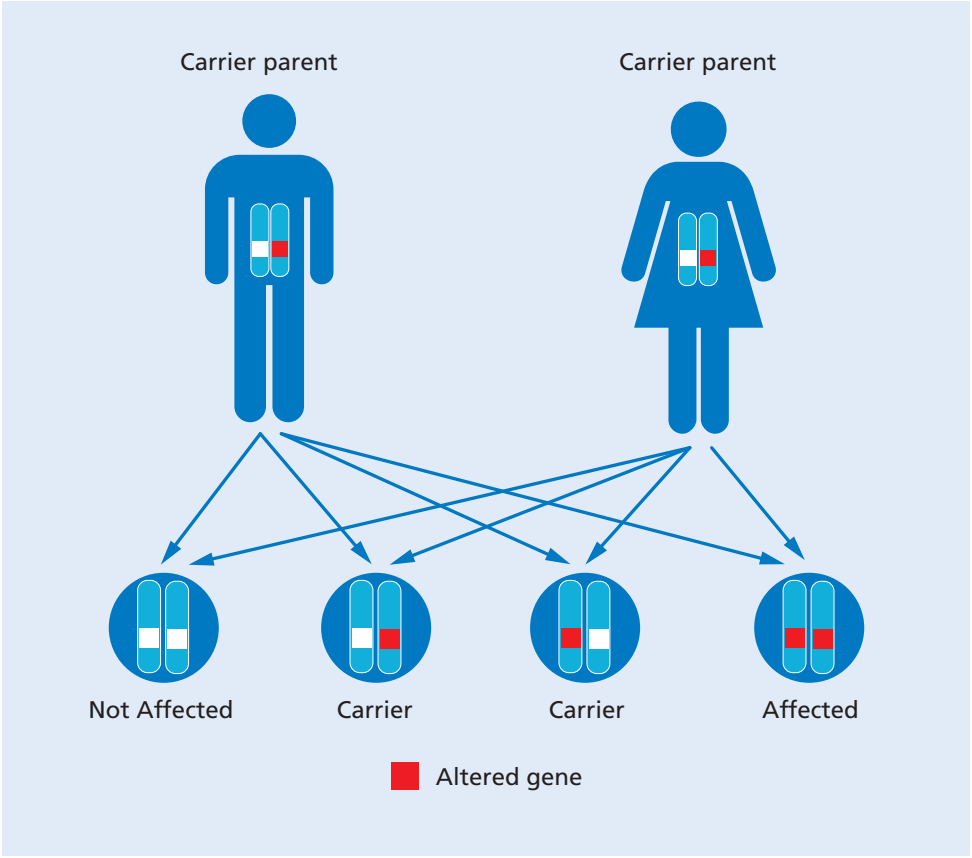
Each gene has a specific job. The MYH gene is important in repairing damaged cells. If both copies of the gene are altered, then people can develop lots of polyps and so have a higher risk of bowel cancer.

Causes

We each have two copies of the MYH gene. It is only when a person inherits two altered copies of the gene, one from mum and one from dad, that polyps are likely to develop.

People who have one altered and one normal copy are known as carriers, but do not develop the condition themselves. This is because although they carry an alteration in one copy of the MYH gene, the other gene works correctly.

When a couple has a child they each pass on one copy of each gene pair at random. Carrying an alteration in one copy of the MYH gene is not very common (about one in 100 people in the general population are thought to be carriers). However, if both parents are carriers of MAP there are four possible combinations of the genes that the child may receive.



Tests

We get the best information by first testing a person who has had polyps or a bowel cancer, as they are most likely to be carrying two altered copies of the gene. If the test finds two altered copies of the gene, then relatives can be tested.

The initial test looks for two common alterations in the gene. If one of these is found then further testing takes place to try and identify a second alteration.

You or a family member may be offered testing for MAP if:

- between five and 100 polyps have been found in one person in your family, or
- there is one person in your family with bowel cancer diagnosed at a young age.

Genetic testing for MAP may also be offered to your family because other testing has not found a cause for the pattern of cancers (or polyps) in your family.

Diagnosis and treatment

If tests show that MAP is the cause of the bowel cancer or polyps in your family, it is possible to offer genetic testing to other family members. This is called predictive testing.

If the tests do not find any MYH gene alterations it is unlikely that MAP is the cause of the bowel cancer or polyps in your family. In this situation we would not be able to offer testing to family members at this time.

After testing, family members who have an alteration in both copies of the MYH gene will require regular bowel screening.

Family members who have only one altered copy of the MYH gene (carriers) are not thought to have an increased chance of MAP and they do not need bowel screening.

Relatives living outside the area covered by the Wessex Clinical Genetics Service can ask their GP to refer them to their local genetics service. In families with MAP, the risk for the next generation is usually low, as the chances of both parents being carriers is small.

Symptoms

You should report any persistent unexplained tiredness or any unusual bowel symptoms. This might include blood or mucus in your stools, unexpected weight loss or a continued change in bowel habits. You should ask your GP for further advice about these. You should make your doctor aware of a family history if you have any and you could show them a copy of this leaflet.

New information

If anyone else in the family develops any cancers or polyps, please let us know as this may affect the advice we have given you.

Further information

If you have any questions or would like more advice about MAP, please contact us at:

- **Wessex Clinical Genetics Service**
  Princess Anne Hospital
  Coxford Road
  Southampton
  SO16 5YA

  Telephone: **023 8120 6170**
  Website: **www.uhs.nhs.uk/genetics**

Useful websites

www.cancerresearchuk.org
www.macmillan.org.uk

Notes

Notes

This booklet was written by:

Wessex Clinical Genetics Service
Princess Anne Hospital
Coxford Road
Southampton
SO16 5YA

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www.uhs.nhs.uk/genetics

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