

An Introduction to
MUTYH Associated Polyposis (MAP)

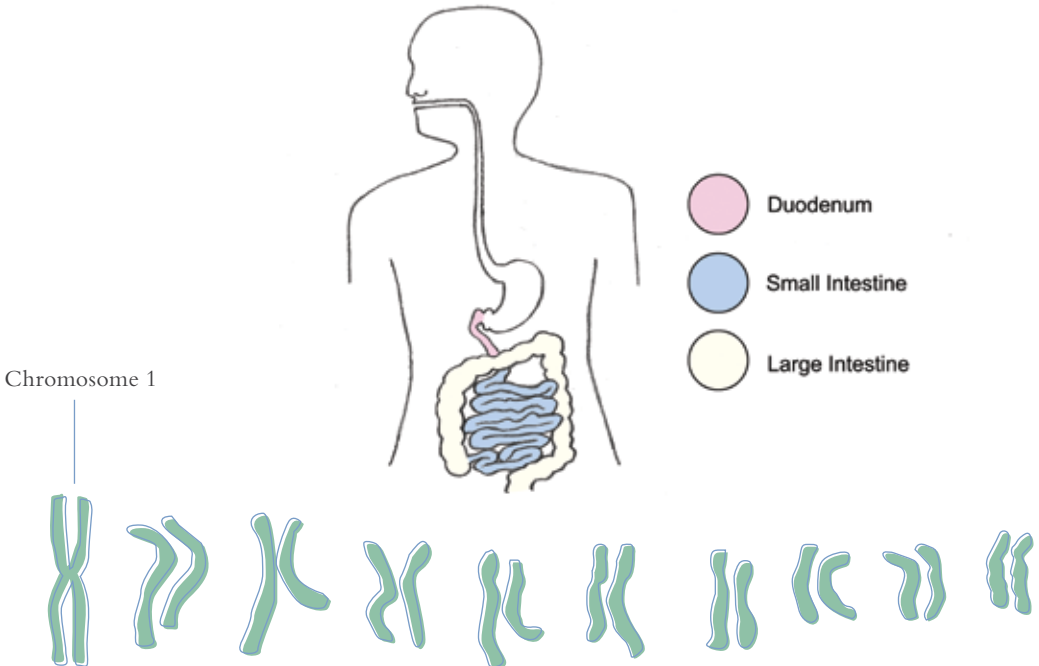
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What is MUTYH Associated Polyposis (MAP)?

MAP is an inherited condition, and patients with MAP have an increased risk of developing polyps in their colon, rectum and duodenum. If the polyps are not removed there is a risk of developing cancer. The genetic changes that cause MAP can be passed from one generation to the next.



What causes MUTYH Associated Polyposis (MAP)?

We have 23 pairs of chromosomes in most cells of our body. Located on the chromosomes are about 25,000 genes which determine our physical characteristics (such as our hair and eye colour, the shape of our nose, our blood type and the number of fingers and toes we have). We have two copies of most genes. One copy is inherited from our father and the other copy from our mother.

The MUTYH gene is located on chromosome 1. Alterations (mutations) in the MUTYH gene affect the ability of cells to correct mistakes when cells divide, allowing polyps to develop.

Polyps are abnormal growths on the bowel wall that can vary in size. There are different types of polyps and those most commonly found in MAP are called adenomas. Most people with MAP have between 10 and 500 polyps.

Polyps caused by MAP do not usually appear until adulthood and are less numerous than those found in patients with another genetic condition called Familial Adenomatous Polyposis (FAP).



How is MAP inherited?

MAP is inherited in a recessive way.

Usually an individual has two normal copies of the MUTYH gene. People affected with MAP have an alteration (mutation) in both copies of their MUTYH gene.

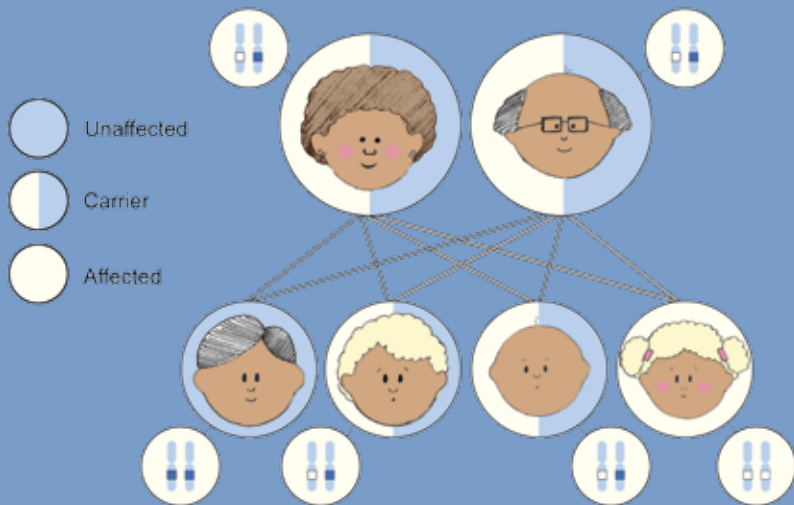
People who have one altered copy of a MUTYH gene are called carriers. It is estimated that around one in every 100 people carry a single mutation in the MUTYH gene.

When both parents are carriers of MAP, there is a 25% (or one in four) chance in each pregnancy, of a child inheriting two altered copies of the MUTYH gene. This child will become affected by MAP.



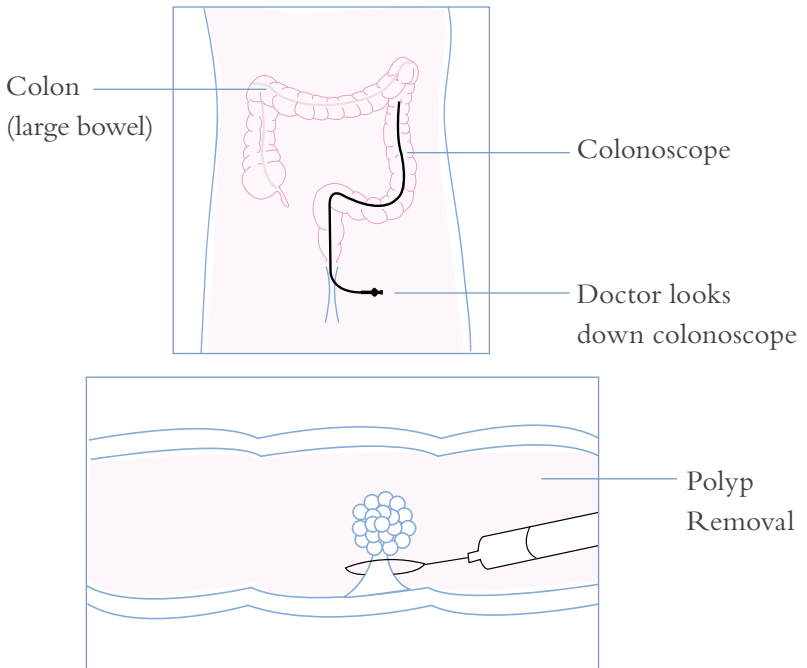
Genetic Testing

Genetic testing to look for alterations in the MUTYH gene is offered to individuals who have multiple polyps in order to make a diagnosis.



How is MAP managed?

A colonoscopy involves passing a flexible telescope into the bottom so that the doctor can have a look to see if there are any polyps in the colon. A gastroscopy is also performed to see if there are any polyps in the duodenum. If possible, any polyps found in the colon and rectum will be removed during the colonoscopy examination. These examinations will be arranged regularly. The frequency of the examination of the stomach and duodenum (gastroscopy) will depend on what is found and may not be required as often as colonoscopy.



If there are too many polyps or they are too large to be managed safely by endoscopy, surgery will be discussed.

There are three types of surgery which may be offered:

1. Colectomy with ileo rectal anastomosis [IRA]
2. Restorative proctocolectomy [Pouch]
3. Total proctocolectomy with a permanent ileostomy [TPC]
- this operation is only used in exceptional circumstances.

The best type of operation will be discussed with a surgeon and if possible this will be done using keyhole surgery techniques.

What about the relatives of someone with MAP?

The relatives of a person with MAP should ask to be referred to an expert in order to find out if they are also affected.

If a carrier of the MUTYH mutation has children, or is planning to have children, their partner will need to arrange to have a genetic test to find out if they are also a carrier. In this way the risk to their children can be assessed.

Carriers are encouraged to take part in the NHS Bowel Cancer Screening programme. A screening kit known as a faecal occult blood test (FOBT) is sent in the post to everyone in the general population between the ages of 60 and 75 years.



Where can I get advice?

To find out more information about MUTYH Associated Polyposis, please contact:

The Polyposis Registry St Mark's Hospital

Telephone: 020 8235 4270

The Family Cancer Clinic St Mark's Hospital

Telephone: 020 8235 4266

The North West Thames Regional Genetics Service

Telephone: 020 8869 2795

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