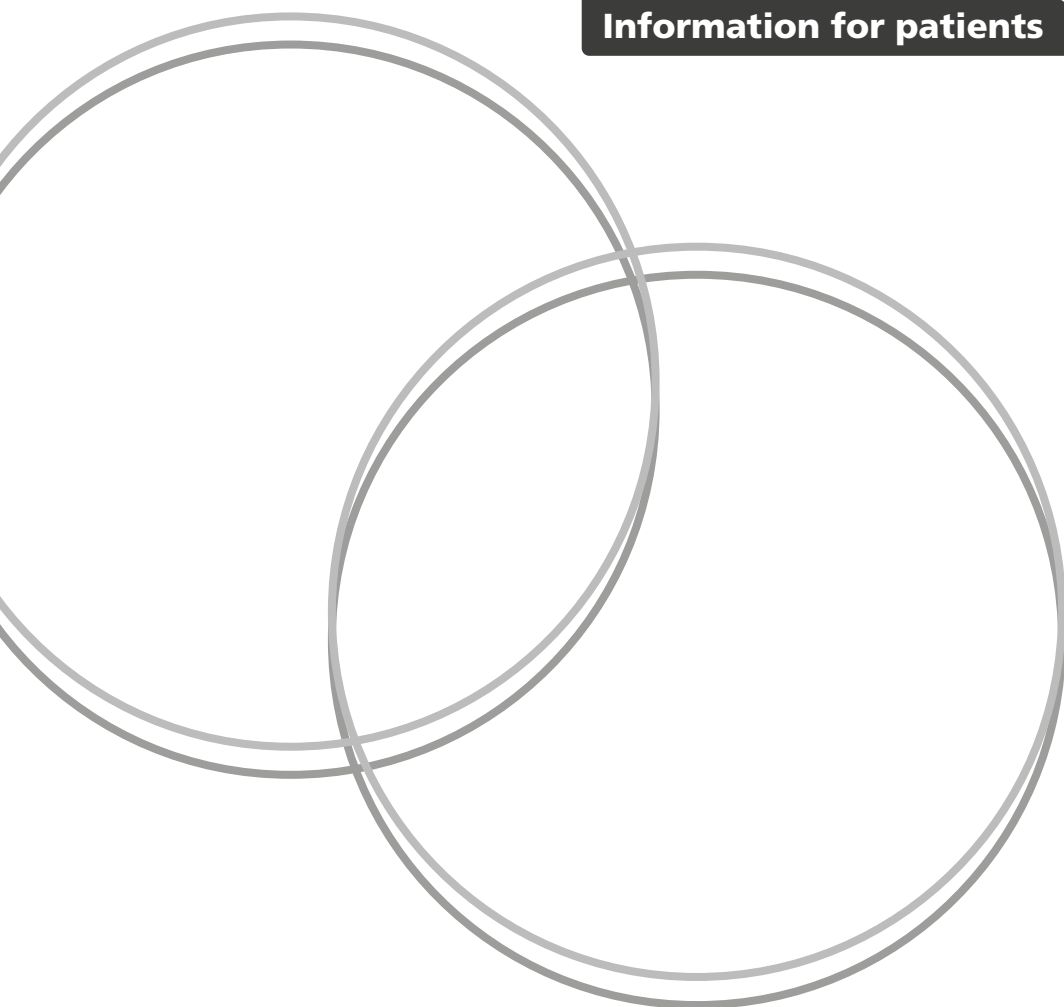


Familial Hypercholesterolaemia

Information for patients



How we identify people who may be at risk of Familial Hypercholesterolaemia (FH)?

High cholesterol levels and a family history of heart disease which presents itself at a younger age can increase your risk of FH.

What is Familial Hypercholesterolaemia (FH)?

FH is an inherited condition. People with FH have high cholesterol levels from birth, which means they are at greater risk of developing early heart disease. FH is caused by an alteration in a gene that is responsible for helping your body clear cholesterol from the blood. High blood cholesterol levels can lead to partial or total blockages of the arteries, causing heart disease. However, early diagnosis and treatment can reduce the risk of this happening. Children are at a 50 per cent risk of inheriting FH if a parent has the condition.

FH treatment and how it can help you?

FH is a treatable condition, the sooner treatment is started, the more effective it will be in preventing early heart disease. FH is diagnosed by taking a sample of blood, which is sent for genetic testing. If you are found to have the gene variant for FH, other close members of your family, including children, can also be offered an FH genetic test.

It is important to identify FH in childhood, particularly in families where heart disease is occurring in early adult life.

What are genes and how are they involved in FH?

Genes are coded messages which give instructions for how cells in our body grow and function. Genes come in pairs and we inherit one copy from each of our parents. We know that FH can be caused by changes in four genes:

- **LDLR gene** – helps to remove cholesterol from the blood
- **APOB gene** – holds the cholesterol particles together in the blood
- **PCSK9 gene** – regulates the removal of cholesterol by the LDLR gene
- **APOE gene** – also helps to remove cholesterol from the blood.

An alteration in one of these genes leads to increased levels of cholesterol, causing a higher risk of heart disease. It is believed that there may be other genes, that are yet to be identified, that cause FH. It is possible that further tests may become available in the future.

What will happen at my clinic appointment?

You will be asked about your medical history, as well as the medical history of your family. Following the initial assessment, it may be necessary to take a blood sample to send for genetic testing, which will require your written consent.

Your blood sample

Your blood sample will be sent to a genetics laboratory for analysis to see if you have FH.

It takes up to eight weeks to receive the results of the blood test, you will be contacted by letter or phone with the results. You will receive a copy of your genetic result and your GP will also be notified.

If your test is positive (confirming that you have FH) you may be invited to attend a follow-up appointment to discuss the result. We will also review your family history again at this stage and discuss who else in the family should be tested for FH. We suggest that you discuss this with your family members in case we need to invite them for screening.

With your agreement, your blood sample will be stored at the Genetics laboratory, and normal laboratory practice is to store the DNA extracted from the blood sample even after the current testing is complete.

The reason for this is that in the future (months or years) further /new tests may become available. We will discuss this with you in clinic and complete the consent form accordingly. In some instances, leftover samples may be useful in checking laboratory techniques and there are occasions when your sample might be used as a 'quality control' for other testing. We will discuss your blood test in detail at your appointment.

Protection of information and confidentiality

All the information we obtain about you will be strictly confidential. Your information will be stored on a secure electronic database, which is a FH register and allows coordination of family members who may be diagnosed with FH. All information obtained by the FH service is protected and governed by the General Data Protection Regulation (GDPR) in conjunction with the Data Protection Act 2018. In addition, all staff must comply with the Common Law Duty of Confidentiality and various national and professional standards and requirements.

Insurance policies and further information

The following organisations have more detailed information and details on insurance issues:

Website: www.bhf.org.uk

Website: www.heartuk.org.uk

Further information

If you would like an interpreter, please speak to the department where you are being seen.

Please also tell them if you would like this information in another format, such as:

- Easy Read
- large print
- braille
- audio
- electronic
- another language.

We have tried to make the information in this leaflet meet your needs. If it does not meet your individual needs or situation, please speak to your healthcare team. They are happy to help.

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