



## PHARMACOGENETICS OF STATIN-INDUCED MUSCLE TOXICITY: EXPLORATION USING THE UK GENERAL PRACTICE RESEARCH DATABASE (GPRD)

You are being invited to take part in a research study. Before you decide, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with friends, relatives and your GP/practice nurse if you wish. If there is anything that is not clear, or if you would like more information, please ask. This is a voluntary project, and if, when you have heard about the study, you would prefer not to take part, your decision will be accepted without question and will not affect the standard of care you receive.

### **What is the purpose of the study?**

Many patients use drugs called statins for heart disease to reduce cholesterol levels. Although statins have many positive effects, they also have some side-effects. One of the main side-effects is muscle damage, which causes pain, a rise in muscle enzymes, and unfortunately can sometimes be fatal. We do not know why some people develop muscle damage while others do not. There is now also increasing evidence that your genes can affect how your body handles statins and can have an effect on how well the drugs work. The purpose of this study is to better define the risk factors for this muscle side-effect. Eventually, this information will be used to identify those patients who should not receive a statin but rather another medicine to reduce cholesterol. We will compare patients who have had muscle side-effects during statin treatment to those who have not.

You have been identified as meeting the criteria to take part in the research via the General Practice Research Database. This is a large computerised database of anonymised information of patients in the community. This information can only be linked to you via your General Practitioner (GP). Your GP will have contacted you with an information pack to include an invitation letter and also this information leaflet, to see if you would like to be involved in the research project.

### **Why have I been chosen?**

You have been chosen for the study because you have at some point taken a statin and developed a degree of muscle damage. For example, you may have experienced muscle stiffness, weakness, tenderness, or may not have experienced any symptoms but had a rise in blood enzyme levels. We need to recruit 250 patients, who like yourself, have developed muscle damage due to statins. We will recruit patients over a two year period.

**Do I have to take part?**

It is up to you to decide whether or not to take part. If you do decide to take part, you will be given this information sheet to keep and be asked to sign a consent form. You are still free to withdraw from the study at any time without giving a reason. This will not affect the standard of care you receive in any way.

**What will happen to me if I take part?**

If you decide to take part in this study it will not affect your usual clinical care in any way. That is, you will continue to take all current medications as prescribed by your GP. If you decide to take part you will sign the consent form and return it to your GP practice. Depending on which practice you are registered with, you will either be:

- Sent a sample kit from your GP. This will involve taking a **saliva** sample and sending it directly to the University of Liverpool. No identifiable information will be attached to the sample. Your sample pot will have already been given a code. The postage and packing will be pre-paid
- Asked to make an appointment with your GP/practice nurse to have a **blood** sample collected. The blood sample will be to look at your genes (DNA) and will be equivalent to three teaspoons.

You will also be asked about the ethnicity of yourself and your family.

If you have to attend your GP practice especially for the study, we will pay you reasonable travel expenses.

**What are the possible disadvantages and risks of taking part?**

For patients donating a blood sample, there may be some minor but short-lasting discomfort from having a blood test. Taking part in the study will not affect your current treatment, nor will it affect your ability to obtain insurance for health purposes.

**What are the possible benefits of taking part?**

It is unlikely that the study will be of direct benefit to you immediately, however, it may benefit you in the future. The study will most definitely benefit patients suffering from statin related muscle damage in the future.

**What will happen to my blood test?**

The saliva/ blood samples will be stored at the University of Liverpool. DNA will be extracted from the samples at the University of Liverpool. It will be used to determine how your genes interact with the statin treatments you have received and your susceptibility to muscle damage. Your sample will be stored at the University of Liverpool until it is used up.

It is important to note that all blood samples received by the University will be identified by a code number only. All coded clinical details will be kept securely, at the Department of Pharmacology at the University of Liverpool. Once the study has been completed, we will irreversibly anonymise your clinical details and blood samples, and therefore it will not be possible to trace the blood sample back to you. After anonymisation, it will also not be possible for you to withdraw the blood sample. Once anonymised, the DNA samples may be used for other research, but as this cannot be traced back to you, it will have no direct bearing on your clinical care. Further approval will be sought from the ethics committee for any future studies.

Your blood samples will be considered to be a gift to the University of Liverpool, which will act as custodian of all the samples obtained as part of this project. In some cases, a small amount of

your sample will be provided to other researchers and may be sent to countries outside Europe. Future tests on the samples will be confined to tests for statin related muscle damage only. However, it is important to remember that the samples will only be identified by a code.

In the short-term, it is unlikely that the samples will be of any commercial value to the University or the hospital. However, it is possible that there may be some commercial value in the future, although it is important to note that any commercial value is likely to be due to findings in a group of patients rather than from samples from a single patient. You will not be paid for taking part in the study, nor will you derive financial benefit from future discoveries.

**Will my taking part in this study be kept confidential?**

As stated above, your sample will be anonymised, and the genetic information obtained from the DNA sample will be kept strictly confidential and not be disclosed to anyone. All information collected about you during the course of the research will also be kept strictly confidential. Any information about you, which leaves the research centres taking part, will have your name and address removed so that you cannot be recognised from it. Your GP will obviously be aware of you taking part as you will have been recruited from your practice.

**What will happen to the results of the research study?**

Results from the project will be published in leading international medical journals.

**Who is organising and funding the research?**

This study has been designed as a collaborative project by The University of Liverpool, the General Practitioner Research Database and The Royal Liverpool and Broadgreen University Hospital NHS Trust, and has been funded by the Medical Research Council.

**Who has reviewed the study?**

The study has been reviewed by Sefton Adult Research Ethics Committee.

**Contact for further information**

If you need further information or are worried about any aspect of the study, please do not hesitate to contact either:

- your GP/practice nurse at your practice, Tel:.....or
- ...Anita Hanson or Jane Evely, the research nurses at the University of Liverpool, Tel:...0151 794 5539.....

You can also access a website designed by the research team offering further information related to this project. The web address is.....[www.GPRD.com/STAGE](http://www.GPRD.com/STAGE).....

THANK YOU FOR READING THIS INFORMATION LEAFLET