Glucokinase (GCK) gene change

Information for family members

NHS South East Genomic Medicine Service

What is a Glucokinase (GCK) gene change and what does it mean?

A *GCK* gene change is like a small spelling mistake in a single gene, which causes mildly raised blood sugar (glucose) levels. Genes provide instructions to help our bodies develop, grow and work. Genes are inherited from our parents.

You have been given this leaflet because a family member has been found to have a change in their *glucokinase* gene (called glucokinase hyperglycaemia), which you may also have inherited.

A change in the *GCK* gene typically increases the fasting (before breakfast) blood sugar levels. This increase will have been present from birth. Some people with a *GCK* gene change are misdiagnosed as having diabetes.

A *GCK* gene change is **not diabetes**. Although it causes a slightly raised blood sugar level, it is **not known** to cause long term health problems.

Outside of pregnancy a change in the *GCK* gene does not require treatment or follow up. People with a change in the *GCK* gene have no greater risk of developing Type 2 diabetes than other members of the general population.

Can I be tested for a change in the GCK gene?

As a change in the *GCK* gene doesn't require treatment outside pregnancy, testing is not usually advised unless you have **already been diagnosed** as having diabetes. If you have, we recommend your health care team review your existing diabetes diagnosis in relation to this new genetic information and offer you genetic testing. If your average blood glucose (HbA1c) has always been under 58 mmol/mol then you may be able to stop all diabetes medication following your genetic test result.

If you **haven't previously been diagnosed** with diabetes, you **do not** need to be tested. However, if you are planning a pregnancy, it is advisable to discuss with your GP having your fasting blood glucose level checked.

Further information can be found at:

DiabetesGenes