DNA diagnosis:

Carrying alpha zero thalassaemia

(also known as having alpha zero thalassaemia trait, or having alpha-1 thalassaemia trait)

- A carrier of alpha zero thalassaemia is a healthy person.
- Carrying alpha zero thalassaemia does not weaken them physically or mentally.
- They do not need any medical treatment because they carry alpha zero thalassaemia.

What does it mean to carry alpha zero thalassaemia?

Alpha zero thalassaemia is one of many possible variations in the blood called *haemoglobin gene variants*, or *haemoglobin variants*.

Haemoglobin is what makes blood red. It is packed into red blood cells. Carriers of thalassaemia have smaller red blood cells, but more of them, than other people.

A carrier will always be a carrier, and no-one can catch it from them. They inherited alpha zero thalassaemia from one of their parents, and could pass it on to their children.

Alpha zero thalassaemia is common among people who originate from South East Asia (China, Hong Kong, Singapore, Malaysia, Indonesia, Thailand, Vietnam, Philippines), or Cyprus or Southern Turkey. It also occurs in the Northern European of Northern England and Northern Ireland. It is uncommon among other North Europeans.

Can carrying alpha zero thalassaemia cause any health problems?

Carrying alpha zero thalassaemia is not an illness, and will never turn into an illness. In fact, carriers are less likely than other people to catch malaria or suffer from heart attacks. Carriers can eat what they want, and do any kind of work they choose.

Some carriers are slightly anaemic (have a lower haemoglobin level than usual). This anaemia has no effect on health or length of life. However, it can become more severe during pregnancy, and sometimes a pregnant carrier needs a blood transfusion. A carrier who is anaemic should have a diet with enough iron and vitamins to make sure that the anaemia does not get worse.

Occasionally a doctor thinks a carrier must be short of iron because they have small red blood cells. If the doctor prescribes iron medicine, in the long run this could do more harm than good. A carrier should take iron medicine only if a special blood test (serum iron or serum ferritin) shows that they are short of iron.

Carriers can give blood provided that they are not anaemic.

Could a carrier of alpha zero thalassaemia have children with a serious haemoglobin disorder?

Only if their partner also carries alpha thalassaemia.

With medical help, such a couple can have healthy children.

What should a carrier do if they are thinking of having children?

They should tell their partner that they carry alpha zero thalassaemia, and ask him or her to have a blood test “for haemoglobin disorders”. This test should be done before they start a pregnancy, or as soon as possible once a pregnancy has started. Their GP can arrange it.

If their partner is not a carrier, there is nothing to worry about.

What should they do if their partner is also a carrier?

They should ask their GP for an immediate appointment with a specialist counsellor. This is particularly important if they have already started a pregnancy. They can also contact the counselling service directly.

Is there anything else that a carrier should do?

If a carrier has brothers or sisters, or already has children, they need to know that they may also carry alpha zero thalassaemia. They should ask their GP or practice nurse for a blood test “for haemoglobin disorders”.

Counselling services for haemoglobin gene variants are provided in this area by: