DNA diagnosis

Carrying alpha plus thalassaemia

(also known as having alpha plus thalassaemia trait, or having alpha-2 thalassaemia trait)

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

What does it mean to carry alpha plus thalassaemia?

Alpha plus 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 plus thalassaemia from one of their parents, and could pass it on to their children.

Alpha plus thalassaemia is extremely common. About 1 in 3 people who originate from Africa or the Indian sub-continent carry it. It is also common among people who originate from the Mediterranean area, the Middle East or South East Asia. Some North Europeans carry it.

Can carrying alpha plus thalassaemia cause any health problems?

Carrying alpha plus thalassaemia is not an illness, and will never turn into an illness. In fact, carriers may be less likely than other people to catch malaria. 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. 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 providing they are not anaemic (do not have a lower haemoglobin than usual).

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

Very occasionally a carrier of alpha plus thalassaemia, whose partner also carries alpha thalassaemia, can have a child with a mild form of anaemia.

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

They should tell their partner that they carry alpha plus 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 also a carrier, they should ask their GP for an appointment with a specialist counsellor, to confirm that there is nothing to worry about.

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 plus 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: