

## Carrying haemoglobin E

(also known as being AE, or having haemoglobin E trait)

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

### What does it mean to carry haemoglobin E?

Haemoglobin E 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 haemoglobin E have both the usual haemoglobin (haemoglobin A) and an unusual haemoglobin called haemoglobin E. Most also have slightly 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 haemoglobin E from one of their parents, and could pass it on to their children.

Haemoglobin E is very common among people who originate from Bangladesh, North East India, Burma, or South or South East Asia (including South China). It also occurs among people of Southern Turkish origin. It is found occasionally in the Middle East.

### Can carrying haemoglobin E cause any health problems?

Carrying haemoglobin E is not an illness, and will never turn into an illness. In fact, carriers are less likely than other people to catch malaria. Carriers can eat what they want, and do any kind of work they choose.

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 (do not have a lower haemoglobin level than usual).

### Could a carrier of haemoglobin E have children with a serious haemoglobin disorder?

Only if their partner carries beta 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 haemoglobin E, 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 haemoglobin E. 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:*