

## DNA diagnosis:

### **Carrying haemoglobin D Punjab**

(also known as being AD Punjab, or having haemoglobin D Punjab trait)

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

#### **What does it mean to carry haemoglobin D Punjab?**

Haemoglobin D Punjab is one of many possible variations in the blood called *haemoglobin gene variants*, or *haemoglobin variants*.

Haemoglobin is what makes blood red. Carriers of haemoglobin D Punjab have both the usual haemoglobin (haemoglobin A) and an unusual haemoglobin called haemoglobin D Punjab.

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

Anyone can carry haemoglobin D Punjab. It is particularly common among people who originate from Northern India. It occurs occasionally in all other groups, including North Europeans.

#### **Can carrying haemoglobin D Punjab cause any health problems?**

Carrying haemoglobin D Punjab is not an illness, and will never turn into an illness. Carriers can eat what they want, and do any kind of work they choose.

Carriers can give blood provided that they are not anaemic (do not have a lower haemoglobin level than usual).

#### **Could a carrier of haemoglobin D Punjab have children with a serious haemoglobin disorder?**

Only if their partner carries haemoglobin S (sickle cell).

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 D Punjab, 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 D Punjab. 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:*