

Thalassaemia Trait

- Your child's thalassaemia trait is not an illness and it will not affect his/her health. However, it could affect the health of his/her future children.
- Do not forget that your child carries the thalassaemia trait. Keep the blood test results among personal documents.
- If your child's future partner does not carry thalassaemia trait, there is no danger. However, his/her children may also be carriers. They too should have their blood tested at some time before they have children of their own.
- If both your child and his/her future partner are carriers of the thalassaemia trait, there is a danger for their children, but this can be avoided by planning the family carefully with the help of a doctor.
- If you want information after you have read this ask your doctor to arrange a visit to a genetic counsellor.

What is Thalassaemia?

Thalassaemia is a peculiarity of the blood that is found in many countries around the world, and particularly in people of Mediterranean, Middle Eastern or Asian origin. It is rare in Northern Europeans. There are two forms of thalassaemia:

Thalassaemia trait. People with thalassaemia trait are perfectly healthy themselves but they can pass thalassaemia major on to their children. They are sometimes called "healthy carriers of thalassaemia." Thalassaemia trait is sometimes called thalassaemia minor.

Thalassaemia major. This is a very serious blood disease that begins in early childhood. Children who have thalassaemia major cannot make enough haemoglobin in their blood. They need frequent blood transfusions and medical treatment. Every year at least 100,000 children are born in the world with thalassaemia major. Thalassaemia major is sometimes called Mediterranean Anaemia, Cooley's Anaemia, or Homozygous Beta Thalassaemia.

To understand more about thalassaemia, you need to know a little about normal blood and about anaemia.

What is blood made of?

Blood is made up of a lot of red blood cells in a clear, slightly yellow liquid called plasma. Each red blood cell only lives for about 4 months. It is then broken down. New red blood cells are being made all the time. The blood cells are replaced very quickly--that's why people can give blood for transfusions.

Blood is red because the red blood cells contain a substance called haemoglobin. Haemoglobin is very important because it carries oxygen from your lungs to wherever it is needed in your body. Haemoglobin contains a lot of iron. When your red blood cells are broken down, most of the iron from the haemoglobin is used again to make new haemoglobin. You lose some iron from your body everyday and you make up for it with the iron in the food you eat. In fact the main reason why people need iron in their food is to make haemoglobin.

What is anaemia?

Some people have too little haemoglobin in their blood. These people have anaemia. There are many different kinds of anaemia. The most common kind is iron deficiency anaemia. This happens when people do not have enough haemoglobin because they're not eating enough of the foods that contain iron.

Thalassaemia major is a different kind of anaemia. It is caused by not having enough haemoglobin, but *it has nothing to do with the amount of iron you're getting from your food.*

It is an inherited disease.

What is thalassaemia trait?

People with thalassaemia trait carry thalassaemia but they are not at all ill. They are absolutely healthy and normal but some of them have very slight anaemia.

Most people with thalassaemia trait do not know that they have it. You only discover it if you have a special blood test. The red blood cells of people with thalassaemia trait are smaller than usual.

People with thalassaemia trait also have slightly more of a kind of haemoglobin called haemoglobin A2 in their blood. Thalassaemia trait is present at birth, it remains the same for life, and it can be handed on from parents to children. That means, it is inherited.

Does it matter if you carry the thalassaemia trait?

It is important to know if you carry thalassaemia trait because sometimes people with thalassaemia trait can have children with thalassaemia major, a serious blood disease.

Can I get rid of thalassaemia trait?

No. If you are born with thalassaemia trait you will always have it.

Can taking extra iron help?

No. Your child should not take extra iron unless prescribed by a doctor.

Can thalassaemia trait turn into thalassaemia major?

No.

Can thalassaemia be passed on to my child's future children?

If your child's future partner does not have the thalassaemia trait, then there is no risk of their children having thalassaemia major. There is a 50% chance that each child may have thalassaemia trait.

The more important risk is if your child's future partner also has the thalassaemia trait. Then there is a risk of their children having thalassaemia major. In each pregnancy there is a one in four (25%) chance that their child will have normal blood, a two in four (50%) chance that the child will have thalassaemia trait, and a one in four (25%) chance that the child will have thalassaemia major. The chances of having a child with thalassaemia major remain one in four (25%) with each pregnancy.

Should my child do anything about thalassaemia before he/she has children?

Your child should discuss this with his/her future partner. The partner could have a blood test to look for the thalassaemia trait. This is particularly important if the partner is a descendant of someone from the countries listed above. If both partners carry the trait, then they should talk to a genetic counsellor or other doctor interested in thalassaemia before starting a pregnancy. With proper advice and monitoring, it is perfectly possible for them to have a healthy normal family.

