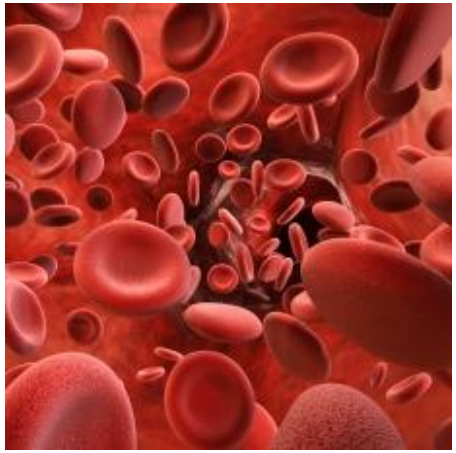
By Hazel Morgan-Fine and Anna DeGroot

Hemophilia

What is Hemophilia?



Hemophilia is actually not just one single disease, but a group of exaggerated, abnormal, or poop blood clotting disorders that can be inherited. There are three types of Hemophilia which are referred so Hemophilia A, Hemophilia B, and Hemophilia C. However Hemophilia C is rarely encountered, unlike Hemophilia A and B. Hemophilia A and B are distinguished by the specific gene that has mutated which codes for a defective protein.

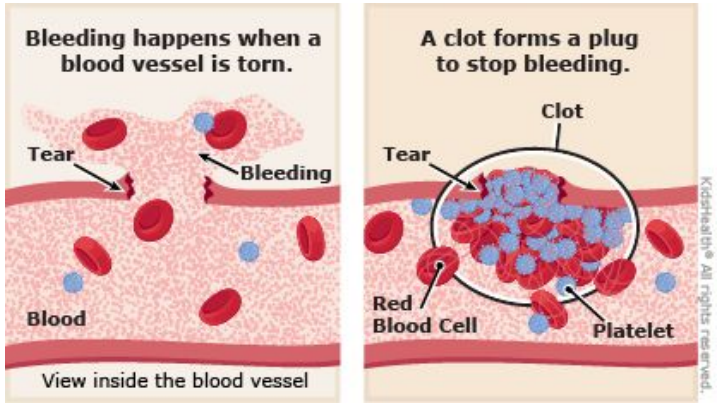
Hemophilia is a disorder that causes your blood to clot abnormally. Basically, it makes it incredibly difficult to stop bleeding.

How Do Proteins Function on Normal Conditions?

Proteins called coagulation factor IX are found on the F8 and F9 genes. Normally, the coagulation factors would from blood clots when there's a cut to prevent excessive bleeding.

However, sometimes mutations in the F8 and F9 genes result in abnormalities by reducing the amount of the coagulation factor IX protein.

Coagulation Factor IX

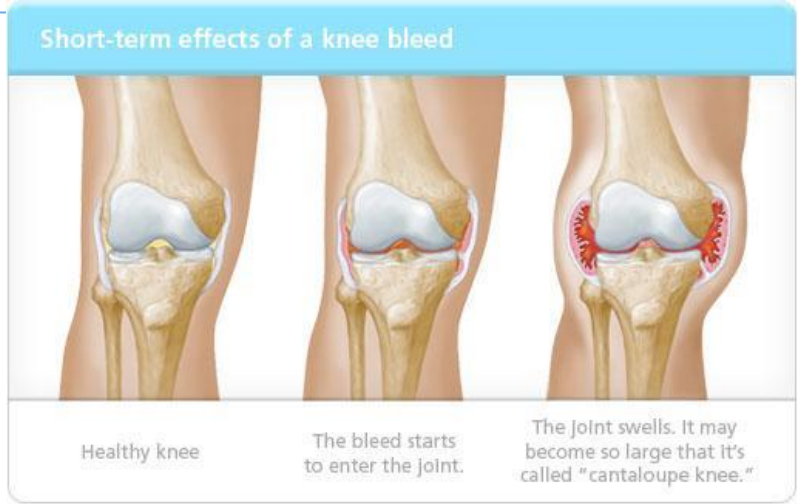


Abnormal Behavior -- Symptoms

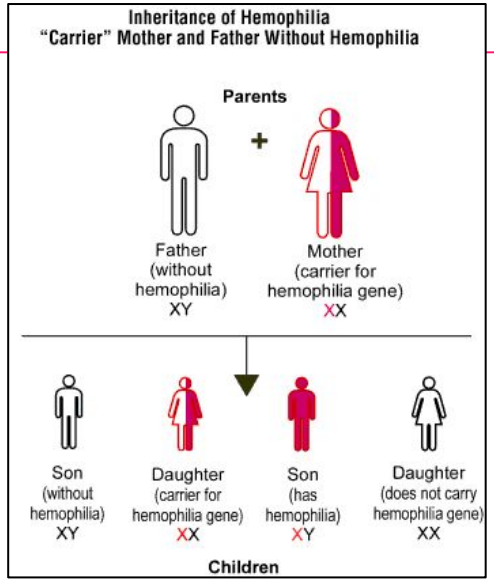
When the previously mentioned mutations occur, the affected coagulation factors are unable to work along with the full, healthy proteins to clot the blood. This results in continuous, difficult-to-control bleeding. In moderate cases of Hemophilia, the mutations will only *reduce* the activity of the coagulation factor IXs, but in severe cases they will almost completely wipe out all of the proteins.

Other symptoms include:

- Formation of large bruises
- Pain, swelling, and tightness in your joints
- Unexplained nosebleeds
- Extensive bleeding after vaccines or shots
- Blood in your urine



Causes of the Protein Production Mistakes



When the gene that controls the clotting factor has a mutation, it causes hemophilia. Since we have many clotting factors, that are made in the liver, a certain set of genes code for certain types of Hemophilia. A mutation in the genes that code for factor 8 causes hemophilia A. A mutation in the genes that code for factor 9 cause Hemophilia B.

There is a specific form of Hemophilia that is caused by a different factor. Instead of being caused by the inherited mutated genes, this rare condition known as Acquired Hemophilia is characterized by abnormal bleeding into the skin, muscles, or other soft tissues and normally begins as an adult. However, in half of the cases the exact cause of Acquired Hemophilia is unknown.

Supporting the Claim that DNA Carries the Code For all Functions of Life

How does hemophilia support this claim? DNA is inherited from parent to child. Hemophilia is a trait that is passed through as genetics as well. An example is the Czar Nicholas of Russia and his children. Geneticists can look at the F8 and F9 genes (DNA) and determine if a person has the disorder or not.

We can see evidence supporting the belief that DNA carries the code for all functions of life all around us. People have been manipulating genetics for tens of thousands of years through the selective breeding of plants and animals to achieve desirable traits. (An example being the transition from wolf to domesticated dog). Even here in Iowa, huge amounts of money are being spent to manipulate DNA to create the most desirable corn and soybeans. When we see people manipulate the genetics of creatures, it is providing us with evidence of how interwoven DNA is with life functions.

INTERESTING FACTS

1. It can be inherited.
2. Depending on the individual, it varies in severity.
3. There is no cure but treatment can make living easier.
4. It is estimated that 20,000 people have this condition.
5. Hemophilia A and B more commonly affect boys, but girls can get it too.

Cites

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