

HARTNELL COLLEGE

Von Willebrand Disease

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Causes, Symptoms, and Treatment

Kyle Wilson

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## **My Background**

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I wanted to do a class essay on this disease, because I am a carrier of Von Willebrand Disease. I do not show symptoms of the disease, but I have the recessive gene. When I have children there is a high chance of them having the disease. My oldest sister has the disease. She has problems clotting, when she gets cut. Growing up she couldn't play many sports and she would have to give herself shots in order to clot. She has to wear a bracelet stating she has the disease in case of an accident; the paramedics can give her special help so she doesn't bleed out.

## **Introduction**

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In 1926, Dr. Erik Von Willebrand published a manuscript depicting a bleeding disorder with different symptoms than that of hemophilia. "Dr. Von Willebrand's studies began with an assessment of a family living on the island of Föglö in the Åland archipelago in the Baltic Sea. The youngest daughter in this family bled to death in her teens from menstrual bleeding, and four other family members had also died as a result of uncontrolled bleeding." (Lillicra and James) Dr. Von Willebrand viewed abnormal bleeding, in patients with normal platelet counts. In the 1950s and 1960s, doctors discovered that there are key proteins that are essential in clotting. These proteins are now known as Von Willebrand Factor, also known as VWF, and Factor VIII. Patients with Von Willebrand Disease have a low count of VWF, deformed VWF, or low Factor VIII.

## **Cause and Types**

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Von Willebrand Disease is an inherited disease. In many times the way it is inherited determines the type of the disease. There are four subcategories of Von Willebrand Disease. Type I is caused by a decrease in VWF, and may include a decrease in factor VIII. Type I is the most common branch of VWD. Patients with this branch of VWD have symptoms of mild

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bleeding; this is the least severe branch. Type II VWD is caused by abnormalities in the VWF, along with a decreased count. Patients with Type II VWD may have increased clotting or decreased clotting ability, depending on which subtype they have. Type III VWD is caused by an absence of VWF and a decrease of Factor VIII, less than 10% the normal amount. Pseudo VWD is caused by an abnormality in the platelets. The symptoms of Pseudo VWD are similar side effects of Type IIB.

Picture from (Jones)

### Symptoms

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Easy bruising

Frequent nosebleeds, bleeding gums

Heavy menstrual periods in women

Prolonged bleeding after cuts or surgery (including dental work)

Bleeding in the stomach, intestines, muscles or joints in severe cases. (Causes of VWF)

Picture from (Kahn)

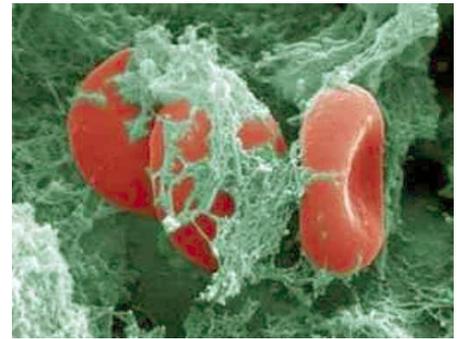
### Cures and Remedies

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There are no cures for Von Willebrand Disease, only treatments that allow a normal life style. Treatment of VWD

depends on what type the patient has, along with the severity of the symptoms viewed. Here are some of the treatments available.

- Desmopressin to help the body use the von Willebrand factor that the body has already made. This medicine is used to reduce blood loss during a woman's menstrual periods, to lower blood loss during a surgery, and to help control bleeding episodes. Because the effects



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of this medicine can vary, your doctor will prescribe it on a trial basis to see how much it increases the amount of clotting factors in your blood and to monitor side effects.

- Therapies to replace the clotting factors in your blood. If you have type 3 von Willebrand's disease, you may be taught to inject yourself with blood-clotting factors. If you can give yourself a shot as soon as a bleeding episode starts, you can avoid losing too much blood and prevent any permanent damage that could be caused by the bleeding. Replacement therapy injections (infusions) may be used with people who:
  - Do not respond to desmopressin.
  - Cannot tolerate desmopressin.
  - Have severe type 2 or type 3 von Willebrand's disease.
  - Have severe bleeding, from an injury or an unknown cause.
- Antifibrinolytic agents that help prevent the breakdown of blood clots. Antifibrinolytic medicines can be used alone or in combination with desmopressin medicine or replacement therapy to treat mild bleeding. These medicines are sometimes used to prevent bleeding during surgery.
- Birth control pills (oral contraceptives) or a levonorgestrel IUD to help control heavy menstrual periods in women who have von Willebrand's disease. Birth control pills and this IUD contain hormones that help reduce blood loss during a woman's period.
- Topical medicine to control very mild bleeding in the mouth or nose. Thrombin powder is a dry powder that you can apply directly on a wound to help it clot. It is very useful during dental procedures.
- Avoiding medicines that can affect bleeding. These include nonsteroidal anti-inflammatory drugs (NSAIDs), such as aspirin.

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