



## Hemophilia In History

### *Early history*

1. Excessive and unexplained bleeding has been discussed since antiquity and in the second century AD, it was written that male babies did not have to be circumcised if two brothers had already died from the procedure
2. In the U.S., the transmission of hemophilia from mothers to sons was first described in the early 19th century
3. The word "hemophilia" first appeared in a description of a bleeding disorder condition at the University of Zurich in 1828
4. Hemophilia is often called the "Royal Disease" because Queen Victoria of England (1837-1901) was a carrier of the hemophilia gene and passed the disease on to several royal family members

### *Finding the cause*

In the 20th century researchers began to look for the cause of hemophilia and other bleeding disorders.

1. **1920s:** von Willebrand disease, the most common hereditary bleeding disorder, was first recognized by the Finnish physician Erik von Willebrand in 1925
2. **1930s:** Doctors at Harvard University found they could correct the clotting problem by adding platelet-free plasma. They called the substance "anti-hemophilic globulin."
3. **1940s:** Dr. Pavlosky from Buenos Aires, Argentina, showed that blood from a person with hemophilia could correct the clotting problem in a second person with hemophilia and vice versa. He had stumbled upon two interesting patients—one with factor VIII deficiency and the other with factor IX deficiency. This led to the recognition of hemophilia A and hemophilia B as two separate diseases.
4. **1950s & 1960s:**
  - Hemophilia and other bleeding problems were still being treated with whole blood or fresh plasma. Unfortunately, there was not enough factor VIII or IX proteins in these treatments to stop serious internal bleeding. Many people with severe hemophilia, and some people with mild or moderate forms, died in childhood or early adulthood. By the mid-1960s the clotting factors were identified and named.
  - In 1965, Dr. Judith Graham Pool discovered that the precipitate left from thawing plasma was rich in factor VIII. Blood banks were able to produce and store the component, making emergency surgery and elective procedures for hemophilia patients more practical. This advancement also ended the need for high-volume whole plasma transfusions for people with hemophilia.

