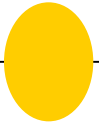


**Download from: [aghalibrary.com](http://aghalibrary.com)**

# **Hemophilia**

---





# Hemophilia

- ⦿ Hemophilia is a rare disorder in which your blood doesn't clot normally because it lacks sufficient blood clotting proteins or factor.
- ⦿ This result in people bleeding longer after an injury, easy bruising and an increased risk of bleeding inside joint or the brain.

# Types of Hemophilia



Hemophilia type 1



Hemophilia type 2



Hemophilia type C



Parahaemophilia

- Hemophilia type 1 Which occurs due to not enough clotting factor VIII .
- Hemophilia type 2 which occurs due to not enough clotting factor IX.
- Hemophilia type C which occurs due to not enough clotting factor XI.
- Parahaemophilia which occurs due to not enough clotting factor V.



# Genetic

---

Females possess two X-chromosomes, males have one X and one Y-chromosome. Since the mutations causing the disease are X-linked recessive, a female carrying the defect on one of her X-chromosomes may not be affected by it, as the equivalent allele on her other chromosome should express itself to produce the necessary clotting factors, due to X inactivation. However, the Y-chromosome in the male has no gene for factors VIII or IX. If the genes responsible for production of factor VIII or factor IX present on a male's X-chromosome are deficient there is no equivalent on the Y-chromosome to cancel it out, so the deficient gene is not masked and the disorder will develop.



## Factor VIII (FVIII)

- Is an essential [blood-clotting protein](#), also known as anti-hemophilic factor (AHF).
- Factor VIII is produced in liver sinusoidal cells and endothelial cells outside of the liver throughout the body.



# Symptoms

1. In some cases, lengthy bleeding after [circumcision](#)
2. Excessive bruising
3. Swollen, painful joints
4. Swollen, tender muscles
5. Excessive bleeding from the gums, [tongue](#), or [mouth](#) following injury
6. Severe bleeding after [tooth](#) extractions or other invasive dental procedures
7. Severe bleeding after injuries or operations



## Symptoms in children

---

- ⦿ May not have any sign or symptoms at birth especially if they don't undergo circumcision .
- ⦿ Their first symptoms are often frequent and large bruises and haematoms from frequent bumps and falls as they learn to walk .
- ⦿ Swelling and bruising from bleeding in the joint , soft tissue and muscle may also occur .

# **Complication**

---

Complication may arise from the disease itself or from its treatment .

- Deep internal bleeding
- Joint damage
- Transfusion transmitted infection
- Adverse reaction
- Intracranial hemorrhage

# ● Diagnosis

---

- If there is not family history of hemophilia it is usually only diagnosed when a child begin to walk or crawl.
- Hemophilia can be diagnosed before , during or after birth if there is a family history of the condition.
  
- Before pregnancy
- During pregnancy
- After birth



# Treatments

1. Receiving clotting factors replacement therapy
2. Medication
3. Treatment for joint bleeding and other problems associated with hemophilia



# Clotting Factors

---

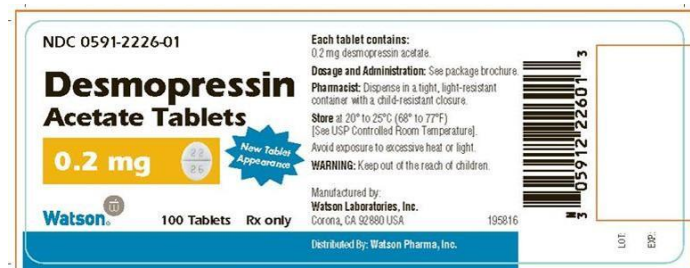
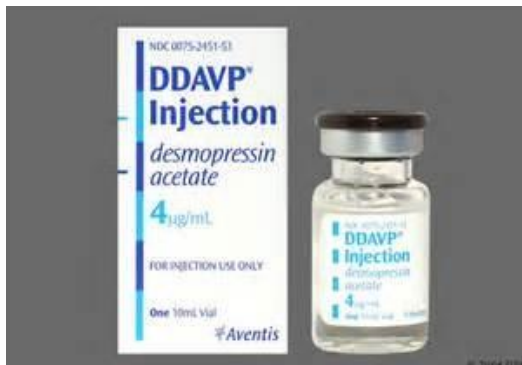
People with hemophilia receive the appropriate clotting factor (factor VIII or [factor IX](#)).

Factor VIII replacement is used to treat [hemophilia A](#) and Factor IX is used in the treatment of [hemophilia B](#). The clotting factor is given intravenously (through a needle in your vein) to stop or prevent bleeding.

- Factor preparations come from two sources:
  1. Donated blood plasma
  2. Synthetic (DNA-derived)

# Medications

- Desmopressin
- IV or nasal spray





## **Treatment for Joint Bleeding and Other Problems**

Other health issues associated with hemophilia may need to be addressed. The most common include:

1. Treating bleeding joints
2. Monitoring physical activities



# Summery

---

- ⦿ Symptoms Easy and prolonged bleeding
- ⦿ Usual onset At birth
- ⦿ Causes Usually genetic
- ⦿ Diagnostic method Blood test
- ⦿ Treatment replace missing blood clotting factors



---

# Thanks!

*Any questions?*



# Credits

---

- ◎ Sami Ahhmadi
- ◎ Moheb Hamim