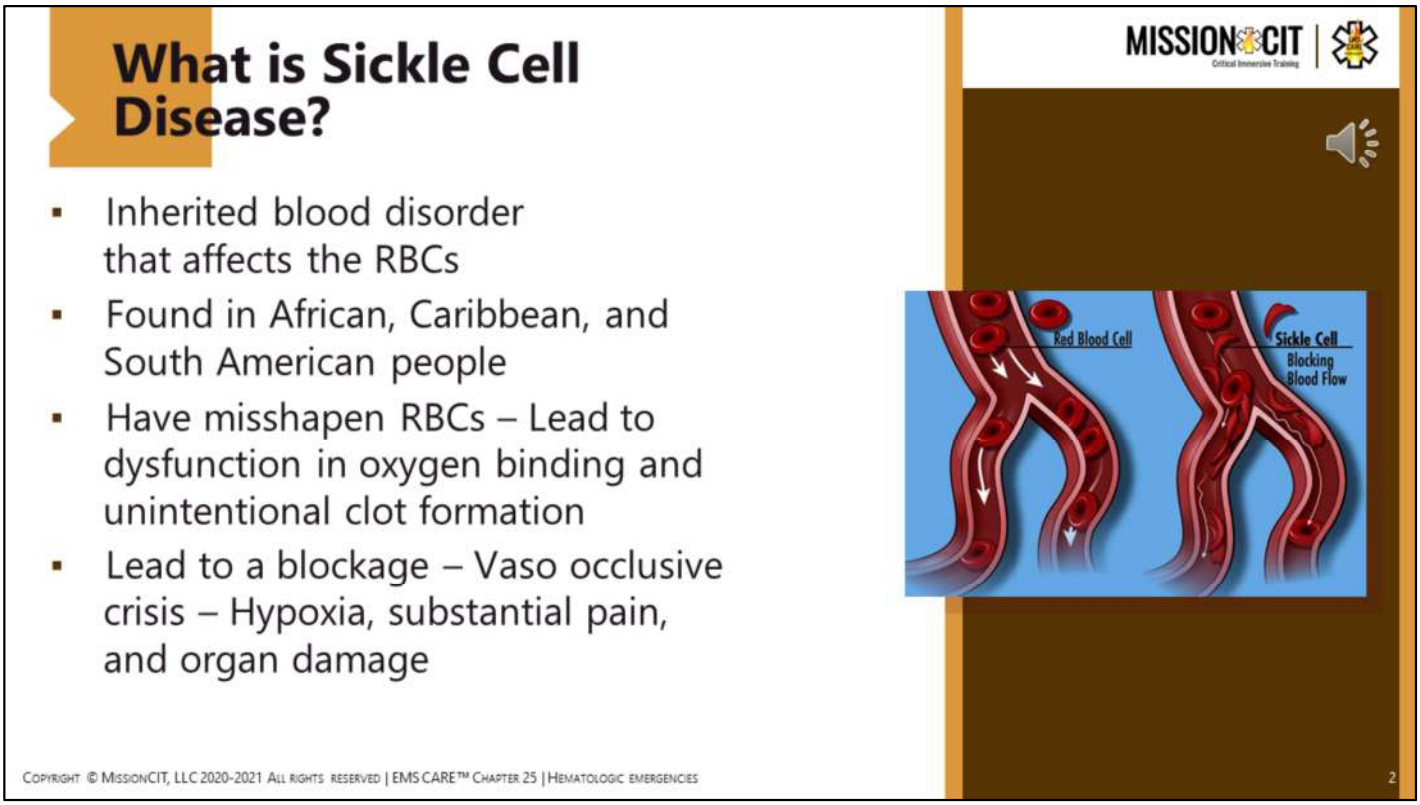


Thank you, Missah!

In this lesson, we will delve deeper into hematologic disorders and the complications associated with them. Good studying!

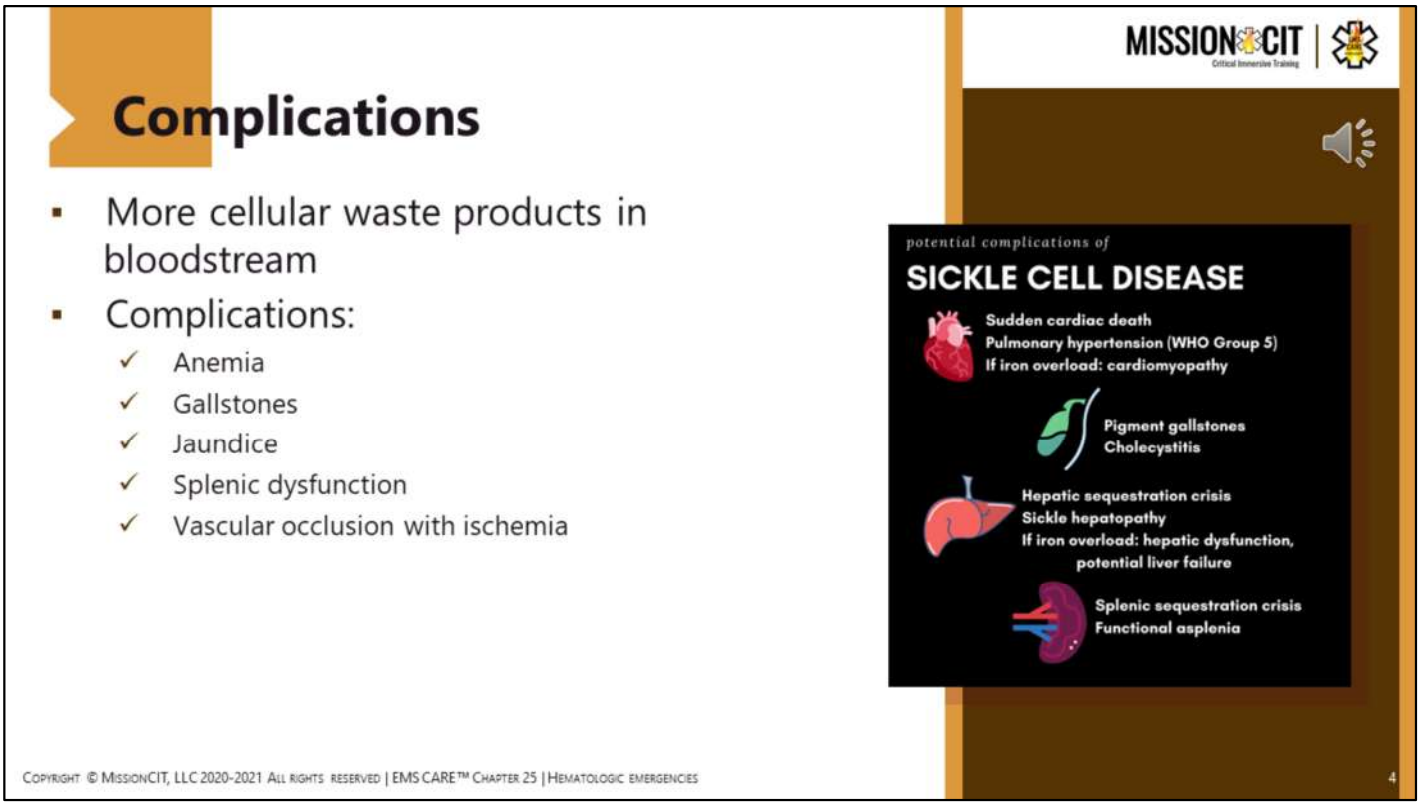


Sickle cell disease, also called hemoglobin S disease, is an inherited blood disorder that affects the RBCs. It is found predominantly in people of African, Caribbean, and South American ancestry.

People with sickle cell disease have misshapen RBCs that lead to dysfunction in oxygen binding and unintentional clot formation. Hence, clots may lead to a blockage known as vaso occlusive crisis. This can result in hypoxia, substantial pain, and organ damage.



In 2019, the first announcements were made of a patient being potentially cured of sickle cell disease. This has been heralded as a landmark moment for the use of gene-editing tools in possibly treating diseases such as sickle cell disease. Sickle cell disease is a group of disorders that affects hemoglobin, a molecule that delivers oxygen to cells throughout the body. The disease distorts red blood cells into a sickle, or crescent, shape, causing limited blood flow to cells and as a result, inducing chronic pain. After over a decade of genomics research, a cure for sickle cell disease may be at hand.

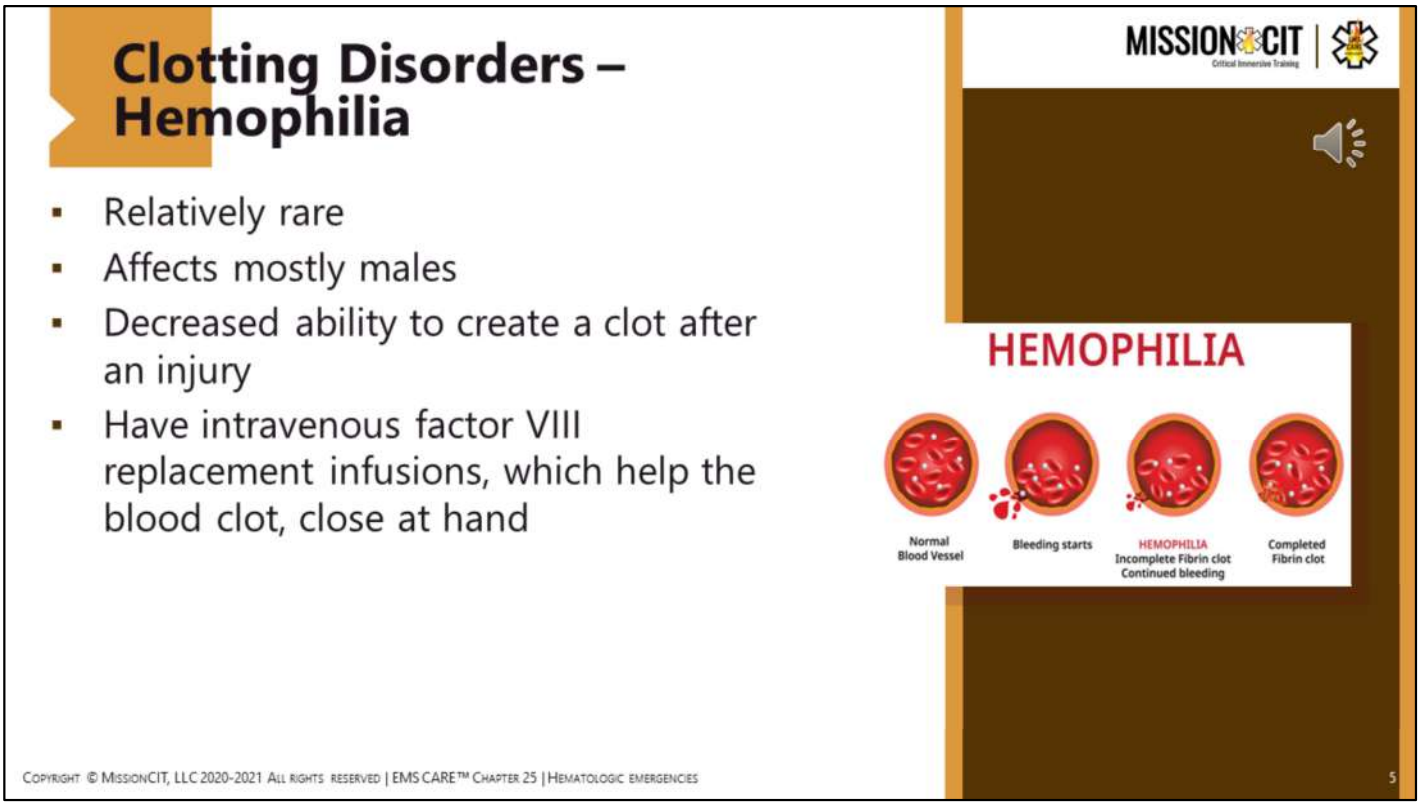


Sickled cells have a short life span, resulting in more cellular waste products in the bloodstream and contributing to sludging or clumping of the blood. So, maintaining hydration is important, as insufficient hydration leads to increased clumping. Check if the patient is well-hydrated when you notice the symptoms mentioned earlier.

Some complications associated with sickle cell disease include:

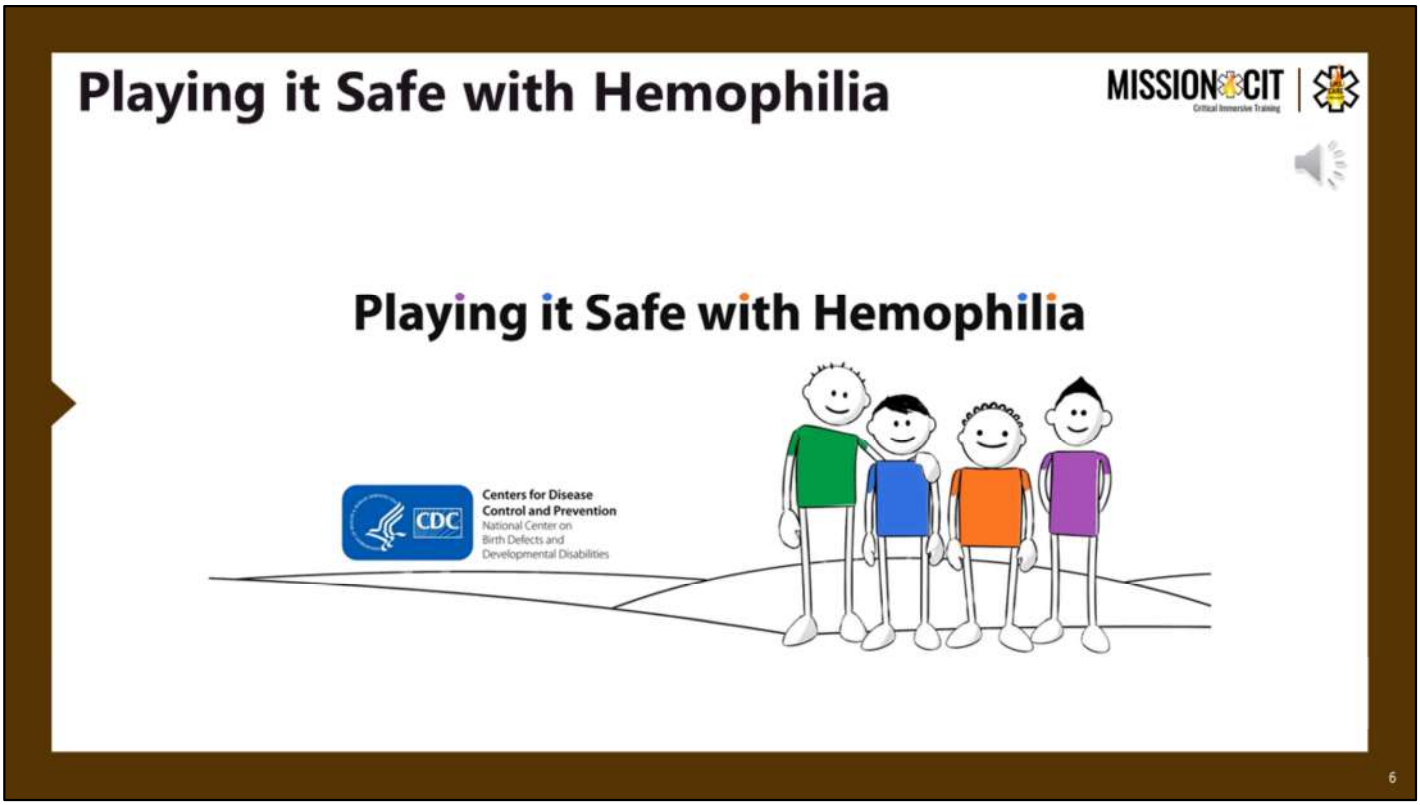
- Anemia
- Gallstones
- Jaundice
- Splenic dysfunction
- Vascular occlusion with ischemia

Many of these complications are very painful and potentially life-threatening. Also, be aware that the patient is also more susceptible to infections, when he or she is suffering from sickle cell disease.

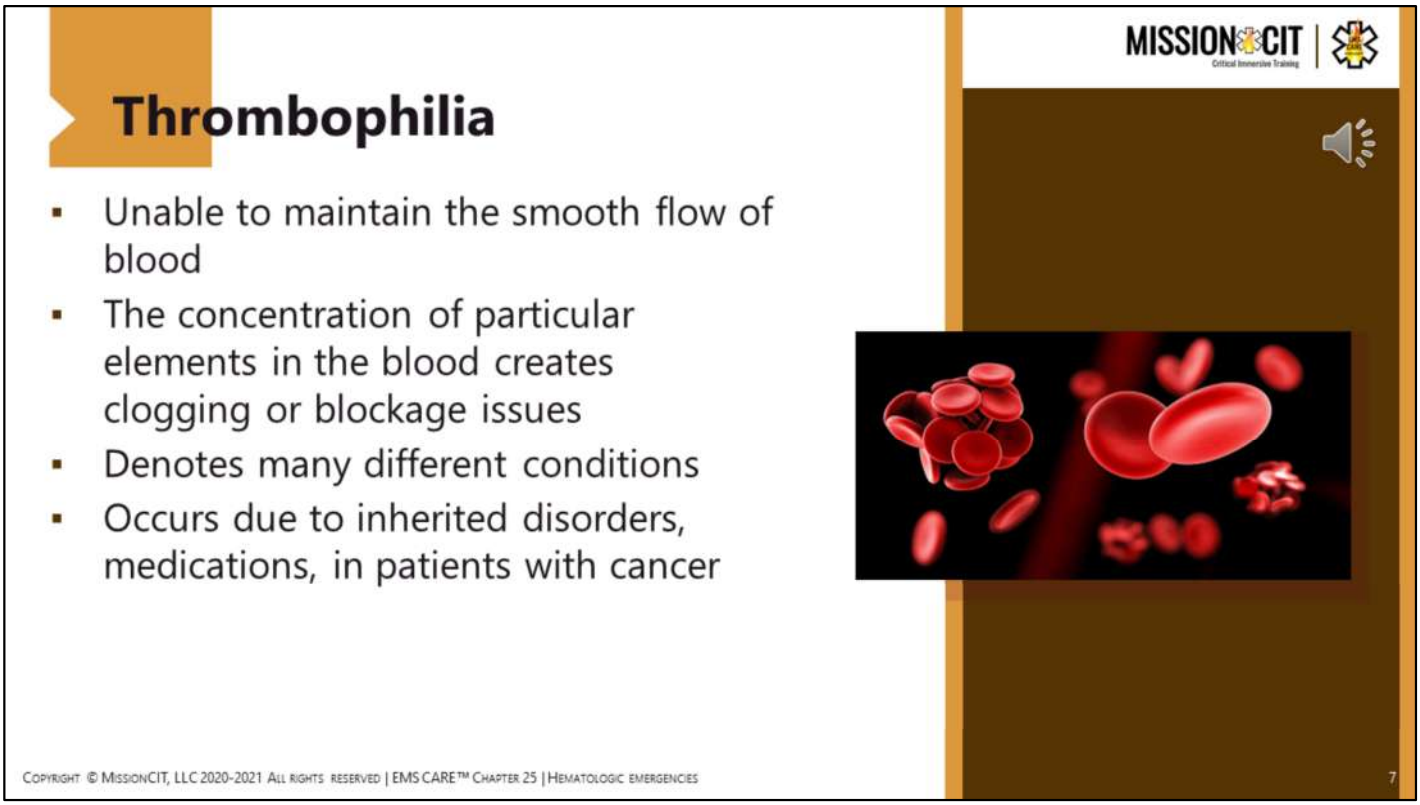


Clotting disorders, also called Hemophilia, is another hematologic emergency you may encounter. It is relatively rare as only about 20,000 Americans have the disorder. Also, Hemophilia A affects mostly males.

People with Hemophilia A have a decreased ability to create a clot after an injury, which can be life-threatening. Also, patients with Hemophilia A typically have intravenous factor VIII replacement infusions, which help the blood clot, close at hand. So, be familiar with the replacement infusion and the necessary equipment.



Watch this video from CDC, where friends with Hemophilia talk about playing sports growing up and the importance of making smart decisions.

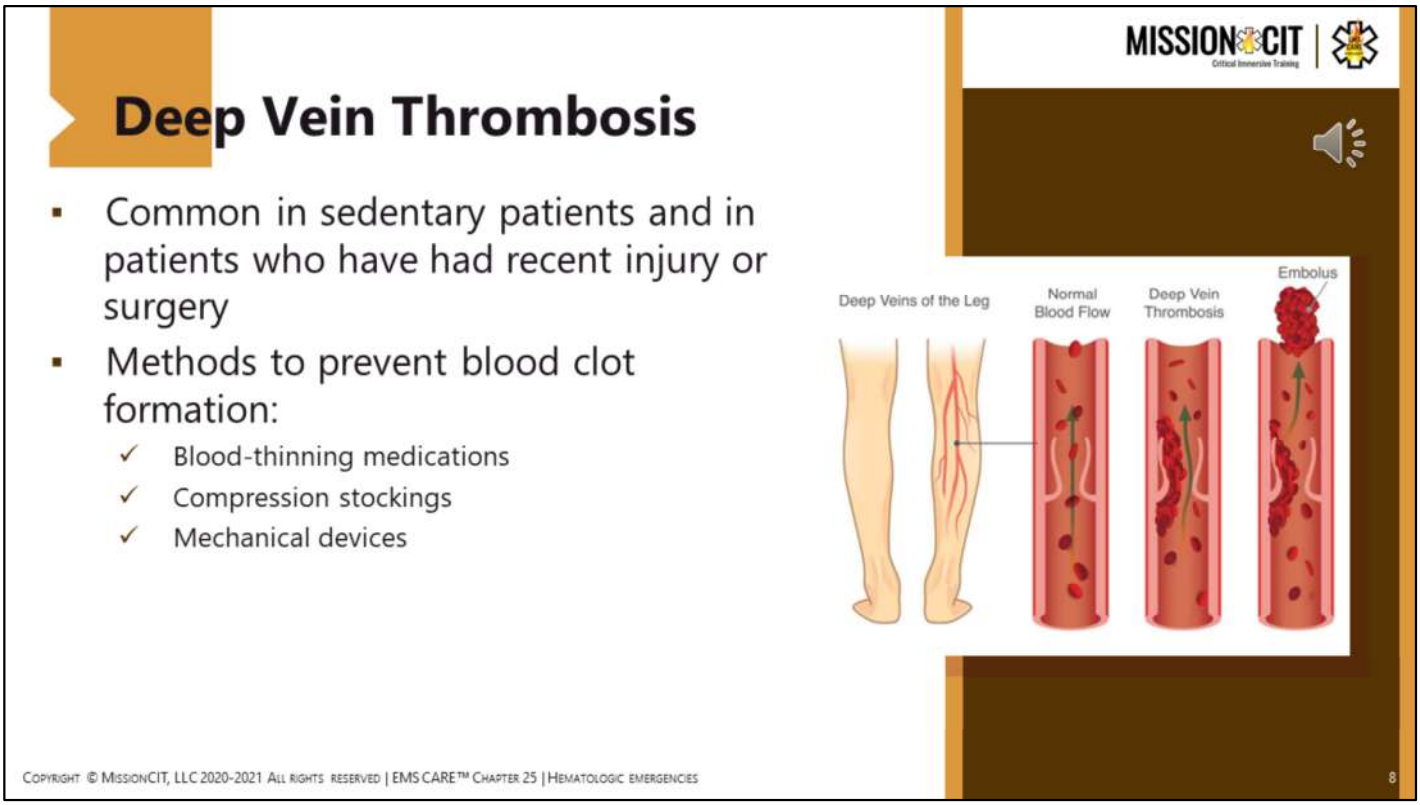


Thrombophilia is another clotting disorder that falls under hematologic emergencies. It is a disorder in the body's ability to maintain the smooth flow of blood through the venous and arterial systems. The concentration of particular elements in the blood creates clogging or blockage issues and Thrombophilia is a general term for many different conditions that result in the blood clotting more easily than normal.

It can occur due to,

- Inherited (genetic) disorders
- Medications or other factors
- Patients with cancer

It merits to note that clots can spontaneously develop in the blood of the patient.



The last kind of clotting disorder that we'll talk about is deep vein thrombosis.

Deep vein thrombosis or DVT is a common medical problem in sedentary patients and in patients who have had recent injury or surgery. You may encounter several methods to prevent blood clot formation, including:

- Blood-thinning medications
- Compression stockings, and
- Mechanical devices



A deep vein thrombosis (DVT) is a serious condition that is a medical emergency. Find out what causes DVT and learn about the research funded by the British Heart Foundation to try and prevent it. This brings us to the end of the different hematologic diseases and next, Missah will walk you through what you can do as a part of patient assessment.