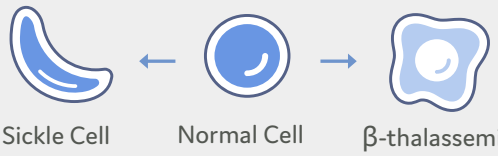
Get the Facts on Hemoglobinopathies: Sickle Cell Disease (SCD) and β-thalassemia

SCD and β-thalassemia are blood disorders caused by errors (mutations) in the β-globin gene. β-globin helps to produce **hemoglobin**, which carries oxygen from your lungs to other organs.



SCD causes the shape of red blood cells (RBCs) to change, which blocks small blood vessels and leads to extreme pain and long-term damage to the heart, kidneys, brain, and eyes.[1]

β-thalassemia causes anemia (fewer RBCs than normal), ineffective formation and breakdown of RBCs, and iron overload.[2]

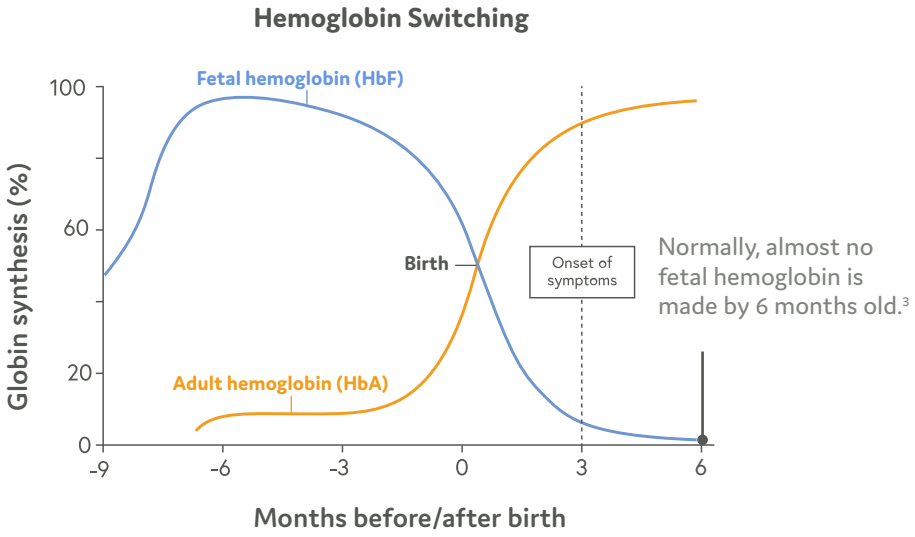
These diseases have a large impact on patient lives

High risk of complications and early death

Frequent transfusions and hospitalizations[1,2]

Understanding Types of Hemoglobin

Hemoglobin is a protein in red blood cells that carries oxygen from the lungs to other organs. The two most common types of hemoglobin are fetal (HbF) and adult (HbA). People have more fetal hemoglobin early on, but this is typically replaced by adult hemoglobin a few months after birth.[3]



People with SCD or β-thalassemia who produce more fetal hemoglobin naturally – known as hereditary persistence of fetal hemoglobin (HPFH) – experience mild or no symptoms of their disease.[3,4-6]

REFERENCES

1. Ware RE, de Montalembert M, Tshilolo L, Abboud MR. Sickle cell disease. Lancet. 2017;390(10091):311-323. 2. Taher AT, Weatherall DJ, Cappellini MD. Thalassemia. Lancet. 2018;391(10116):155-167. 3. Oneal PA, Gantt NM, Schwartz JD, et al. Fetal hemoglobin silencing in humans. Blood. 2006.108(6):2081-2086. 4. Galanello R, Origa R. Beta-thalassemia. Orphanet J Rare Dis. 2010;5:11. 5. Musallam KM, Sankaran VG, Cappellini MD, Duca L, Nathan DG, Taher AT. Fetal hemoglobin levels and morbidity in untransfused patients with β-thalassemia intermedia. Blood. 2012;119(2):364-367. 6. Akinsheye I, Alsultan A, Solovieff N, et al. Fetal hemoglobin in sickle cell anemia. Blood. 2011;118(1):19-27.

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