

The normal human red cell emerges from the marrow and circulates in the peripheral blood for approximately 120 days. At the end of its life span, it is removed from the circulation by macrophages of the liver and spleen. antibody attachment to red cell surface antigens. When red cells from the circulation are removed prematurely by macrophages of the liver and spleen, as in the first and second mechanisms, hemolysis is "extravascular." When red cells rupture within the blood stream, as in the third mechanism, the process is known as "intravascular" hemolysis. Hemolysis is defined as an erythrocyte survival time less than 100 days. There are three basic pathophysiologic mechanisms of hemolysis: 1. creation of holes in the red cell membrane. 2. 3