

Saladin 7E
Answer Key
Chapter 18, The Circulatory System: Blood

Testing Your Comprehension

1. Lung cancer destroys pulmonary alveoli and reduces, sometimes drastically, the amount of respiratory membrane available for gas exchange. Even if the RBC count is increased, those RBCs cannot load more oxygen if the respiratory membrane simply isn't available.
2. The kidneys secrete erythropoietin (EPO), which is the stimulus for erythropoiesis. Therefore, degenerative kidney diseases result in EPO hyposecretion, leading in turn to reduced erythropoiesis and low RBC counts.
3. The contributing factors may include hemorrhage as a result of the accident and a low level of erythropoiesis resulting from a combination of her age, probable sedentary habits, poverty and probably poor nutrition, and her apparent alcoholism.
4. Erythrocytes become clumped in both coagulation and agglutination, but in coagulation it is because they adhere to the fibrin mesh of the clot, whereas in agglutination it is because they are held together by antibodies.
5. Fibrinogen is consumed by the clotting process, so it is needed in larger quantity. Thrombin (derived from prothrombin) is an enzyme, so it is not consumed by clotting and is needed only in very small quantity.