**Interactive Case Studies and the Human Body (11-20)**

**The Male Body**

**Case Study 11**

**Hematology**

*Polycythemia*

Answers:

1. The disorder of this individual is polycythemia.
2. The arterial O2 saturation and erythropoietin levels are important in confirming that the increased hematocrit is not due to hypoxemia or an abnormally elevated erythropoietin level. The O2 saturation level would indicate if there is a physiologic stimulus for the increased erythrocyte production.
3. Phlebotomy is the letting of blood for transfusion pheresis, diagnostic testing, or experimental procedures.
4. Phlebotomy (removal of the whole blood) removes both blood cells and plasma. The plasma volume is replaced within days, whereas the erythrocytes take several weeks to be replaced.
5. Myelosuppressive therapy is therapy for the suppression of the bone marrow's production of blood cells and platelets.
6. Myelosuppressive therapy may be needed to suppress the erythrocyte production in the myeloid tissue if the hematocrit continues to rise after the phlebotomies.