Question 15: The patient presented in Question 14 requires wisdom tooth extraction. Which one of the following is the most appropriate approach?

A. Transfuse a Factor IX concentrate.  
B. Transfuse recombinant Factor VIII.  
C. Transfuse 2 units of FFP.  
D. Transfuse 10 units of Cryoprecipitated AHF.  
E. Confirm responsiveness to desmopressin (DDAVP) and treat just before the procedure.

Question 16: A 60-year-old male patient with esophageal cancer is admitted for a chemotherapy treatment. The patient has not been drinking adequate fluids and appears dehydrated. His physician ordered a 4-unit FFP transfusion. No laboratory tests are ordered. The FFP request is brought to you for evaluation. The best approach is to:

A. Release the FFP as ordered.  
B. Cancel the order as inappropriate.  
C. Order PT/PTT testing to determine the propriety of the order.  
D. Release the FFP if it is determined that the patient is bleeding.  
E. Consult with the physician and recommend crystalloid infusion.

Question 17: A 3-year-old Rh-negative female patient with a new diagnosis of acute lymphoblastic leukemia is admitted to the hospital for induction chemotherapy. As a consequence of her treatment, she is pancytopenic and requires red cell and platelet transfusions. Two days after an apheresis platelet transfusion, the blood bank realizes that the patient received an aliquot of platelets from an Rh-positive donor. The recommended course of action is to:

A. Do nothing; it is highly unlikely that the patient will mount an anti-D immune response.  
B. Administer a single vial of Rh Immune Globulin (RhIG) by the intramuscular route.
C. Administer an appropriate dose of RhIG by the intravenous route.
D. Closely monitor the patient in order to detect the development of anti-D.
E. Continue to provide Rh-positive platelet products.

Question 18: A 20-year-old male trauma victim is admitted to the emergency department following a gunshot wound to the abdomen. He is alert but anxious. In addition, he is tachycardic and hypotensive and has cool, clammy skin. He is only transiently responsive to the infusion of 2 L of normal saline. Blood samples are drawn, including a sample for full serologic evaluation in the blood bank. The most appropriate course of action is to:

A. Order group O-negative, uncrossmatched red cells and begin transfusion.
B. Order group O-negative whole blood and begin transfusion.
C. Wait for the provision of group-specific, crossmatch-compatible blood and begin transfusion.
D. Infuse 2 additional liters of normal saline and assess his response, but hold transfusion.
E. Wait for the results of hemoglobin and hematocrit testing before proceeding with any red cell transfusions.

Question 19: The patient in Question 18 ultimately received 2 units of O-negative uncrossed blood. His genotype is CDe/CDe. The antibody that is most likely to develop is:

A. Anti-d.
B. Anti-c.
C. Anti-E.
D. Anti-e.
E. Anti-Wrα.

Question 20: With regard to transfusion of patients with sickle cell disease (SCD) which is true?
patient from thrombotic complications, as the highest risk for thrombosis appears to be during the first few days after stopping heparin.
  - In the presence of HIT, warfarin should not be started without other rapidly acting anticoagulants because of an increased risk of warfarin-induced skin necrosis.

Question 20: D

Explanation:

- Because of its short size, LMWH is largely unable to simultaneously bind antithrombin and thrombin to exert a direct effect on thrombin. LMWH exerts its major action against Factor Xa. The aPTT is not usually prolonged by LMWH; response to therapy is monitored by measuring anti-Xa activity. Advantages of LMWH include the following:
  - Response is correlated to body weight; therefore, fixed dosing is possible.
  - Ongoing monitoring is not required for most patients. Pediatric, obese, and renal failure patients may require more frequent monitoring.
  - May be administered in the outpatient setting.
  - Is less likely to induce heparin-associated antibodies. However, patients with established HIT will respond to LMWH administration in the same manner as heparin. It has no role in the management of HIT.
- LMWH is at least equally effective as UFH for deep vein thrombosis prophylaxis, and anticoagulation before warfarin therapy in patients with mechanical valve replacement. LMWH is also indicated for the prevention of deep vein thrombosis and pulmonary emboli in patients undergoing hip replacement.
- It is not currently recommended for the therapy of formed clots.
- LMWH is reversed by protamine sulfate, but not as efficiently as heparin is reversed.
Question 21: A

Explanation:

- The critical step in the pathogenesis of acute DIC is the formation of thrombin at sites of endothelial injury by the action of the TF-FVIIa system. Massive generation of thrombin triggers systemic coagulation which overwhems anticoagulation and fibrinolytic pathways.
- In addition to consumption, impaired synthesis/regulation of antithrombin, protein C, and protein S contribute to the low levels of these proteins seen in DIC. Low antithrombin levels in DIC are associated with increased mortality.
- Although both coagulation and fibrinolysis are activated in DIC, activation of coagulation is disproportional to activation of fibrinolysis. End-organ damage in DIC is attributable to widespread fibrin deposition and tissue ischemia.
- The platelet count is a sensitive test in DIC, particularly if it dramatically drops over a short interval of time. About 95% of patients with DIC have thrombocytopenia. However, low or decreasing platelet counts may be associated with a variety of disorders, including bleeding. A normal platelet count is strong evidence against this diagnosis.
- Fibrinogen is an acute phase reactant; therefore, fibrinogen levels alone are not a very sensitive test for DIC. Fibrinogen levels are decreased in less than 50% of patients with DIC and are lowest in patients with severe acute uncompensated DIC.
- No single test or combination of tests is specific or sensitive enough to give a definitive diagnosis of DIC. Routinely available tests that are of value in the diagnosis include those described below:
  - FDPs and D-dimers should both be elevated in DIC (see explanation for Question 19).
  - Soluble fibrin monomers are increased.
  - PT and aPTT are elevated as a result of consumption of coagulation factors.
  - Fibrinogen may be decreased.
  - TT and RT are prolonged.
  - Platelets are decreased.
  - Antithrombin levels are decreased.
  - Factor V and Factor VIII levels may be decreased in acute DIC. Factor VIII levels are variable because, like fibrinogen, Factor VIII is an acute-phase reactant.