Unit 3 C21 Video Worksheet 7
Complement Activation

1. How many serum proteins are part of the complement system?

2. What immunity type is stimulated by complement proteins? (This is a trick question!)

3. What type of host defense systems is initiated by the complement system? (Hint 4)

4. How is complement activated? After activation, what term describes how the complement system takes action?

5. What first binds to foreign antigen on the surface of an infected cell to initiate the complement system in the classical pathway?

6. Are antibodies on the surface of the infected cells required to activate the complement system in the alternative pathway?

It is not important to know now how the different serum proteins come together to form functional complement complexes. Just understand this is a very complicated system.

Not mentioned in the video is how complement interacts with the ABO blood typing system. The blood anibodies are "M" class. When "M" class antibodies bind to RBC the antibody binds together up to 10 different RBC. This is the agglutination. After agglutination, the RBC will eventually rupture and release their Hb into the plasma (causing kidney damage). So what caused the RBC to rupture? It was the activation of complement by the "M" class antibody when the antibody binds to the plasma membrane of the RBC. So how cool is this! Now you understand why RBC rupture and the released Hb will damage your kidneys.