1. A clinical trial means that  
   A. A medical therapy is being tested in mice for the first time  
   B. A medical therapy is being tested in humans for the first time  
   C. Attorneys are assessing if there are legal issues with the therapy  
   D. Attorneys are suing a hospital for negligence in performing a therapy  

2. A heart attack happens when  
   A. The heart stops beating  
   B. The heart valves don’t work like they should  
   C. Arteries to the heart are blocked, causing part of the heart tissue to die  
   D. Arteries to the heart are blocked, and no blood is going to the rest of the body  

3. Congestive heart failure occurs when  
   A. Enough heart tissue has died that the heart is no longer pumping enough blood to lungs and body  
   B. The heart stops beating entirely  
   C. Arteries to the heart are blocked, and no blood is flowing through the heart to the rest of the body  
   D. The sac around the heart fills with fluid, preventing the heart from beating as it should  

4. Two symptoms of congestive heart failure are  
   A. Shortness of breath and painful abdomen  
   B. Fatigue and fast heart rate  
   C. Swollen limbs and pale complexion  
   D. Fatigue and shortness of breath  

5. Stem cells can help repair the heart in three ways. What are these three ways?  
   • They increase the vascularization, or number of blood vessels available to help the heart tissue  
   • They differentiate, or turn into new heart muscle cells  
   • And they prevent the death of other heart cells in the damaged area and assist in their recovery.  

6. Why would a bone marrow aspiration be performed to help a patient with congestive heart failure?  
   A. To cure any diseases before a transplant and make sure it doesn’t return  
   B. To gather stem cells to inject into the damaged parts of the heart  
   C. To inject the stem cells into the aorta to increase blood flow  
   D. To kill the patient’s own immune system and to make room for new donor stem cells  

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7. The catheterization procedure begins by inserting a needle where?
   A. The aorta  
   B. The left anterior descending artery on the heart 
   C. The femoral artery  
   D. The jugular vein

8. Which valve of the heart do you cross to inject stem cells in the left ventricle?
   A. Mitral valve  
   B. Aortic valve  
   C. Pulmonary valve  
   D. Tricuspid valve

9. The signal to bring stem cells to an area of the body that needs repair is called
   A. SDF1  
   B. Plasmid  
   C. LAD  
   D. Aspiration

10. When injecting plasmids to produce SDF1 in the heart, why don’t you inject them right into the dead tissue you want to repair?
    A. It would kill healthy cells around the injection point, increasing the dead area  
    B. It would stop the entire heart, killing the person  
    C. It would damage the DNA of living cells, causing tumors  
    D. The plasmids must be taken up by living cells to do any good

11. What does the ejection fraction indicate?
    A. The amount of blood being pumped into the body per beat of the heart  
    B. The amount of blood left in the heart after it beats  
    C. The amount of blood going to the heart tissue itself  
    D. The amount of blood that can safely be taken from a donor

12. A stress test measures normal blood pressure, heart rate and what other indicator?
    A. Ability to walk and exercise  
    B. Quality of life  
    C. Electrocardiogram tracings  
    D. Rate of breathing

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