"Well, it's been four hours since the chaos began here in Denise's heart. I'm pooped! Here's the way I see it. A bunch of my cells are dead. So now there's an inflammatory response of neutrophils and monocytes and an elevated body temperature. Enzyme levels in the bloodstream are up. I don't know one enzyme from the other. They're all just proteins to me. But here's what I heard the doctors say—I mean it, they really use these big words: Creatine phosphokinase (CPK) has become elevated and will peak within 12 to 24 hours since the attack and with luck it'll return to normal within 48 to 72 hours. Its isoenzyme, CK-MB, is also elevated. CK-MB2 undergoes a change to CK-MB when released into the bloodstream. The ratio of CK-MB2 to CK-MB1 is more than 1.5 for heart attack patients, which is a benchmark doctors use to diagnose myocardial infarction within 6 hours of symptom onset. The blood level of aspartate aminotransferase (AST or GOT) has become elevated due to cell injury, will peak in 24 to 48 hours, and will return to normal in five days. In contrast to the rapid rise and decline of these enzymes, lactate dehydrogenase (LDH) will begin to elevate within a day of the attack onset and will persist at high levels for 10 to 20 days.

Cardiac troponins T and I (which help me contract) will remain elevated in the blood for 10 to 15 days after myocardial injury. This means that if the doctors find that the troponins levels are up, they can really be sure the heart has been injured. Well, that's sure to be what happened to me. So now what have I got to look forward to? Some rest and healing time. With luck, four to six weeks from now, Denise's body will have deposited collagen fibers and scar tissue at the plaque rupture site. Some more collateral vessels will have been built. But for me, things will never be the same. Any of my heart tissue that died from oxygen starvation will be lost and replaced with scar tissue ... unless doctors can find a way to regenerate it. Geesh, I never thought this would happen to me. Denise is so young...."

Assignment:

Denise is back home and on cholesterol-lowering medication and is learning how to better handle stress. Your assignment is to help Denise and her family research the key measures in preventing heart disease, or in Denise's case, another heart attack. Answer the following questions briefly and directly. You may include a table if desired. The sources cited in the References for this case are good sites to utilize.

1. Heart-Healthy Diet
   a. What foods/nutrients should be limited and specifically what foods/nutrients are beneficial and why? (Example: what are the benefits of folic acid, monounsaturated fats, omega 3 fats, etc? Why are saturated fats bad?)