This page contains all of the information distributed to every group in this activity. You may find it helpful to your learning to work through some additional problems, either by yourself or with study partners.

The Patient: Beth is a very successful living mannequin. She stands still all day, and has been having fainting spells at work recently. Because her work is lucrative, Beth is reluctant to change jobs.
The Task: Recommend the best treatment for Beth’s condition. Prepare a physiology-based presentation that explains the condition and your treatment to Beth and her family. Include a simplified diagram of the problem and your proposed solution to clarify your presentation.
Individual Accountability: What other circulation problems might Beth experience if she continues working as a mannequin? What would be the effects of those problems? Defend your answer using correct physiological terminology in four or five sentences.

The Patient: Jane has mitral valve prolapse, meaning she has a faulty bicuspid valve. She has lived with it for many years, but the problem gets worse as she ages. The standard treatment is valve replacement. However, Jane is not a good surgery candidate since she is 80 years old and recently had colon cancer.
The Task: Recommend the best treatment for Jane’s condition. Prepare a physiology-based presentation that explains the condition and your treatment to Jane and her family. Include a simplified diagram of the problem and your proposed solution to clarify your presentation.
Individual Accountability: What other heart problems might Jane experience as a result of her mitral valve prolapse? Defend your answer using correct physiological terminology in four or five sentences.

The Patient: Bob has “heart block”—his atrioventricular node is blocked so the ventricles don’t receive electrical stimulation. The intrinsic contraction frequency of the ventricles is too low to provide adequate cardiac output. Bob finds climbing stairs difficult and is often tired.
The Task: Recommend the best treatment for Bob’s condition. Prepare a physiology-based presentation that explains the condition and your treatment to Bob and his family. Include a simplified diagram of the problem and your proposed solution to clarify your presentation.
Individual Accountability: What are some possible causes of a blocked AV node? Which blockage do you think is the most common? Defend your answer using correct physiological terminology in four or five sentences.

The Patient: Jim recently had a heart attack. His mother died of stroke and he is concerned about future heart attacks and stroke.
The Task: Recommend the best treatment for Jim’s condition. Prepare a physiology-based presentation that explains the condition and your treatment to Jim and his family. Include a simplified diagram of the problem and your proposed solution to clarify your presentation.
Individual Accountability: Should Jim be more concerned about another heart attack or a stroke? Defend your answer using correct physiological terminology in four or five sentences.

The Patient: Tammy has valvular stenosis of the semilunar valve. This valve is highly stiffened, which reduces blood flow through the valve. The standard treatment is valve replacement. However, Tammy cannot have surgery due to other complications.
The Task: Recommend the best treatment for Tammy’s condition. Prepare a physiology-based presentation that explains the condition and your treatment to Tammy and her family. Include a simplified diagram of the problem and your proposed solution to clarify your presentation.
Individual Accountability: Which of Tammy’s valves is the most important? Defend your answer using correct physiological terminology in four or five sentences.

The Patient: John has myocardial ischemia, a condition in which the heart oxygen demand is not met. He is increasingly experiencing chest pain.
The Task: Identify possible causes of John’s ischemia. Recommend the best treatment for this condition. Prepare a physiology-based presentation that explains the condition and your treatment to John and his family. Include a simplified diagram of the problem and your proposed solution to clarify your presentation.
Individual Accountability: What are the possible consequences of NOT treating John’s ischemia? Defend your answer using correct physiological terminology in four or five sentences.
The Patient: Nancy has an enlarged heart. She has lived with it for many years, but the problem gets worse as she ages.
The Task: Recommend the best treatment for Nancy's condition. Prepare a physiology-based presentation that explains the condition and your proposed solution to clarify your presentation.
Individual Accountability: What symptoms does Nancy probably have? Defend your answer using correct physiological terminology in four or five sentences.

The Patient: Steve has been diagnosed with acute valve lesions, yet he is not experiencing any symptoms. Steve is wondering what to expect and what treatments are available.
The Task: Describe the possible symptoms Steve will experience, and recommend the best treatment for his condition. Prepare a physiology-based presentation that explains the condition and your proposed solution to clarify your presentation.
Individual Accountability: Which of Steve's valves is the most important? Defend your answer using correct physiological terminology in four or five sentences.

The Patient: Andre is taking medication for high blood pressure. His current prescription is for a diuretic that causes him to use the restroom excessively. This side effect is interfering with his job, and he is interested in other medications.
The Task: Recommend the two alternative treatments for Andre’s condition. Prepare a physiology-based presentation that explains the condition and your proposed solution to clarify your presentation.
Individual Accountability: Why are diuretics effective in reducing Andre’s blood pressure? Defend your answer using correct physiological terminology in four or five sentences.

The Patient: Chandra has familial hypercholesterolemia, meaning that she has high cholesterol levels due to too few LDL receptors. Recently she has developed xanthomas—cholesterol nodules on the skin. She is desperate for treatment.
The Task: Describe Chandra's condition as completely as possible and recommend the best treatment for her condition. Prepare a physiology-based presentation that explains the condition and your proposed solution to clarify your presentation.
Individual Accountability: Could Chandra’s high cholesterol be controlled by diet? Defend your answer using correct physiological terminology in four or five sentences.

The Patient: Sierra is a newborn diagnosed with hypertrophic cardiomyopathy (an abnormally thickened heart muscle). Her parents are concerned about how this condition will affect their baby and what possible treatments exist.
The Task: Describe this condition and recommend the best treatment for Sierra’s condition. Prepare a physiology-based presentation that explains the condition and your proposed solution to clarify your presentation.
Individual Accountability: What symptoms will Sierra probably experience? Defend your answer using correct physiological terminology in four or five sentences.

The Patient: Kan has been experiencing angina while playing basketball but not at other times. He is wondering if this heart pain is simply the result of aging or if it signals larger problems.
The Task: Describe the possible causes of Kan’s angina and recommend the best treatment for his condition. Prepare a physiology-based presentation that explains the condition and your proposed solution to clarify your presentation.
Individual Accountability: Should Kan be concerned about having a heart attack or a stroke? Defend your answer using correct physiological terminology in four or five sentences.

The Patient: Adan recently learned that his atria do not contract. Despite this malfunction, he lives a fairly normal life, although he does get tired easily. He is investigating therapies for this condition.
The Task: Explain to Adan how he survives with only partial heart function. Recommend the best treatment for Adan’s condition. Prepare a physiology-based presentation that explains the condition and your proposed solution to clarify your presentation.
Individual Accountability: How much of the heart must function for Adan to survive? Defend your answer using correct physiological terminology in four or five sentences.