



Principles of Biomedical Science

Virtual Learning

9-12 / PLTW[®] PBS

April , 30 2020



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Lesson: April 30 2020

Objective/Learning Target:

Students will be able to: complete their own risk assessment and learn about factors that are modifiable and are nonmodifiable when it comes to a heart attack. *(Reference: PLTW[®] 4.4.2 Heart Disease Interventions)*



Let's Get Started (Bell Ringer):

Watch Videos on Heart Attack Survival:

[Surviving My #HeartAttack: "Surviving changed everything"](#)

[Surviving My #HeartAttack: "I appreciate every moment"](#)

[Surviving My #HeartAttack: "I refuse to be afraid"](#)



Lesson/Activity:

Start by...

Use the following link [4.2.1 Medical History](#) Document to look at Anna's medical history. From this document make a list in your notebook or separate piece of paper the behaviors and activities that put Anna at risk for heart disease and behaviors that could have helped prevent heart disease. We call these types of factors modifiable and nonmodifiable.



Answers:

Risky Factors: Blood Pressure, Pulse, Weight, Diabetes, Sickle Cell disease, self-resolved chest pain, high fat diet, wine drinker (to much) family history of heart disease, hypertension, tingling in right calf, tachycardic, heart murmurs, PVC's.

Helpful Factors: Non-smoker, daily aspirin, yoga, no edema in legs.



Lesson/Activity continued:

Use the provided resource [World Heart Federation Risk factors](#) to help in answering the following questions in your notebook, or separate sheet of paper.

What are Modifiable Risk Factors in Heart Disease?

What are Non-Modifiable Risk Factors in Heart Disease?



Answers:

Major Ideas for Modifiable Risk Factors:

Physical inactivity, Tobacco, Diet, Bad Fats, Blood lipids (fats), Hypertension, Obesity.
Find details about these from web site.

Major Ideas for Non-Modifiable Risk Factors:

Family history, Diabetes, Age, Gender, Ethnicity, Socioeconomic status. Find details about these from web site.



Practice:

Lets try calculating Anna's Risk using the [Siteman Cancer Center Your Disease Risk Calculator](#). Once you have clicked on the link, look to the right of the “**Get Started**” click on the Select a disease drop down, and choose **Heart Disease** from there just follow the prompts and fill in the information you know about Anna. Lets see what her risk is? Once you are done write down her risk level, and some lifestyle changes they suggest she should make. There is no reason to take the Your Opinions on “Your Disease Risk” the company is just collecting data.



Answers:

Answers will vary based on students background on Anna, and a small amount of data they will have to remember about anna's stomach contents. But you most likely found her in the High Risk area.



Additional Practice:

Now that you know what you are doing, Lets try calculating your data or perhaps someone in your family. Go back to the [Siteman Cancer Center Your Disease Risk Calculator](#). Once you have clicked on the link, look to the right of the “**Get Started**” click on the Select a disease drop down, and choose **Heart Disease** from there just follow the prompts and fill in the information you know about you or your family member. Lets see what the risk is? Once you are done write down her/his risk level, and some lifestyle changes they suggest she/he should make. Once again there is no reason to take the Your Opinions on “Your Disease Risk” the company is just collecting data.



Answers:

Answers will vary based on responses.



Additional Practice:

Now that you know what you are doing, you may want to play around with all the other disease risk selections. Feel free to see where your risk factors are. Go back to the [Siteman Cancer Center Your Disease Risk Calculator](#). Once you have clicked on the link, look to the right of the “**Get Started**” click on the Select a disease drop down, enjoy learning your risk factors and what you can do to prevent them.



Answers:

Answers will vary based on responses.