

**CHOLESTEROL,
ATHEROSCLEROSIS, AND
CORONARY HEART
DISEASE
COURSE LEARNING**



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Note: External Links: Regarding Advertisements

There are links provided in this Course Learning Workbook. There may also be some links on the GMP Fitness Learning Platform. These links, which may also provide advertisements, are for informational purposes only. These links are for informational purposes only; they do not constitute an endorsement or approval by GMP Fitness® of any of the products by these companies.

CHOLESTEROL, ATHEROSCLEROSIS AND CORONARY HEART DISEASE — COURSE LEARNING WORKBOOK ACTIVITY QUESTIONS AND ADDITIONAL ASSIGNMENTS

This course includes “[45 numbered activity questions](#)” designed to help you present your results. We recommend completing the questions as you go through the course. The questions will guide you through each lesson, help reinforce and check your understanding of the material, and prepare you for the final exam.

Lesson 4: Additional Assignments in this Course Learning Workbook

There are also “Additional Assignment Questions.”

These questions are not on the exam. The external webinar/video/article links increase and reinforce your knowledge of the course subject matter and extend your learning into other areas of health and wellness as well. The external links also increase student engagement and interaction and discussion with peers and others.

Regarding Advertisements

Some of the external link videos, audio, webinars, and/or article links will have advertisements. The [National Institute on Aging](#) says that while many commercial websites do provide accurate, useful health information, it can be hard to distinguish this content from marketing and promotional materials in some cases. Any advertisements on a site should be clearly marked as such. Watch out for ads designed to look like neutral health information.

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Suggestion: If an article read the content of the article only. If it is a video, click past the advertisements and watch or listen only to the video.

Note: The webinar, video, and or audio links, also offer you the flexibility to pause, rewind, or skip parts if you would like to. With the articles, you can re-read them as many times as you like.

Write, draw, and discuss what you have learned.

There are a number of things you can do to process and learn from the external links to help you learn the information. For example, write down keywords that you learn on index cards or in your notes. Then review this and any other notes you took.

— Draw pictures to help you recall keywords. [Research](#) says drawing pictures may help you remember better boost memory and challenge students to explore the materials in different ways.

- You might find that some of the external links are similar in what they provide in learning. This will help retention and reinforce the material more.
- Take your time through the videos/articles - pausing as often as you like - to engage more with the content and enhance the learning.
- Discuss what else you learned. Discussion helps you think about what you learned more.

EXTERNAL LINKS

External Link Assignments Quick Steps: Let's Get Started

- Boost Learning; Click on the external links (∞) below. They could be webinars, videos, or podcasts: Pause, rewind, rewatch, and/or re-listen to these. They could also be articles. Read and then re-read these.
- Identify: Key points and core sections.
- Reinforce and Study: Take detailed notes.
- Examine: Answer specific assignment questions.
- Explore: If no specific question is given for an assignment, discuss or describe at least 3 things you have learned or reinforced from each external link.
- Delve Into: Investigate or discover more information by researching other links.

LESSON 1

1. How often should you have your blood cholesterol levels tested?

2. Where is cholesterol found?

3. What is cholesterol?

4. What are the two types of lipoprotein?

5. What are the four main functions of cholesterol?

6. What are foods that actively lower cholesterol levels?

7. What are foods that are bad for cholesterol levels?

8. What do high levels of LDL lead to?

9. What foods should you avoid in your diet to help manage cholesterol levels?

10. Abnormal cholesterol levels may also be secondary to what conditions?

For questions 11-15 - according to the guidelines from the course:

11. What is an optimal LDL cholesterol level?

12. What is a desirable total cholesterol level?

13. What is a high LDL cholesterol level?

14. What is a low HDL cholesterol level?

15. What is a high HDL cholesterol level?

16. What are the four changes to lifestyle that are recommended for all people with high cholesterol levels?

17. What are statins?

18. List five statins available on prescription in the US.

19. Why is there a considerable debate about the prescription of statins?

🔗 [External Link Animations](#) - Material Reinforcement

Make sure to click on the next button in the right-hand corner to view all the slides.

- Where is cholesterol stored?

-
-
-
- What does your cholesterol score measure?

-
-
-
- What are triglycerides?

-
-
-
- Write and discuss what you have learned from this animation.

🔗 Go to this link > [Click here for an online Heart Disease Risk Calculator](#).

While other factors determine heart disease risk - you can get an idea of what an online

risk factor calculator looks like.

LESSON 2

20. What is atherosclerosis?

21. What is endothelium?

22. How does atherosclerosis start?

23. What is the difference between arteriosclerosis and atherosclerosis?

24. What causes atherosclerosis?

25. What are the first signs of atherosclerosis?

26. What do carotid arteries do?

27. When the blood supply to the heart is limited it can cause angina and heart attack. What are the symptoms?

28. Renal arteries supply blood to the kidneys. If the blood supply becomes limited what might the patient experience?

29. What are the seven symptoms of peripheral arterial disease?

30. How is atherosclerosis diagnosed?

31. What are treatments for atherosclerosis?

EXTERNAL ANIMATION LINK - MATERIAL REINFORCEMENT

 [Atherosclerosis](#) - click here to learn more.

Assignment

— Write and discuss what you have learned from this animation.

NOTE: Make sure to click on the next button in the right-hand corner to view all the slides.

LESSON 3

32. What is coronary heart disease?

33. What happens after the blood leaves the heart?

34. What is angina?

35. What are the seven symptoms of angina?

36. How does a heart attack occur?

37. What is the first symptom of a heart attack?

38. What are ten more symptoms of a heart attack?

39. What are the ten risk factors for coronary heart disease?

40. How is coronary heart disease diagnosed?

41. What is a Holter monitor?

42. What is an electrocardiogram?

43. What is a stress test?

44. What are treatment options for coronary heart disease?

45. What medications might a patient take for coronary heart disease?

LESSON 4: EXTERNAL LINKS - VIDEOS/WEBINARS/ARTICLES/AUDIO/ANIMATIONS

EXTERNAL ANIMATION LINKS - MATERIAL REINFORCEMENT

Assignment

- With all animations - Make sure to click on the “next button” in the right-hand corner to view all the slides.
- Write and discuss what you have learned from this animation.

[Transient Ischemic Attack](#)

- What is a transient ischemic attack?
-
-
-

- How do transient ischemic attack symptoms occur?
-
-
-

Additional Resources

[Transient ischemic attack \(TIA\)](#)

[Heart Attack](#)

- When does a heart attack occur?
-
-
-

[Heart Failure](#)

- What is heart failure?
-
-
-

[Stent](#)

- What is a stent?

[Cardiac Catheterization](#)

- What is Cardiac Catheterization?

[Angina](#)

- What is angina?

- When does reversible angina occur?

- When does progressive angina occur?

[Coronary Bypass](#)

- What does coronary artery bypass graft surgery treat?

EXTERNAL VIDEO LINK

[Exercise & Blood Pressure - 10:16 minutes](#)

NOTE: start the video at 30 seconds - and see this WebMD link for the best exercise for people with hypertension.

Assignment: Watch and/or listen to the video.

- What is blood pressure?

- What is the systolic value?

-
-
- What is the diastolic value?
-
-

- What is the main arterial pressure?
-
-

- How much does the heart pump every minute?
-
-

- Where does the blood get distributed?
-
-

- What happens when the muscles contract?
-
-

- What is the fight and flight system and what does it do?
-
-

- Write and discuss what else you have learned?
-
-

EXTERNAL VIDEO LINK

Assignment: Listen to the interview with Dr. Stephen Sinatra.

NOTE: You can stop the video at 1 hour and 2 minutes which is when the interview ends.

 [Dr. Stephen Sinatra - How To Prevent Heart Attacks, Heart Disease & How To Keep Your Heart Healthy! - YouTube](#)

- The experts talk about various topics that affect your health. For example, how to lower cholesterol naturally, Coenzyme Q10 (CoQ10), magnesium, garlic, hawthorn, vitamin K2, fish oil, squid oil, anthocyanin, lycopene, and other things.
 - Write and discuss what **solutions you have** learned from this video. Then use the **external link articles** below and also research the web yourself to learn about each one of the solutions further.
-
-
-
-
-

EXTERNAL ARTICLE LINKS

- Click on the external article links below to learn more about “awesome foursome.”
- Read each article.
- Write and discuss at least 3 things you have learned from each article.

🔗 [Top Foods High in Vitamin K2 - WebMD](#)

- 1.
- 2.
- 3.

🔗 [Anthocyanins Benefits and Food Sources - Verywell Health](#)

- 1.
- 2.
- 3.

🔗 [Vitamin K2: Everything You Need to Know - Healthline](#)

- 1.
- 2.
- 3.

🔗 [Hawthorn - Uses, Side Effects, and More - WebMD](#)

- 1.
- 2.
- 3.

🔗 [Magnesium Supplements - WebMD](#)

- 1.
- 2.
- 3.

🔗 [Garlic - Uses, Side Effects, and More - WebMD](#)

- 1.
- 2.

3.

🔗 [Coenzyme Q10: CoQ10 - WebMD](#)

- 1.
- 2.
- 3.

🔗 [Health Benefits of Lycopene - WebMD](#)

- 1.
- 2.
- 3.

EXTERNAL VIDEO LINK

Assignment: Listen to the interview with Search Dr. Stephen Sinatra.

🔗 [Dr. Sinatra's Tips for a Healthy Heart - 37.12 minutes](#)

Dr. Sinatra talks about cardiac regeneration and the “awesome foursome.” He says that you can regenerate the heart with coenzyme Q10 (CoQ10), L-carnitine, D-ribose, and magnesium.

- What does Dr. Stephen Sinatra say you can do to improve your cardiovascular health?

EXTERNAL ARTICLE LINKS

— Click on the external article links below to learn more about “awesome foursome.”

— Read each article.

— Answer the questions, then write and discuss at least 3 things you have learned from each article.

This [link](#) and this [link](#) provide more information on the “awesome foursome,” plus other nutrients.

🔗 [D-Ribose: Benefits, Side Effects, Dosage, and Interactions](#)

- What is D-Ribose?

- Explain some of the side effects and interactions of D-Ribose.

- Additional things you learned from the article.

- 1.
- 2.
- 3.

🔗 [9 Benefits of Coenzyme Q10 \(CoQ10\) - Healthline](#)

Watch the short video on Coenzyme Q10.

- What is Coenzyme Q10?

- List and explain in detail the 9 benefits of Coenzyme Q10.

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.

- Additional things you learned from the article.

- 1.
- 2.
- 3.

🔗 [L-CARNITINE: Overview, Uses, Side Effects, Precaution](#)

- What is L-carnitine?

- Explain some of the side effects and precautions of L-carnitine.

- Additional things you learned from the article.

- 1.
- 2.
- 3.

🔗 [10 Evidence-Based Health Benefits of Magnesium](#)

- List and explain in detail the 10 evidence-based health benefits of magnesium.

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.

Go to this [link](#) and answer the questions below.

What is the importance of magnesium and ATP?

Then go to this [link](#) - read and listen to the video discussion to learn more about ATP.

- What is ATP comprised of?

Then go to these article links [7 Heart Benefits of Exercise](#) and [Five simple ways to boost your energy Levels](#) answer the questions below.

- You want to have good energy production in your heart. What can you do to improve energy production in your heart and why is it important to produce good energy?

Then go to these article links [Foods that Give Your Diet an Energy Boost - WebMD](#) and [Choose Heart-Healthy Foods - NHLBI](#)

- What foods can you eat to promote good energy and promote good heart health?

- Additional things you learned from the articles.

- 1.
- 2.
- 3.

Other health health nutrients experts talk about include vitamin C and vitamin D3.

🔗 [Vitamin C: Benefits, Side Effects, Dosage, and Interactions](#)

- What is Vitamin C?

- Explain some of the side effects and interactions of Vitamin C

- Additional things you learned from the article.

- 1.
- 2.
- 3.

🔗 [Vitamin D3: Benefits, Sources, Deficiency, and More](#)

- What is Vitamin D3?

- Explain some of the benefits and list some of the sources of Vitamin D3.

- Additional things you learned from the article.

- 1.
- 2.
- 3.

EXTERNAL VIDEO LINK

Assignment: Listen to the interview with Dr. Stephen Sinatra.

🔗 [Dr. Stephen Sinatra, America's #1 Cardiologist](#)

NOTE: While the video is over 1 hour - **end the video at minute 33**

- What does Dr. Sinatra say about stress on the body and what it does?

- How does he suggest getting stress down?

- What does Dr. Sinatra say about laughter and exercise?

Oils

- What are oils to stay away from (Minute 27)?

- What oils are beneficial for the heart (Minute 28)?

- What are the benefits of olive oil?

EXTERNAL ARTICLE LINKS

— Click on the external article links below to learn more about olive oil and how it benefits cardiovascular health.

— Read each article.

— Answer the questions and also write and discuss at least 3 things you learned from each article.

🔗 [How Just Half a Tablespoon of Olive Oil Can Improve Heart](#)

- Explain how adding olive oil to a diet leads to improved cardiovascular outcomes.

- Additional things you learned from the article.

- 1.
- 2.
- 3.

🔗 [What Is Oil Pulling?](#)

- Explain what oil pulling is.

- Additional things you learned from the article.

- 1.
- 2.
- 3.

[6 Benefits of Oil Pulling — Plus How to Do It - Healthline](#)

This article states that oil pulling and rinsing with oil is a great way to lower bacteria naturally.

- List the benefits of oil pulling. Then search the web to see if you can find more benefits and list them below.

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

- Additional things you learned from the article.

- 1.
- 2.
- 3.

EXTERNAL ARTICLE LINKS

- Click on the external article links below to learn more about cardiovascular health.
- Read the articles.
- Write and discuss at least 3 things you have learned from this article.

[How to Lower Blood Pressure: 5 Natural Ways](#)

This article talks about ways to lower blood pressure naturally. This is also an audio-article so you can listen to it.

- What are some natural ways to lower blood pressure?

- What essential oils are helpful for blood pressure?

- Additional things you learned from the article.

- 1.
- 2.
- 3.

[What Is Heart Disease: Causes, Risk Factors & Prevention](#)

- What causes heart disease?

- What tests determine if you are at risk for heart disease?

- Additional things you learned from the article.

- 1.
- 2.
- 3.

EXTERNAL VIDEO LINKS

[Cardiac Output | Cardiology](#) - 7:57 minutes

Assignment: Watch and/or listen to the video. Then answer the questions.

— Compare acute inflammation versus chronic inflammation.

- What is the stroke volume?

- How much blood pumps per minute?

- What influences the heart rate?

- What is contractility?

- What is pre-load?

- When is the heart relaxed?

- What happens when the **heart** contracts?

- Why is pre-load important?

- What happens when you increase pre-load?

- What is after-load and why is it important?

- Sum up what cardiac output is?

🔗 [What Causes a Heart Attack?](#) - 5:20 minutes

Assignment: Watch and/or listen to the video. Then answer the questions.

- Why is the immune system important?

• What does the macrophage do?

• What happens when you are having a heart attack?

• What are symptoms of a heart attack?

• Write and discuss at least 3 other things you learned from the video.

- 1.
- 2.
- 3.

∞ [What happens during a heart attack](#) - 4:53 minutes Reinforcement Video.

— Write and discuss what you have learned from this video.

- 1.
- 2.
- 3.

∞ [Sugar and Your Heart with Dr. Stephen Sinatra](#) - 36 minutes

Dr. Hotze and Dr. Sinatra on inflammation and the heart. Dr. Sinatra says that heart disease is an inflammatory disorder.

Assignment: Watch and/or listen to the video and answer the questions.

— What does Dr. Sinatra say about statins?

• Why did Dr. Sinatra not use statins with older men?

• How does Dr. Sinatra say helps maintain good cardiovascular health?

- What causes the inflammation of coronary arteries?

- What is the number one factor that causes inflammation?

- What does olive oil do?

- Write and discuss what else you have learned?

SUMMATIVE ASSESSMENT & REFLECTIVE QUESTIONS

Explore and think of your learning experience in relation to the entire course and answer as many of the questions as you would like below.

I pledge that I have completed all questions for this assignment on:

ENTER YOUR NAME AND THE DATE HERE.

- Assignment Summative Reflection—In what ways have you improved professionally?

- How can you apply the knowledge/skill from the activity labs?

• Assignment Challenges—Did you experience any challenges in completing the assignment? If yes, what were these?

• Add any additional comments below.

Explore and think of your learning experience in relation to the entire course and answer as many of the questions as you would like below.

• What have I learned?

• Do I understand what I have learned?

• What progress have I made?

• What new words, jargon, or abbreviations did I learn?

- How much did you know about the subject before you started?

- In what ways have you gotten better at this kind of work?

- Am I excited about applying what I learned?

- What did you learn (today, this week, this year, etc)?

- What challenges did you experience and how did you address them?

- How will I adapt and apply the knowledge?

- Do I have confidence in explaining material?

- Did I learn a new skill or clarify an interest?

- In what ways have you improved in your focus?

- In what ways have you improved in your reading and writing skills?

- In what ways have you improved in your skills that you can apply in the real world or workplace and your career?

