



N4: Basic Pathophysiology
Second Semester, Academic Year 2022-2023

STUDY GUIDE

TOPIC 4: Alterations in Oxygenation (Cardiovascular System)

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Introduction

The cardiovascular system plays a crucial role in the delivery of nutrients and oxygenated blood to the different organ systems. It consists of the heart, the arteries, the veins and the capillaries. What do you think will happen to a person when any of these organs is damaged or injured? We will find out in today's session.

Learning Outcomes

At the end of the session, the student will be able to:

1. Integrate the knowledge from anatomy and physiology in explaining the pathophysiologic mechanisms of common cardiovascular conditions.
2. Analyze etiologic factors involved in common cardiovascular diseases.
3. Discuss the pathophysiologic mechanisms in common cardiovascular diseases and resulting signs and symptoms that affect perfusion and oxygenation.
4. Explains sequence of pathophysiologic events leading to disease formation.
5. Appreciate the role of social determinants of health as contributory to the development of cardiovascular diseases.

Before you begin the session, answer the pre-session quiz on the VLE course site. This is to test your prior knowledge about the topic. The quiz has 5 questions that you must answer in 10 minutes. Don't worry. This will not be graded.

ACTIVITY: PRE-SESSION QUIZ

Duration: 10 minutes

Instructions:

1. Click on the 'Quiz'.
2. Click on the choice that corresponds to your answer.
3. After answering all the questions, click 'Finish'. You will then see your score and feedback on each question.

You may **review your notes on N3 Anatomy and Physiology** about the cardiovascular system. Having a refresher of the normal anatomy and physiology can help you have a better understanding of the deviations from the normal.

Download and view the lecture slides.

Watch the lecture videos uploaded in the course site:

- Part 1: Review of Cardiovascular Concepts
- Part 2: Common Cardiovascular Diseases
 - Disturbances of Blood Pressure Regulation
 - Hypertension
 - Conduction Disturbances
 - Arrhythmia
 - Perfusion Disturbances
 - Coronary Artery Disease
 - Acute Coronary Syndrome
 - Cardiomyopathy
- Part 3: Structural Heart Defects
 - Congenital Heart Disease
 - Rheumatic Heart Disease
 - Valvular Heart Disease
- Part 4: Heart Failure and Cardiogenic Shock

For more information on the topic, you may use this as reference:

Grossman, S. & Porth, C.M. (2014). Porth's Pathophysiology: Concepts of Altered Health States. 9th edition. Philadelphia: Wolters Kluwer Health | Lippincott Williams & Wilkins.

- Unit VIII: Disorders of the Cardiovascular System (pages 712-896)

In case this book is not available, you may use any Pathophysiology book as reference.

If you have any questions, please post them in the discussion forum of the UPM VLE.

Now that you have gone through the lecture materials, **answer the post-session quiz** on the VLE course site to test what you have learned about the topic. The quiz is graded with a minimum pass level of 60%. Should you fail the first attempt, or you are not satisfied with your first score, you can take it up to 2 times. The recorded grade will be the average of all your attempts.

ACTIVITY: POST-SESSION QUIZ (10 items)

Duration: 15 minutes

Instructions:

1. Click on the 'Quiz'.
2. Click on the choice that corresponds to your answer.
3. After answering all the questions, click 'Finish'.
4. After the quiz, you will be able to see your score and whether your answer is right or wrong. Correct answers and rationale will be shown once the quiz closes before the long exam.

Congratulations! You have finished this session. You may proceed now to the next topic.

Reference:

Grossman, S. & Porth, C.M. (2014). Porth's Pathophysiology: Concepts of Altered Health States. 9th edition. Philadelphia: Wolters Kluwer Health | Lippincott Williams & Wilkins.

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