

Anatomy and Physiology II

Learning Guide: Blood Vessels

Overview – Blood vessels may not be the first organs to come to mind when considering homeostasis. However, they play a critical role in maintaining blood pressure, intercellular communication, and a proper internal environment where life is sustained. Blood vessels are complex organs that deserve careful study and consideration.

Objectives - With the above in mind, the student will examine:

- The relationship between blood vessel types' anatomy and their respective functions in blood pressure maintenance
- The role the vessels play in fluid exchange at the capillary
- Blood pressure regulation
- Identify the names and functions of select vessels
- We will also look at two unique portal systems: the hypothalamic hypophyseal portal system and the hepatic portal system.

Review Topics – The blood vessel module is part three of a series on the cardiovascular system. Therefore, reviewing select topics in the blood and heart modules will be necessary at specific points.

Getting Started – A visual approach to this module will aid in your mastery and assimilation of the content. Several [handouts](#) are available for this purpose. But beyond this, the [Image Bank](#) and your text provide visual support that will aid in your understanding of the vessels' anatomy and physiology.

There are two lists for the mastery of select blood vessels (note that they are similar but slightly different). One is for the Lecture Exam, and the other is for the Lab Practical.

- [Human Blood Vessel List for Lecture](#) - The "Human Blood Vessel List for Lecture" will be those vessels you will see on your lecture exam. You can also expect to see images from this handout when you take the exam.
- [Human Blood Vessel List for Lab](#) - The "Human Blood Vessel List for Lab" is the list of vessels that you need to know for your first laboratory practical exam.

Exam –The [lecture outline](#) is the exam outline, and this outline follows the lecture sequence closely. However, two issues require special preparation.

- **Blood Vessel Identification** (20 points) - one page will be dedicated to identifying blood vessels and is all fill-in-the-blank. Accuracy is important. For example, Renal Artery would be incorrect as this does not indicate if it is the Left or the right. Always be specific!
- **Illustration** – Blood pressure is an important topic, and you will want to understand it well. Study the handout and note carefully how blood pressure is adjusted with changing variables. Again, there is a handout of this illustration to help guide you in preparation. The presentation will vary depending on the exam modality.
 - * **Blackboard Exam** – A large matching that will be based on the Blood Pressure Handout and your understanding of it.
 - * **In-Class Exam** – You will illustrate Blood Pressure Regulation on the exam. Questions exploring your understanding of it will be present.
- **There is NO guided essay.**

Laboratory – Similar to the heart, there is a laboratory exercise that covers the blood vessels. We will spend several weeks studying the blood vessels. Your laboratory practical will be all visual and all fill-in-the-blank and will cover both the heart and the blood vessels. Note that there is a relatively extensive [photographic atlas](#) for study purposes. For this, you will use the "[Human Blood Vessel List for Lab.](#)"

Date of the Laboratory Practical – can be found on the [Course Schedule](#).

Final Point – STUDY HARD the blood vessels. Understanding the types of vessels and their functions is important. In addition, blood pressure maintenance is of particular importance to the medical professional.