

Difference Between Etiology and Pathophysiology

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Key Difference - Etiology vs Pathophysiology

Different terminologies are used to describe a [disease condition](#) in a medical context. These terminologies are also characterized as specialized fields in the scientific community. The disease epidemiology, pathology, parasitology, etiology, and pathophysiology are some of the categories used to categorize a disease. Etiology of a disease defines the cause of the disease. Pathophysiology of a disease defines the functional changes that are occurring within the patient or the victim due to a pathological or a disease condition. Therefore, the **key difference** between etiology and pathophysiology is the definition of the term. **Etiology describes the causative reason for the disease whereas pathophysiology describes the [physiological](#) changes taking place in an organism due to the disease.**

What is Etiology?

Etiology of a disease is the most important aspect of disease biology. Etiology of a disease is the primary cause of the disease. This depends upon whether the disease is a communicable disease or a non – communicable disease. The primary cause of the disease can be a biological factor, a chemical factor, a physical factor, a psychological factor or a genetic factor. Biological factors mainly include pathogenic organisms that lead to the cause of diseases. This includes microorganisms and parasites that cause infectious diseases. Physical and environmental factors may also lead to the cause of diseases via pollution. Chemical contaminations and irritations can also lead to diseases such as cancer. The final most important disease cause is the genetic factor including [mutations](#) and single [nucleotide](#) polymorphisms in genes that could cause diseases.

Thus, it is important to diagnose the causation of the disease; ‘etiology’ as soon as possible when a disease is manifested. This will lead to fast administration of the treatments. There are different modes in which the etiology of the disease is determined. These methods include culturing of biological samples, biochemical testing, and scanning procedures etc. There is much expertise involved in studying the etiology of a disease. The medical practitioner, the biomedical scientist, molecular biologist and the microbiologist along with laboratory personnel. Thus, the field of disease etiology opens many career prospects. Specialized research teams also work in order to find and elucidate the disease etiology of diseases that assist in discovering novel medication for diseases.

What is Pathophysiology?

Pathophysiology of a disease describes the physiological changes that take place in the host following a pathological condition. A pathological condition refers to an undesired condition that may be caused by a specific agent. In context with [infectious diseases](#), a pathological condition of a disease is when a [pathogen](#) attacks the host and manifest disease symptoms. In the pathophysiology of a disease, the concentrations of body fluids will alter due to metabolic changes taking place within the host organism. Immune changes are also most likely to take place that involves in protecting the host from the disease. Pathophysiology also concentrates on the behavior of infectious agents such as [bacteria, virus, fungi, and parasites](#) inside the host organism. The metabolism related to these organisms are studied widely in pathophysiology. This also determines the manner in which these pathogenic organisms behave inside their host.

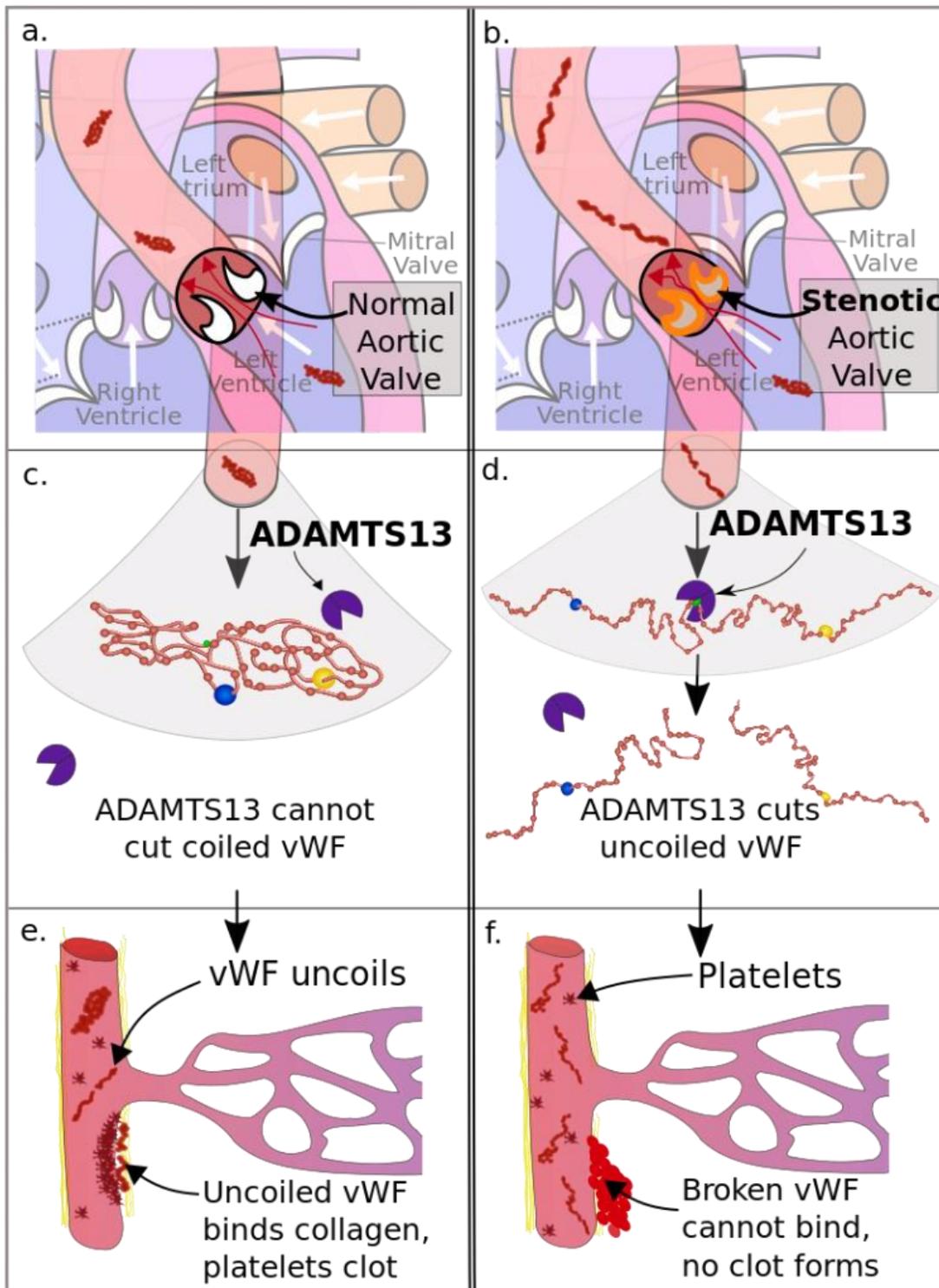


Figure 02: Pathophysiology

Pathophysiological changes during a disease are mainly diagnosed by biochemical tests, immune tests, and molecular biological testing methods. This will confer the presence of a biological agent and also assess how the agent has changed the host

physiology. It is important to know the pathophysiology of a disease in order to study the responses of the host organism for infection. Thereby, different disease symptoms and disease manifestations can be studied. Extensive research is done on the pathophysiology of specific diseases such as [Ebola](#), [HIV](#), [Dengue](#) and most other infectious diseases.

What are the Similarities Between Etiology and Pathophysiology?

- Both terms are used to explain the biology of a disease and characterize a disease.
- Both fields involve extensive research and laboratory procedures.

What is the Difference Between Etiology and Pathophysiology?

Etiology vs Pathophysiology	
Etiology of a disease defines the cause of the disease.	Pathophysiology of a disease defines the functional changes that are occurring within the patient or the victim due to a pathological or a disease condition.

Summary - Etiology vs Pathophysiology

Disease biology is one of the most widely researched and studied topic in the world. It has an increased popularity due to the increasing complications arising with disease biology. Etiology and Pathophysiology of a disease explain two important aspects of disease biology. Etiology refers to the causation of the particular disease, whereas pathophysiology refers to the physiological changes taking place in the host owing to the disease. It is equally important to explore both the etiology and the pathophysiology of the disease in order to deduce the treatment plan for a particular disease. This is the difference between etiology and pathophysiology.

Reference:

- 1.“Pathophysiology.” Pathophysiology - an overview | ScienceDirect Topics. [Available here](#)
- 2.“Etiology.” Wikipedia, Wikimedia Foundation, 1 Feb. 2018. [Available here](#)
- 3.“Pathophysiology.” Wikipedia, Wikimedia Foundation, 28 Jan. 2018. [Available here](#)

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