What is a nephron?

A. A type of muscle tissue in the heart
B. A type of bone in the human body
C. The smallest unit of the respiratory system
D. The functional unit of the kidney
Show Answer…

Correct Answer: D (The functional unit of the kidney)

Explanation:

A nephron is the functional unit of the kidney, responsible for filtering blood and producing urine. Each kidney contains approximately one million nephrons, which are made up of a glomerulus and a tubule. The glomerulus filters blood, while the tubule reabsorbs nutrients and water back into the bloodstream and eliminates waste products in the form of urine.

The Nephron: The Functional Unit of the Kidney

The nephron is a crucial component of the kidney, responsible for filtering blood and producing urine. Each kidney contains approximately one million nephrons, which work together to help maintain the body's fluid and electrolyte balance. The nephron is made up of two primary structures: the glomerulus and the tubule.

The glomerulus is a small network of blood vessels that filters blood as it passes through the kidney. Blood enters the glomerulus through a small artery called the afferent arteriole, and exits through a smaller artery called the efferent arteriole. As blood passes through the glomerulus, waste products, excess water, and other substances are filtered out of the blood and into the tubule.

The tubule is a long, twisting structure that reabsorbs essential nutrients and water back into the bloodstream and eliminates waste products in the form of urine. As urine passes through the tubule, it is modified through a series of complex chemical processes that help to maintain the body's fluid and electrolyte

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balance.

Overall, the nephron plays a critical role in maintaining overall health and wellness by regulating the body's fluid and electrolyte balance. Understanding the structure and function of the nephron is essential for understanding the importance of kidney health and the impact of various kidney disorders on the body.

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