



COMMENTARY



## A Brief Note on Physiology in Respiratory System

Vitaly Citovsky\*

Department of Biochemistry, Stony Brook University, New York, United States

### Description

The respiratory system is essential for the proper operation at all levels of organisation. At the tissue level, oxygen provided by local circulation acts as a critical mediator for energy release at the mitochondrial internal membrane. The brain, brain stem, respiratory muscles, lungs, airways, and blood vessels all play a role in respiration. All of these structures have a role in respiration, both structurally and functionally. We can breathe thanks to our lungs and respiratory system. Animals' respiratory systems are vital to their survival because they allow for the exchange of gases between the body and the environment. The flow of oxygen from the outside environment to the cells within tissues, as well as the removal of carbon dioxide in the reverse direction, is referred to as respiration. Physiological respiration in animals consists of inhaled and exhaled breath cycles. The nose, oropharynx, larynx, trachea, bronchi, bronchioles and lungs make the respiratory system. The lungs are further divided into lobes, which are further subdivided into about 300 million alveoli. Gas exchange takes place mostly in the alveoli.

Respiratory system is the process of exchanging oxygen and carbon dioxide. The quantity fluctuates depending on ambient temperature, relative humidity, and degree of exercise, but it's probably between 0.3 and 0.45 litres every day. Hypoxia is caused by a malfunction of the respiratory system. Hypoventilation, right-to-left shunt, V/Q mismatch, and diffusion restrictions are the four types of hypoxia etiology.

Parts of the respiratory system are such as nose and mouth

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are the two ways that air enters the respiratory system. The air gets warmed and humidified as it enters the nostrils. Cilia (tiny hairs) protect the nasal passages and other areas of the respiratory system by filtering dust and other particles from the air we breathe are namely Pharynx (throat): At the rear of the nose and mouth, the pharynx (throat) connects the nasal cavity and mouth apertures. Because it transports both food and air, the pharynx is a component of both the digestive and breathing systems. This channel splits near the bottom of the pharynx, with one leading to the stomach and the other to the airway. When we swallow, the epiglottis, a thin flap of tissue, closes the air-only route, preventing food and fluids from entering the lungs. Carina: When using a bronchoscope, it can be seen as a ridge within the bronchial tree where the two primary bronchi diverge at the tracheal bifurcation. It is densely innervated with sensory nerve endings to respond to the arrival of any aspirated material by initiating a cough reflex and it can be seen as a ridge within the bronchial tree when using a bronchoscope.

Control of respiratory system are breathing is a natural and rhythmic action that is controlled by neural networks in the hindbrain (the pons and medulla). The brain networks control the muscles that construct the thoracic and abdominal walls, as well as the pressure gradients that flow air in and out of the lungs. Reciprocal stimulatory and inhibitory connectivity of these brain-stem neurons controls the respiratory rhythm and duration of each phase of breathing. The capacity of the human respiratory system to alter breathing patterns to changes in both the internal and exterior environment is an essential feature.