

## RESPIRATORY FAILURE: PATHOGENESIS MECHANISMS, ASSESSMENT METHODS

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*Abstract*

Breathing is a set of processes that ensure redox metabolism in the body, i.e. the supply of oxygen from the outside, its utilization by cells, the formation of carbon dioxide and its removal from the body. The respiratory function of the lungs is provided by three main processes: the transport of air and blood and the exchange of gases through the alveolar-capillary membrane. These three processes are commonly referred to as ventilation, perfusion and diffusion.

The article considers the issue of terminology and pathogenesis of respiratory failure syndrome (RF), which is a component of a more general pathological condition — gas exchange failure, in the pathogenesis of which, along with pulmonary mechanisms, extrapulmonary factors play a major role.

The article discusses the terminology and pathogenesis of the RF syndrome, which is a component of a more general pathological condition — respiratory failure, in the pathogenesis of which, along with pulmonary mechanisms, extrapulmonary factors play a major role. The main mechanisms of the pathogenesis of RF are considered in detail: airway obstruction (bronchospasm, impaired sputum drainage, inflammatory edema of the bronchial mucosa, expiratory stenosis, foreign bodies, etc.); alveolar restriction (inflammatory infiltration, interstitial edema, pneumosclerosis, pleurisy, pneumothorax, etc.); diffusion disorders (interstitial edema, collagenoses, silicosis, etc.); pulmonary blood flow disorders (disorders of ventilation-perfusion balance, disorders of pulmonary microcirculation, reduction of the vascular bed in idiopathic pulmonary hypertension, microembolism, capillary toxicosis, etc.); reduction of functioning lung tissue (pneumonia, tuberculosis, lung resection, atelectasis, cystic and other lesions, etc.).

Methods of clinical assessment of the severity of RF are reviewed, based on the use of various scales for measuring the degree of dyspnea — the leading symptom of RF. The main methods of functional assessment of the pathogenesis mechanisms and severity of RF are characterized — spirometry, body plethysmography, and diffusion capacity of the lungs

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