The role of functional breathing tests in determining individualized rehabilitation programs

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Introduction: Patients with coronary artery disease who also have chronic obstructive pulmonary disease (COPD) represent a special category of patients that require carefully planned preparation for cardiovascular surgeries, where reduced respiratory function is a common complication. Respiratory rehabilitation is a key aspect in the treatment and preparation for surgical procedures in such patients. Functional respiratory tests, such as spirometry, incentive spirometry, thoracic mobility tests, and blood oxygen saturation tests, are essential tools for assessing the respiratory function of these patients. They provide a detailed evaluation of lung function, the degree of airway obstruction, gas exchange, and dyspnea, helping to determine the risks associated with surgical procedures and recovery. The combination of these tests enables a precise assessment of lung dysfunction, which forms the basis for creating individualized rehabilitation programs.[1,2]

Case report: 68-year-old patient with coronary artery disease and COPD was admitted to the Department of Cardiac and Transplant Surgery at Dubrava University Hospital for heart surgery. Functional tests, including spirometry, acid-base status, and oximetry, revealed severe obstructive ventilation disorders, leading to the postponement of the surgical procedure. A new pharmacological approach was implemented, and intensive pulmonary rehabilitation was initiated in the department. Respiratory rehabilitation was conducted with a tailored intensity according to a customized pulmonary rehabilitation program guided by the results of the functional tests. After ten days, improved spirometry results and other tests indicated well-prescribed pharmacological therapy, and the results of pulmonary rehabilitation showed an improved respiratory status, allowing the patient to proceed with the surgical procedure. The recovery followed the expected outcomes for a patient with COPD after heart surgery.

Conclusion: By using functional respiratory tests, rehabilitation programs can be personalized based on the actual needs of patients, leading to better outcomes, faster recovery, and a reduction in the risk of complications.

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LITERATURE

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