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## Decrease of Respiratory Function (Spirometric And Gas Exchange) in Patients with Multiple Sclerosis

Viktor Alexander Sushko, Olena Olexandrivna Kolosynska, Stanislav Igorevich Ustinov

Division for Medical Expertise and Treatment of Ionizing Radiation Consequences, SI "National Research Centre for Radiation Medicine of The NAMS of Ukraine", Kyiv, Ukraine

**Objectives:** The aim of the study was to measure respiratory functions (spirometric and gas exchange) in patients with multiple sclerosis and compare these results with expected values from healthy general population data. Further, to study the of respiratory function impairment with the multiple sclerosis-induced disability level.

**Methods:** Respiratory functions tested in the laboratory included spirometric (VC, FVC, FEV1, FEV1/FVC, FEV, FEF) and DLCO measurements were provided for Forty-eight patients with definite diagnosis of multiple sclerosis. Various breathing features were also recorded. The Expanded Disability Status Scale (EDSS) scores (mean  $4.21 \pm 1.17$ ) were evaluated to measure disability level.

**Results:** With respect to expected values from healthy general population, important decreases were found in spirometric measures that were significantly affected (FVC  $84\% \pm 11\%$ ,  $p < 0.01$ , FEV1  $84\% \pm 12\%$ ,  $p < 0.001$ ). FEV1/FVC ratios were normal. Notable decreases in DLCO ( $76\% \pm 6.8\%$ ,  $p < 0.01$ ) were observed. Significant relationships ( $p < 0.01$ ) between respiratory function impairment and the multiple sclerosis disability level could be detected for FVC, FEV1 and DLCO.

**Conclusion:** Multiple sclerosis clearly impairs respiratory functions (spirometric and gas exchange) are severely reduced. This impairment increases with multiple sclerosis-induced disability level but is found to be independent from duration of disease.

**Keywords:** Lung function testing, gas exchange, multiple sclerosis