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**Title:** Anaerobic exercise decreases the progression of lung cancer in experimental mice

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**Body:** Introduction: Lung cancer is one of the most incident neoplasms in the world representing the main cause of mortality for cancer. Studies have suggested evaluate the effectiveness of the use of the physical activity in the suppression, remission and reduction of the recurrence of tumors. Objective: To evaluate the effects of aerobic and anaerobic physical activity in the development and the progression of lung cancer. Material and methods: Lung tumors were induced with a dose of 3mg of Urethane/kg, in 67 male Balb - C type mice, divided in three groups: Group 1 - 24 mice treated with Urethane and without physical activity; Group 2 - 25 mice with Urethane and subjected to aerobic swimming free exercise; Group 3 - 18 mice with urethane, subjected to anaerobic swimming exercise with gradual loading 5 to 20% of body weight. All the animals were sacrificed after 20 weeks. Results: The median number of lesions (nodules and hyperplasia) was 3.0 for group 1, 2.0 for group 2 and 1.5 to 3 (p = 0.052). When compared only the presence or absence of lesion, there was a decrease in the number of lesions in group 3 compared with group 1 (p = 0.03) but not in relation to group 2. There were no metastases or other changes in other organs.

**Conclusions:** In this study, the anaerobic physical activity but not aerobic, diminish the incidence of experimental lung tumors.