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**IMPORTANT CHANGES IN LUNG FUNCTION TEST VALUES WITH FREEDIVING COMPETITIVE TRAINING IN AN ASTHMATIC INDIVIDUAL.**

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**BACKGROUND:** It has been reported the unique lung function test (LFT) values of competitive freedivers; what is an exception is to predict that an individual will become one. This paper reports the coincidental case of an individual that underwent a LFT and some months later enrolled in a training program for competitive freediving. 22 months later a new LFT was performed (by the same physician, with the same equipment), finding notorious changes in the results. It is the first time that such values are compared and the effects of freediving trained reported. The fact that the individual is asthmatic adds interest to this case. He did not receive bronchodilator while performing the tests or in training periods.

**CASE PRESENTATION:** An asthmatic individual, underwent a LFT on (1/19/02) and in April 2002, enrolled to a competitive freediving program was re-tested 22 months later (18/11/03), observing important changes in the results of the LFT. Both LFTs were performed at the ABC Medical Center, Mexico City, at the department of pulmonary physiology by the chief of the area, Elias Horta-Bustillo, MD. Anesthesiologist and pulmonary physiologist. The study was carried on a pulmonary diagnostic system Profiler (Med Graphics), analyzed by Breeze 6.1A software. At this moment the individual despite his controlled asthma, is National freediving champion.

**RESULTS:** Among several important changes in the values registered, some of the most remarkable are the increase in the total lung capacity in 1.33 lt. (23%); the increase of the residual volume in 0.93 lt. (73.23%); and an increase of the FEF max in 2 lt./sec. (21.74%).

**CONCLUSIONS:** Freediving training produces changes in LFT as a consequence of several facts such as: Muscle strengthening that results in greater TLC: increase of RV as consequence of packing and increase of FEF secondary to ventilation techniques.