

# 高気圧環境下における気管支喘息児に対する運動負荷時の 呼吸機能変化（人工気象室を用いて）

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## Changes in the Lung Function of Asthmatic Children when Tasked with Exercise at High Atmospheric Pressure Using an Atmosphere-Changing Chamber

by

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### ABSTRACT

Recently divers who have asthma are increasing along with the increase in the population of divers. The purpose of this study was to evaluate changes of lung function of asthmatic children with exercise at high atmospheric pressure using an atmosphere-changing chamber.

Changing of pressure for 3m under sea-level, asthmatic patients were put in a chamber fixed temperature and humidity. And we measured their lung function after exercise with a cycle ergometer. The other day we used same protocol expect no change of pressure, and measured

it. The lung function was a tendency to decrease as atmospheric pressure is high, but this result is not significant because of very few cases. As some reports of asthma and diving were reviewed, asthmatic patient can dive under a very careful guidance of doctor. The environment of safety diving with asthma should be made by investigating the studies from various different aspect.

## 要 旨

近年スキューバダイビング人口の増加にともない気管支喘息患者もダイビングをする機会が増えてきた。そこで、加圧環境下での生体反応について呼吸機能の側面から運動負荷を加えてどう変化するかを検討した。気管支喘息患者を人工気象室に入室させ、気温、湿度一定で水深3m(1.3気圧)まで加圧し、自転車エルゴメーターによる固定運動負荷をかけ、呼吸機能を測定した。別日、同一条件で圧変化を行わず同様の負荷テストを行った。症例が少なく統計学的検定は行えなかったが、加圧条件で呼吸機能の低下傾向がみられた。ダイビングと喘息について文献的考察から、個々に徹底した指導下で予防薬の投与などを行い慎重に対処すれば、ダイビングも可能と考えられる。しかし、喘息とダイビングに関しまだ結論は出ていないため、今後各方面からの基礎研究を続け、それらを統合し喘息患者でも安全なダイビングができる環境をつくることが望まれる。