

The effect of scuba diving on airflow obstruction in divers with asthma

Drs Lawrence and Chen presented peak expiratory flow (PEF) results from 19 divers with asthma who were suitable for testing out of 356 divers attending Operation Wallacea in Honduras.¹ They claim from their results that “*open-water scuba diving caused a small decrease in PEF in all populations*” and say that “*asthmatics are more susceptible to airway changes following scuba diving*”. I would like to make the following observations:

PEF readings were not taken at similar times of day. Some of the readings were taken after diving at 0900 and some after diving at 1400. The readings at different times of day are not identified in the analysis. It is known that PEF readings vary with the time of day at which they are taken.²

Multiple PEF readings were taken from the divers. No account is taken in the statistical analysis of the lack of independence in the multiple readings from the same divers; No analysis has been presented of the power of the study. I request that the authors take account of these points, perform a reanalysis of their data and present this together with a power calculation for their study.

References

- 1 Lawrence CHD, Chen IYD. The effect of scuba diving on airflow obstruction in divers with asthma. *Diving Hyperb Med.* 2016;46:11-4.
- 2 Goel A, Goyal M, Singh R, Verma N, Tiwari S. Diurnal variation in peak expiratory flow and forced expiratory volume. *J Clin Diagn Res.* 2015;9:CC05-7.

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Lung function; statistics; letters (to the Editor)
