

## **Abstract**

**Title:** Physiological differences and potential risks while scuba diving and freediving

**Objectives:** Goal of this study was to prove, whether freedive performed after finished dive using self-contained underwater breathing apparatus, may potentially increase the risk of decompression sickness and afterall put together appropriate principals and guidance for safe combining of both scuba diving and freediving on the same day.

**Methods:** This study used research of local and foreign sources that covered freediving and diving using self-contained underwater breathing apparatus issues. Casual research was also conducted involving 34 participants, all certified self-contained underwater breathing apparatus divers experienced in combining freediving and scuba diving on the same day.

**Results:** Based on the research has been found that a freedive performed after dive using self-contained underwater breathing apparatus may under certain circumstances increase the risk of decompression sickness. Conservative principals and recommendations for safe combining of scuba diving and freediving on the same day were established. Results of this study will be provided to local and foreign diving communities.

**Keywords:** Scuba diving, decompression sickness, nitogen load, freediving, risks