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The Relationship of Sickle Cell Trait and Other Hemoglobinopathies to Scuba Diving Safety in Caribbean Divers

by

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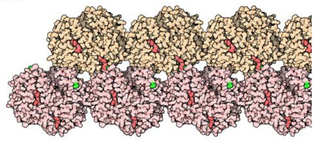
Purpose: To determine if sickle cell trait or other hemoglobinopathies affect diver safety.

Introduction: There is little objective information regarding the relationship between sickle cell trait (SCT) and other hemoglobinopathies and diver safety. However, the current teaching and general consensus among most diving medicine physicians is that these disorders disqualify one from diving. The aim of this study is to elucidate the correlation between SCT and other blood dyscrasias and the risk of decompression sickness (DCS); we hypothesize that there will be no increased risk of DCS with a history of SCT or other hemoglobinopathy.

Methods: A questionnaire was devised to obtain self-reported information from scuba divers who actively work as a Dive Master or Instructor at Caribbean dive centers. The questionnaire was sent to multiple diving agencies (via e-mail as well as standard postage) located throughout the Caribbean. Responses were collected via e-mail and standard mail.



Results: 41 responses were received. Of the responses, 30 were Caucasian, 7 were Latin American, 4 were Black, 1 was Native American, 1 was Asian, and 1 declined to state his race. Of the respondents, 1 had sickle cell trait, 19 did not, and 18 didn't know if they had sickle cell trait. The person who reported a positive sickle cell trait was of European descent; he reported no diving related injuries. Of the rest of the respondents, 1 reported type I DCS, 14 a history of ear barotrauma, 1 had the skin bends, and 1 had vertigo.

Conclusions: The one respondent who had sickle cell trait had no reported history of diving related injuries. At this time, we do not have enough data to conclude a relationship between sickle cell trait and other hemoglobinopathies to SCUBA diving safety. This study was limited by the small number of responses received, and the small proportion of respondents who were aware of their sickle cell trait status. In the future we hope to expand our study by broadening the study population to include all levels of certified divers in other parts of the world as well as distributing the questionnaire in other languages.