

Search Rubicon

[Advanced Search](#)

[Home](#)

Browse

[Communities & Collections](#)

[Titles](#)

[Authors](#)

[By Date](#)

Sign on to:

[Receive email updates](#)

[My Rubicon](#)
authorized users

[Edit Profile](#)

[Help](#)

[Rubicon Research Repository](#) >
[Rubicon Foundation Archive](#) >
[Undersea and Hyperbaric Medicine Journal](#) >

Please use this identifier to cite or link to this item:

<http://archive.rubicon-foundation.org/2191>

Title: Decreased protein synthesis during dry saturation diving

Authors: Conway, JM
Thorp, JW
Stein, TP
Seale, JL
Rumpler, WV

Keywords: saturation
nitrogen
dry
protein synthesis

Issue Date: 1995

Citation: Undersea Hyperb Med. 1995 Sep;22(3):219-27.

Abstract: Changes in metabolism during saturation dives have been reported; however, these changes have not been well defined. This study was conducted to determine the effect of saturation diving on protein metabolism. Whole body protein synthesis was measured by the ammonia and urea endpoint methods, following a single oral dose of ^{15}N -glycine in 11 Navy divers 33.9 \pm 1.9 yr of age. The divers were fed a controlled diet throughout the three trials. Trial I was on the surface, and trials II and III were during dry saturation dives at 0.56 MPa. The protein synthesis results in gram protein per kilogram lean body mass per day, least square mean \pm SD: [formula: see text]. Under the conditions of this series of dry saturation dives, protein synthesis was depressed by up to 30-50% for the urea and ammonia endpoint methods, respectively. An estimate of liver protein synthesis was made by measuring the incorporation of the ^{15}N label into plasma fibrinogen. The ^{15}N enrichment of fibrinogen glycine and the hippurate precursor for fibrinogen were decreased significantly. This dramatic decrease in protein synthesis was observed despite positive nitrogen balance in these divers. Although further investigation is needed to elucidate the mechanism, the decrease in the incorporation of ^{15}N glycine into fibrinogen suggests alteration in liver nitrogen metabolism

at 0.56 MPa.

Description: Undersea and Hyperbaric Medical Society, Inc.
(<http://www.uhms.org>)

URI: [PMID: 7580763](#)
<http://archive.rubicon-foundation.org/2191>

Appears in Collections: [Undersea and Hyperbaric Medicine Journal](#)

Files in This Item:

File	Size	Format	
7580763.pdf	1404Kb	Adobe PDF	View/Open

[Show full item record](#)

All items in DSpace are protected by copyright, with all rights reserved.