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Title: The effects of body position and a vasodilator on xenon133 elimination from human subcutaneous fat

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Keywords: decompression
Xenon
human
Adipose Tissue
subcutaneous fat
inert gas elimination
vasodilator
drug
body position

Issue Date: 1976

Citation: Undersea Biomed Res. 1976 Dec;3(4):379-85.

Abstract: The elimination of Xe133 from a deposit in the subcutaneous adipose tissue adjacent to the anterior tibial muscle was recorded by an external scintillation detector in 16 human subjects in sitting and in supine body position in a neutral environmental temperature (28 degrees C). The xenon clearance rate was increased in supine compared to sitting body position by a mean of 33%. I also studied the effect of a sympathomimetic beta 2-receptor stimulating agent using the same technique in 16 supine subjects. A perorally administered ester of terbutaline increased the xenon-elimination rate by a mean of 103%. The increased xenon-elimination rates in the supine body position and after the drug administration may reflect corresponding increases in adipose-tissue blood flow. The findings are in accordance with earlier measurements of an increase in central and peripheral blood flow and an increased whole-body, nitrogen-elimination rate during supine body position. The results might be of importance in decompression routines and in the treatment of decompression sickness.

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

URI: PMID: 10897864
http://archive.rubicon-foundation.org/2435

Appears in Collections: Undersea Biomedical Research Journal

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