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Title: Susceptibility of fetal sheep to acute decompression sickness

Authors: Fife, WP
Simmang, C
Kitzman, JV

Keywords: decompression
animal
sheep

Issue Date: 1978

Abstract: Studies were conducted to determine the susceptibility of the fetus to decompression sickness. Sheep were used because fetal and maternal circulation of sheep and human placentas are dynamically similar. Seven sheep that were within three weeks of parturition were used. A Doppler ultrasonic transducer was placed around an umbilical artery of the fetus in utero and the electrical leads were exteriorized. Umbilical artery blood flow could thus be monitored together with any bubbles appearing in that part of the fetal circulation. Results of 17 dives showed that exposing the mother to a 100-fsw, 25-min standard no-decompression dive produced massive air emboli in the fetus, though no bubbles were detected in the maternal circulation either by Doppler or visual inspection. An 80-fsw dive for 40 min caused an occasional bubble to appear in the fetus. Sixty-fsw dives for 60 and 70 min, respectively, did not produce bubbles in the fetal circulation. Animals Decompression Sickness/*etiology/pathology Female Fetal Diseases/*etiology/pathology Gestational Age Pregnancy Sheep Support, U.S. Gov't, Non-P.H.S.

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

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