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Title: The kangaroo rat as a model for type I decompression sickness

Authors: Hills, BA
Butler, BD

Keywords: decompression

Issue Date: 1978

Abstract: This study involved 720 exposures of 70 kangaroo rats trapped in West Texas and showed that decompression-induced tail biting in this animal provides a good animal model for marginal limb bends in man. That this phenomenon can be reversed by recompression and pathological examination of the tail both indicated that a similar mechanism is probably involved in kangaroo rats and humans. Quantitatively, the most susceptible 20percent of kangaroo rats can reproduce the no-stop decompression limits for man for exposure times ranging from 5 min to 8 h, for both air and helium-oxygen. Even the average minimum no-tail-biting depth of 46.2 fsw (2.40 ATA) for this species is much closer to the minimum bends depth of man than to the equivalent depth for other animals of its size, and is as good as the goats'. Its size and habits make the kangaroo rat much more convenient than other animals to use as a model for marginal decompression sickness, and particularly attractive economically for testing long helium-oxygen schedules and other means of decompression sickness prevention. Animals Behavior, Animal/physiology Decompression Sickness/pathology/*physiopathology/veterinary Dipodomys/*physiology *Disease Models, Animal Gases Rodent Diseases/pathology/physiopathology Rodentia/*physiology Support, U.S. Gov't, Non-P.H.S. Tail/pathology Time Factors

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

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