

EFFECTS OF RELOCATION ON IMMUNOLOGICAL AND PHYSIOLOGICAL MEASURES IN TWO CAPTIVE NON-HUMAN PRIMATE SPECIES: SQUIRREL AND OWL MONKEYS

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Many studies have shown that life-event stressors are associated with changes in the immune system, which decreases an individual's ability to fight infections. These studies show a positive relationship between how an individual handles stress and different measures of the immune system (such as natural killer cell activity and white blood cell counts). One such stressor occurs when non-human primates are relocated from one social condition and/or facility to another for research purposes. Relocations raise the concern of if and when non-human primates adapt to and begin to respond normally in their new conditions. The present study examined data collected during the relocation of two non-human primate colonies, squirrel monkeys and owl monkeys. Whole blood samples taken from a subset of animals prior to shipment and again immediately upon arrival, approximately 24 hours later, were analyzed for serum chemistry, hematological, and immunological changes. Significant differences were found in hematological and serum chemistry profiles, as well as in immunological responses to phytohemagglutinin (PHA) and poke-weed mitogen (PWM) stimulation in both species. Cell counts of CD3+, CD4+, CD8+, and CD20+ cells differed significantly between pre- and post-relocation samples. These changes have implications for the welfare of relocated non-human primates. They also provide added evidence for the effects of life-event stressors on an animal's immune system. Further research in this arena is needed to determine not only the physiological, but also the behavioral effects of the transportation and relocation process on non-human primates.

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