

Extra terrestrial Neurological changes

Abstract of virtual talk on Friday September 20th - K. Ganapathy

Closely monitoring health parameters in real-time and providing health care to astronauts is absolutely essential. Space tourists are less likely to be “super healthy”, as is expected of astronauts. It is imperative that neuro scientists have a precise understanding of neurological changes that have occurred and might happen again when travelling beyond Earth’s gravity. The space environment has weightlessness, electromagnetic fields and radiation. Solar flares, galactic cosmic rays, altered gravitation fields and physiological stress influences function and structure of the Central Nervous System (CNS). Short-term effects of microgravity on neural control have been studied during low Earth orbit missions. Consequences of prolonged microgravity and space radiation exposure on the CNS have not been addressed sufficiently at the molecular, cellular and tissue levels.

In addition to giving a brief overview of the above, this illustrated presentation will touch upon Intracranial Hypertension in Outer Space , Spaceflight Associated Neuro-ocular Syndrome, Space Headache, Neurovestibular disorders in Space, Brain MRI changes following space travel and space travel induced back pain. Knowledge of extra terrestrial neurological changes will eventually offer additional insights into how the nervous system functions on Earth and could be the precursor of additions to the therapeutic armamentarium