

IAF MICROGRAVITY SCIENCES AND PROCESSES SYMPOSIUM (A2)
Life and Physical Sciences under reduced Gravity (7)

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THE IMPACT OF MICROGRAVITY TO HUMAN BODY

Abstract

THE IMPACT OF MICROGRAVITY TO HUMAN BODY SHERIFZADE PERVIN Key words:, Effects of microgravity to bones, health risks of space travel, How we can reduce the damage?“RIDGE” Abstract: Microgravity is the condition in which people or objects appear to be weightless. It is well known that long-term exposure to microgravity causes a number of physiological and biochemical changes in humans. Therefore, the NASA Life Sciences Division has initiated a program designed to evaluate a number of methods for providing an artificial gravity environment. For more than 50 years, NASA’s Human Research Program (HRP) has studied what happens to the human body in space. The main risks in space are isolation, radiation, distance, gravity and environment called “RIDGE”.Two types of risk, radiation and altered gravity, come simply from being in space. Research has shown that both can have major negative effects on the body, and even the brain. Others, like isolation and confinement as well as being in a hostile closed environment, encompass risks posed by the living situations that are necessary in space, including risks to both mental and physical health. Joaquin Machado-said “today, the “privatization” of space has raised aspirations towards other celestial bodies, there are even talks of having permanent human settlements on the moon, Mars, and other planets of the solar system in future decades, initially for experimentation, mining, and with time “colonize space”. Dr. Ana Luiza Dias said “In space, blood redistribution toward the head causes altered responses of the nervous and endocrine systems. Besides that, the increased fluid within the skull increases brain pressure, brain edema, and deformation of the eye known as Spaceflight Associated Neuro-ocular Syndrome (SANS).” NASA has over 800 health standards that they’ve developed based on current research. These standards describe everything from how much space astronauts should have in a spacecraft to how much muscle and bone loss an astronaut can experience without being seriously harmed. These standards also include levels of physical fitness and health the astronauts need to meet before going into space. Based on BBC, living without gravity is what makes space travel really dangerous. John Grunsfeld health is one important factor to reduce space risks mission. Normally, astronauts stay on the orbiting complex in a span of six to eight months. With this long period, being healthy, staying physically fit and consistently entertained will steer crewmembers productivity in an exploration. We have to use modern technology for reduced damage