

Why Journal of Aeronautic Dentistry?

I feel pleasure in taking this opportunity to introduce before my esteemed readers and the world of science, a new journal on "Aeronautic Dentistry". It may look strange and interesting as to how the science of dentistry can be related to aeronautics and space? When NASA and other space agencies send aeronauts into the space, they have to undergo a number of tests and experiments for months together regarding the adverse effects of changes in atmospheric pressure, microgravity alterations, exposure to various viruses and poisonous gases, direct exposure to sunlight and infrared rays. These factors definitely affect human organism and besides making morbid changes in immune system, brain, heart, muscles, bones and other systems, these affect oral cavity also. When oral cavity develops pathological changes, then the role of Dentistry comes into light.

Researchers at NASA's Glenn Research Centre in Cleveland are studying how advanced technology can be used to warn pilots when they are operating under dangerous levels of stress, fatigue, distraction, atmospheric pressure, microgravity, viruses, poisonous gases, sunlight and infrared rays. Biomedical engineer and lead researcher Angela Harrivel and research associate Terri McKay are testing the effectiveness of functional near infrared spectroscopy, also known as NIRS. This emerging technology offers a non-invasive, safe, portable and inexpensive method for monitoring brain activity.

It uses infrared light to penetrate skin, brain and fluid to examine blood flow in the cortex and check the concentration of oxygen in the blood indicating neural activity. "We ultimately want to use the technology to help pilots be more aware of their cognitive abilities during flight," says Harrivel. "No matter how much training they have, pilots could suffer from a lack of situational awareness when there is simply too much going on." This journal is introduced looking all aspects to further explore this field.

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