

Neurological and Behavioral Observations in Space

M. Reschke

Dr. Reschke described a number of observations and experiments conducted in space with astronauts and cosmonauts. Some of the observations are anecdotal but found in crew debriefings while others are parts of detailed experimental protocols. Highlights include:

- Observation of light flashes on several Apollo missions correlate with the passage of protons and HZE particles through the retina. Different crew members had varying sensitivities and reactions.
- A loss of the sense of taste is sometimes observed – dating to Skylab missions.
- Visual acuity changes and there are alterations in the electrical frequencies of receptors.
- Proprioception is significantly affected and a variety of illusions are experienced. The “4 watch” story and “Saran Wrap” illusion were explained.
- Postural reflex and stability are significantly affected and subject to readaptation.
- Alterations in locomotion are observed, and recovery time is proportional to flight time.

Regarding radiation effects, it is noted that one Russian cosmonaut suffered a relatively rare type of cerebellar tumor.