

IAF/IAA SPACE LIFE SCIENCES SYMPOSIUM (A1)
Medicine in Space and Extreme Environments (4)

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POLICY AND COORDINATION BETWEEN MEDICAL OPERATIONS & BEHAVIORAL RESEARCH

Abstract

It is possible that long duration human space missions will increase behavioral health risk in individuals and/or small groups and it will be greater with increased distance from earth and the length of time spent on other planetary bodies. The concern is for both direct spaceflight challenges and related to the space explorer's family back on earth. It may not be possible to adequately prepare for all psychological challenges that could occur. A mindful review of the likely challenges and potential coping strategies involved in an extended separation from loved ones is crucial. Extended separation from family involves life milestones for children, illness, addiction, career path choices, possible loss of family members, changes in the status of relationships, births. Physical challenges also need to be considered, from catastrophic events such as fires or floods, financial problems or windfalls. The time and distance involved in extended missions beyond Earth orbit include breaks in communication, potential extended cumulative exposure to damaging radiation and micro-gravity, all which are critical stressors for astronauts. Awareness of these conditions are critical for both crewmembers and mission control. Resources are needed to be in place for crew with careful training, on board technology, just in time training, and schedule design that addresses the full range of human response to physical, physiological and psychological stress. A review of current NASA medical policy for medical operations and research will be presented to include:

1) Family preparation Children growing up Death of family members Change in marital status Catastrophic occurrence Environmental Fires/flood Illness of family members including drug addiction Family celebrations/milestone 2) Astronaut preparation Communication with NASA and family Time delay Privacy Response time Day/night considerations Technology for anytime communication Cost, satellites etc. Voice mail Family celebrations/milestones Rest recreation 3) Psychological Considerations for Ops Expert knowledge re long duration space flight Regular communication between psychologist, astronaut and astronaut family Astronaut self-evaluations Prevention – just in time training, condition