

SPACE LIFE SCIENCES SYMPOSIUM (A1)
Medical Care for Humans in Space (3)

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THE INTERNATIONAL COUNTERMEASURE WORKING GROUP (ICM) – A FORUM FOR
COORDINATING EFFORTS RELATED TO DEVELOPMENT OF SCHEMES TO MAINTAIN
HEALTH AND PERFORMANCE IN ASTRONAUTS AND COSMONAUTS

Abstract

All major space agencies with a manned spaceflight programme have as an important task to maintain the health and performance of their spaceflight crews in view of the deleterious effect of weightlessness, radiation, confinement etc. The current countermeasures, like exercise and proper nutritional schemes, are not fully protective and require substantial amount of time and resources during flight. As a consequence there are significant efforts put into research with the aim to come up with more efficient and less demanding methods and schemes to maintain the wellbeing during and after spaceflight. This research is challenging since to a large extent it has to be done using humans as subject, often involving also ISS astronauts and combining ground and space research, and in order to get statistical power a substantial number of subjects has to be included. Another issue is that different studies evaluating different countermeasures cannot readily be compared unless the experimental set-up is standardised. The International Countermeasure Working Group (ICM) was created as a forum for information exchange and coordination with a clear aim to foster standardised approaches for countermeasure research. This paper will elaborate on concrete projects and aims that have been initiated by ICM and also describe future possible directions in view of international collaborative efforts related to research and improvement of countermeasure approaches. The International Space Station will constitute a key element for human exploration preparation.