

IAF SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)
In Orbit: Postgraduate Space Education (4)

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EMERGING NEEDS IN SPACE MEDICINE EDUCATION, RESEARCH, AND TRAINING: A
MULTILATERAL PERSPECTIVE

Abstract

As human spaceflight pursues increasingly frequent and more ambitious mission profiles across government and commercial sectors, so too must space medicine evolve to serve these expanded needs and new demographics. That means that Space Medicine education and training must respond to growing industry needs for medical expertise that can support clinical, operational, engineering, and human systems integration activities. Commercial operators are flying individuals with a broad range of health histories, NASA's Artemis program is returning humans to deep space, and new vehicles and habitats are being designed and constructed, creating a vacuum of expertise that is not able to be filled by a traditional curriculum and supply of medical graduates. Furthermore, traditional pathways have had limited incorporation of engineering and human systems integration, both critical to integrating with medical systems and operations. Access to training has always been an historical bottleneck for participation in clinical and operational Space Medicine, particularly for emerging space nations and nations without large, well funded space programs. In this paper, we argue that these factors necessitate new approaches and pathways for space medicine education, training, and research, and put forth practical solutions for autonomous management of comorbidities not previously encountered during spaceflight. We outline educational goals and curricular core content that creates channels for interdisciplinary collaboration to catalyze a safe and sustainable international human presence in space