

IAF SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)
Interactive Presentations - IAF SPACE EDUCATION AND OUTREACH SYMPOSIUM (IP)

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DEVELOPMENT OF AN ONLINE AEROSPACE MEDICINE COURSE FOR MEDICAL STUDENTS

Abstract

BACKGROUND/PURPOSE: To date, only a handful of medical schools offer formal Aerospace Medicine courses despite the rapid growth of the field. Due to this limited accessibility, many students remain unaware of the field, and interested students face difficulty gaining academic exposure. Thus, we endeavor to create a readily adaptable two-week online aerospace medicine course to address this gap in medical education.

METHODS: The two-week online course consists of ten modules (see full list below) covering topics adapted from the following texts: 1) Fundamentals of Space Medicine by Clement 2) Space Physiology by Buckey and 3) Space Physiology and Medicine by Nicogossian. Each module contains readings, PowerPoint presentations with integrated clinical cases, quizzes, and supplementary assignments (consisting of journal articles, videos, podcasts etc). The course also includes a pre-and post-course assessment and a list of further readings, opportunities, and resources. Module 1: Introduction and Historical Perspectives Module 2: Operational and Life Support Systems in Space Module 3: Preflight and Postflight Recovery Module 4: Radiation in Space Module 5: Neuro-Vestibular System in Space Module 6: Vision in Space Module 7: Cardiopulmonary System in Space Module 8: Musculoskeletal System in Space Module 9: Psychological Considerations in Space Module 10: Nutrition in Space

RESULTS: The two-week online course was developed over a six-month period by six medical students in the U.S. The pilot iterations of the course launched at the University of Michigan Medical School on Jan 4th, 2021, and there are 20 students currently registered. The qualitative and quantitative data categories that are being gathered include 1) Knowledge Gained 2) Course Satisfaction 3) Course Influence on Future Goals and 4) Quality Improvement/Program Evaluation. Our data currently shows that amongst the 11 students who have taken the course thus far, 100

CONCLUSION: This introductory, online aerospace medicine course will fill a gap in medical education and make the field more accessible to interested students. Our next steps include 1) incorporating students' and subject-matter experts' feedback into the class, 2) piloting the course at other medical schools, and 3) formalizing elective status. Future directions include making the elective widely available to all medical students across the world.