

## AsMA 2004 MEETING ABSTRACTS

[259]

### **HYPOXIA AWARENESS TRAINING: PAST, PRESENT AND FUTURE DEVELOPMENTS**

J. STEPANEK, C. BUCK, S. HOLETS and T. BELDA

*Mayo Clinic, Rochester, MN*

Hypoxia awareness training has been an important and well recognized component of aerospace physiology training in military and increasingly also civilian flight operations. Traditional training modalities have included the use of hypoxic gas mixtures as well as the use of hypobaric chambers to simulate altitude exposure. The inherent possible side effects of altitude exposure, especially the potential for the development of barotrauma and decompression sickness have in the recent past reinvigorated interest in safe, deployable and effective training avenues using hypoxic gas mixtures in the simulation of hypoxia at altitude. The inherent problem with traditional altitude simulation paradigms rests in the premise that the hypoxic subject will be able to recall his or her subjective symptoms of hypoxia after the exposure. To improve recall we have developed a system that allows for a safe and efficient 10min hypoxic exposure to an equivalent of an altitude of 23,000 ft while the subject and his or her reactions to psychomotor tasks under hypoxia are recorded. Following the exposure and debriefing digital documentation of their experience is supplied to the subject reinforcing their training experience. We believe this paradigm provides a safe and efficient alternative / supplemental capability to conventional altitude chamber training, especially in the setting of recurrency training.