

IAA Study Group Status Report

Responsible Commission: *Commission 2 – Life Sciences*

Study Number and Title: *SG 2.6 - Medical Safety Guidelines for Passengers on Commercial Orbital Space Flights.*

Short Study Description (repeat from Study Group Proposal):

To identify and prioritize minimum medical requirements to preserve the health and promote the safety of paying passengers who intend to fly onboard orbital commercial space vehicles. The definition of these recommended medical requirements will be influenced, among other things, by the various operational and environmental stress factors that represent risks (actual and potential) to the occupants of commercial space vehicles. Actual risks include exposure to high acceleration (supersonic and hypersonic speeds) and deceleration (atmospheric re-entry) forces, to microgravity or weightlessness (acute and repetitive/chronic effects), to solar and cosmic radiation (acute and repetitive/chronic), to noise and vibration, to unfamiliar motion (space motion sickness), to a sealed cabin environment (cabin air quality), and to circadian desynchronization (jet lag) and fatigue due to the extremely rapid crossing of time zones. Of particular concern are the effects of exposure (short-term and repetitive) to microgravity on the cardiovascular, neurological, endocrinological, musculo-skeletal, and gastro-intestinal systems on both healthy and diseased passengers. Other potential risks include exposure to very low or absent barometric pressure, to temperature extremes (heat and cold), and to a unique cabin environment influenced by the effects of microgravity on the distribution of contaminants (biological, chemical, particulates, etc.) suspended in the air. Another very significant issue will involve the required criteria to grant waivers to individuals with pre-existing medical conditions. These conditions have the potential of becoming aggravated or exacerbated by exposure to environmental and operational stressors such as acceleration, microgravity, and solar/cosmic radiation.

Progress in past six months:

- Our study group met for the first time in conjunction with the 77th Annual Scientific Meeting of the Aerospace Medical Association (AsMA), May 2006, at the Caribe Royal Hotel in Orlando, Florida, U.S.A.*
- The first draft of our proposed guidelines was produced based on the discussions from our first meeting. This draft was distributed to all study group members on September 5, 2006, with instructions to review the document and provide comments and suggestions back to the Co-Chairs by September 29, 2006.*
- The 2nd face-to-face meeting was held in conjunction with the 57th International Astronautical Congress (IAC), Valencia, Spain, October 2-6, 2006. Additional comments and suggestions were made at this meeting to revise our proposed guidelines.*
- A revised draft report was distributed to all study group members on January 10, 2007, with instructions to review the document and provide comments and suggestions back to the Co-Chairs by mid-April, 2007.*
- The 3rd face-to-face meeting was held in conjunction with the 78th Annual Scientific Meeting of the Aerospace Medical Association (AsMA), May 2007, at the Sheraton Hotel, in New Orleans, Louisiana, U.S.A.*
- The 4th face-to-face meeting was held in conjunction with the 58th International Astronautical Congress (IAC), Hyderabad, India, September 24-28, 2007. Comments and suggestions were made at this meeting to revise the final draft of our proposed guidelines.*

Website Study Information up to date? (Study Group Membership, Study Plan and Schedule): *Yes.*

Issues requiring resolution? (recommend approach): *At this point there are no special issues requiring resolution.*

Product Deliveries on Schedule? (If modified explain rationale): *Yes, our study group was approved by the IAA on November 2005. We indicated that we would require 1 to 2 years to complete the task depending upon the time-availability of the study group members.*

Study Team Member Changes? (List any Study Team Members that you wish to discontinue, and provide names plus contact coordinates of any Members you wish to add on the second page of this Study Update form.) Note: Complete contact information including email, tel. and fax must be provided for all additions. Only Members with complete contact information will be listed and receive formal appointment letters from the IAA Secretariat.) ***None of our Study Group members has received a formal appointment letter from the IAA Secretariat.***

Name of person providing Study Group Status (Study Group Chair or Co-Chair):
Dr. Melchor J. Antuñano (Co-Chair)

Status Report Date: *November 26, 2007*

Study Team Membership Changes

Effective Date:

Add:

Name:

Current-email address:

Tel:

Fax:

Mailing address: