

## 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 next face-to-face meeting will be held in conjunction with the 57th International Astronautical Congress (IAC), Valencia, Spain, October 2-6, 2006. Our study group (SG 2.6) is scheduled to meet in room CMR 4 at the Convention Center, also known as Museum de les Ciencies Principe Felipe on Thursday, October 5, 9:00-11:00 am.*

**Website Study Information up to date?** (Study Group Membership, Study Plan and Schedule): *No, the website study information is not up to date. Until now, nobody told me that we needed to update the website study information. How do we coordinate the updating? Who is the point of contact?*

**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.)

*Until now, nobody told me that we needed to provide all of this contact information about the study group members to issue their formal appointment letters. In fact, I did not even know that we were supposed to get appointment letters from the IAA. I will request and compile the contact information on each member and will send it to you as soon as I can. I will not be able to send it to you before your September 15 deadline, because I will be traveling this week and will not return to my office until the end of next week.*

*In the meantime, the most recent list of study group members includes:  
Co-Chairs: Melchor J. Antuñano, M.D. (USA) and Rupert Gerzer, M.D. (Germany)*

*Secretary: Thais Russomano, M.D. (Brazil)*

*Other Members: Denise Baisden, M.D. (USA), Anatoli Grigoriev, M.D. (Russia), Jeffrey Davis M.D. (USA), Gary Gray, M.D. (Canada), Martina Heer (M.D. (Germany), Stephan Hobe, Ph.D. (Germany), Gerda Horneck, Ph.D. (Germany), Richard Jennings, M.D. (USA), Smith Johnston, M.D. (USA), Nick Kanas, M.D. (USA), Inessa Kozlovzkaya, M.D. (Russia), Chrisoula Kortidou Papadelli, M.D. (Greece), Guillermo Salazar M.D. (USA), Victor Schneider Ph.D. (USA), Paul Stoner M.D. (USA), Helmut Hinghofer Szalkay, M.D. (Austria), James Vanderploeg, M.D. (USA), Joan Vernikos Ph.D. (USA-Greece), Ronald White, M.D. (USA), Richard Williams, M.D. (USA)*

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

**Status Report Date:** *September 8, 2006*

## Study Team Membership Changes

Effectivity Date: September 16, 2006

Discontinue:

Name: Martina Heer (M.D. (Germany))  
Current email address: Martina.Heer@dlr.de

Add:

Name: Melchor Antuñano, M.D., M.S.  
Current email address: melchor.j.antunano@faa.gov  
Tel: 405-954-1000  
Fax: 405-954-1010  
Mailing address: 3309 Crosstimber Drive, Edmond, OK 73034, USA.

Name: Denise Baisden, M.D., M.S.  
Current email address: Denise.L.Baisden@faa.gov  
Tel: 817-222-5300  
Fax: 817-222-5965  
Mailing address: Federal Aviation Administration, Aerospace Medicine  
Division, ASW-300, Fort Worth, TX 76193-0300, USA.

Name: Volker Damann, M.D.  
Current email address: volker.damann@esa.int  
Tel: +49 (2203) 6001-401  
Fax: +49 (2203) 6001-402  
Mailing address: Head Crew Medical Support Office (HME-AM), European  
Astronaut Center, European Space Agency, Linder Hoehe, 51147 Cologne,  
Germany.

Name: Jeffrey Davis, M.D., M.S.  
Current email address: jeffrey.r.davis@nasa.gov  
Tel: 281-488-2405  
Fax:  
Mailing address: 14623 Graywood Grove Lane, Houston, TX 77062, USA.

Name: Rupert Gerzer, Prof. Dr.  
Current email address: rupert.gerzer@dlr.de  
Tel: +49 2203 601 3115  
Fax: +49 2203 695211  
Mailing address: Institute of Aerospace Medicine, Linder Hoehe, 51147  
Cologne, Germany.

Name: Gary Gray, M.D.  
Current email address: gary.gray@drdc-rddc.gc.ca  
Tel: 416-635-2015  
Fax: 416-645-2102  
Mailing address: DRDC Toronto, 1133 Sheppard Ave West, Toronto, ON, M4R 1C6, Canada.

Name: Anatoli Grivoriev, M.D.  
Current email address: grigoriev@ibmp.ru  
Tel: 256-961-6503  
Fax: 256-961-6503  
Mailing address: State Scientific Center for Biomedical Problems, 76A, Khoroshevskoye Shosse, Moscow, 123007, Russia.

Name: Stephan Hobe, Professor. Dr.  
Current email address: stephan.hobe@uni-koeln.de or sekretariat-hobe@uni-koeln.de  
Tel: 0049 221 470 2337  
Fax: 0049 221 470 4968  
Mailing address: Institut für Luft- und Weltraumrecht der Universität zu Koeln, Albertus-Magnus Platz, D-50923 Cologne, Germany.

Name: Gerda Horneck, Ph.D.  
Current email address: gerda.horneck@dlr.de  
Tel: +49-2203-6013595  
Fax: +49-2203-61970  
Mailing address: DLR German Aerospace Center, Institute of Aerospace Medicine, Radiation Biology, D - 51170 Cologne, Germany.

Name: Richard Jennings, M.D., M.S.  
Current email address: rjenning@utmb.edu  
Tel: 409-772-3458  
Fax: 409-772-5292  
Mailing address: University of Texas Medical Branch, 301 University Blvd., Galveston, TX 77555-1150, USA.

Name: Smith Johnston, III, M.D., M.S.  
Current email address: smith.l.johnston@nasa.gov or sljnsj@pol.net  
Tel: 281-483-0453  
Fax: 281-244-7947  
Mailing address: NASA Medical Operations, Flight Medicine Clinic, Building 29, Rm. 210-3, SD26, Johnson Space Center, Houston, TX 77058, USA.

Name: Nick Kanas, M.D.  
Current email address: nick.kanas@ucsf.edu  
Tel: 415-750-2072  
Fax: 415-668-7503  
Mailing address: Professor of Psychiatry, University of California, San Francisco, VA Medical Center (116A), 4150 Clement Street  
San Francisco, CA 94121, USA.

Name: Chrysoula Kortidou Papadelli, M.D., M.S.  
Current email address: papadeli@koz.forthnet.gr  
Tel: +302310-488727  
Fax: +302310-488713  
Mailing address: Erythreas 2, 55132 Kalamaria, Thessaloniki, Greece.

Name: Inessa Kozlovzkaya, M.D.  
Current email address: ikozlovs@ibmp.ru  
Tel: 256-961-6503  
Fax: 256-961-6503  
Mailing address: State Scientific Center for Biomedical Problems, 76A, Khoroshevskoye Shosse, Moscow, 123007, Russia.

Name: Thais Russomano, M.D., M.S.  
Current email address: trussomano@hotmail.com  
Tel: ++ 5551 98060667  
Fax: ++ 5551 33203904  
Mailing address: rua dr barros cassal 705 apt 204, Bom Fim, Porto Alegre, RS, 90035-030, Brazil.

Name: Guillermo Salazar, M.D., M.P.H.  
Current email address: g.j.salazar@faa.gov  
Tel: 817-222-5300  
Fax: 817-222-5965  
Mailing address: 1050 Highland Oaks Drive, Southlake, TX 76092, USA.

Name: Helmut Hinghofer Szalkay, M.D.  
Current email address: helmut.hinghofer@meduni-graz.at  
Tel: +43 676 3009022  
Fax: +43 316 383638  
Mailing address: Chair, Institute of Physiology, Medical University Graz, and Director, Institute of Adaptive and Spaceflight Physiology, Harrachgasse 21, A-8010 Graz, Austria.

Name: Victor Schneider, Ph.D.  
Current email address: vschneider@nasa.gov  
Tel: 202-358-2204  
Fax: 202-358-3349  
Mailing address: NASA Office of the Chief Health & Medical Officer, 300 E Street, SW, Washington, DC 20546, USA.

Name: Paul Stoner, M.D.  
Current email address: pstoner@ems.jsc.nasa.gov  
Tel: 281-483-9648  
Fax: 281-483-3392  
Mailing address: Johnson Space Center/SD13, 2101 NASA Parkway, Houston, TX 77058, USA.

Name: James Vanderploeg, M.D., M.P.H.  
Current email address: jmv@imedicon.com  
Tel: 281-486-8815  
Fax: 281-486-4327  
Mailing address: 700 Gemini Ave., Suite 110, Houston, TX 77058, USA.

Name: Joan Vernikos, Ph.D.  
Current email address: thirdage1@verizon.net  
Tel: 540-829-2541  
Fax: none  
Mailing address: 2028 Golf Drive, Culpeper, VA 22701, USA.

Name: Ronald White, Ph.D.  
Current email address: white@dsls.usra.edu  
Tel: 281-244-2025  
Fax: 281-244-2006  
Mailing address: Senior Fellow, USRA Division of Space Life Sciences, 3600 Bay Area Blvd., Houston, TX 77058, USA.

Name: Richard Williams, M.D.  
Current email address: rwillia3@hq.nasa.gov  
Tel: 202-358-2390  
Fax: 202-358-3349  
Mailing address: 81 Flightline Drive, Fredericksburg, VA 22405, USA.