

President's Page

The last year has gone by very quickly. Several past Presidents warned me that this would happen, but just recently it has become viscerally apparent that a single year just isn't long enough to get everything done. Two-year terms? I'll leave that for a future President to tackle.

The fact is that it has been a pretty good year. Very deliberate selection processes were completed, and a new Executive Director and a new Editor-in-Chief were chosen. They are now firmly in place in their new positions. Early findings are that both Jeff Sventek and Fred Bonato are doing very well and adapting quickly to their new duties. A big "well done" is due to all those involved in their selection and in helping them to transition into the jobs.

Of course, they've got big shoes to fill. Sally Nunneley did great things with this Journal, and was a very effective leader for her staff.

Russell Rayman, as all of us know, is simply a legend in aerospace medicine. His near-limitless knowledge of all aspects of our field, and his ability to communicate effectively with all whom he encountered, will be sorely missed.

Thanks are due to both Sally and Russ for making their desires to retire known well in advance, allowing plenty of time for a well-thought out and executed selection and transition process. Russ in particular stayed beyond the time he had originally wished to leave, in order to keep things flowing smoothly. Thanks to you both.

I'd also like to thank the Home Office staff. They have struggled with computer and software transitions this year (a process that is not yet complete, sad to say), but have always provided me with the information I needed in a very timely manner. They really do keep the Association moving. I have to thank Pam Day in particular, for her patience and cooperation with these President's Pages.



Robert W. Weien, M.D., M.P.H.

Thank you to my fellow members of Executive Committee and Council, and all the countless other volunteers who have worked very hard on behalf of AsMA. Whether military or civilian, physician or nurse, physiologist or human factors specialist, we all work together and are jointly dedicated to Aerospace Medicine, in all its forms.

We are also supported by a number of external elements, many of them non-members. There are too many to thank individually, but by way of example, Walt Galanty and AIM have made our annual meetings flow much more smoothly than most of you will ever know. It doesn't just happen: Walt and company make it happen.

Phoenix is just around the corner. I look forward to seeing many of you there. I know you'll enjoy it.

Please be as supportive and helpful to Marian Sides as you have been to me. If you are, she'll have as much fun in her year as I've had in mine.

Through May 13th, if you have any comments, questions, or other inputs, please contact me at president@asma.org.

Association News

New Members

Duntley, Paul D., M.D., Glendale, AZ
Haugh, Sean Y., M.D., San Jose, CA
Herrada, Maria B., Dr., Camp Hill, PA
Iremonger, Gareth S., 1LT, NZDF, Auckland,
New Zealand
Jurcynski, Maresa, M.S., Anacortes, WA
Karpman, Adam, D.O., Westfield, NJ
Martin Saint-Laurent, Alain A., M.D.,
Neuilly, France
Menard, Steven P., Capt., USAF, MC,
Millville, MA
Messer, Jr., L. Buddy D., Dr., Gilbert, AZ
Mion III, Albert L., 2Lt., B.S., USAF,
Danbury, CT
Murray, Kerry Ann, M.D., Melvern Square,
Nova Scotia, Canada
Nieves, Wilfredo J., Lt.Col., USAF, Sheppard
AFB, TX

Paris, Jean-Francois, Paris, France
Peixoto, Helena, M.D., Lisboa, Portugal
Raudzus, Dietmar E., Dr., Vancouver, B.C.,
Canada
York, Gregory B., Lt.Col., USAF, MC, San
Antonio, TX

Future AsMA Meetings

May 9-13, 2010; Sheraton Downtown
Hotel, Phoenix, AZ

May 8-12, 2011; Egan Convention
Center, Anchorage, AK

May 13-17, 2012; Atlanta Hilton
Atlanta, GA

Space Medicine Association Luncheon Thursday, May 13, 2010

**Special Guest Speaker: Dr. Michael
Barratt, NASA Astronaut & ISS
Crewmember**

The Space Medicine Association will hold its annual luncheon on Thursday, May 13th. All AsMA members and meeting attendees are cordially invited. The SMA luncheon is a great venue to network, socialize, renew friendships, and start new collaborations. See you there!!

Meetings Calendar

**May 2-5, 2010, American College of
Occupational & Environmental Medicine,
Orlando, FL.** Info: <http://www.acoem.org>

**May 20-22, 2010; Italian Association of
Aerospace Medicine 23rd National Congress;
Italian Air Force Academy, Pozzuoli, Italy.
Held in cooperation with the Italian Air Force
Medical Corps.** For more information, please
visit <http://www.aimas.it>

**June 2-5, 2010; American College of Sports
Medicine's 57th Annual Meeting; Baltimore,
MD. Held in conjunction with the World
Congress on Exercise Is Medicine.** Info:
http://www.acsm.org/AM/Template.cfm?Section=Annual_Meeting2

**June 3-5, 2010, Undersea and Hyperbaric
Medicine Society Annual Scientific Meeting,
Tradewind Grand island Resort, St. Pete's
Beach, FL.** Info: <http://uhms.org>

**June 5-9, 2010, Associated Professional
Sleep Societies LLC, San Antonio, TX.**
Info: broberts@aasmnet.org; <http://www.sleepmeeting.org>

**July 11-15, Association for Professionals in
Infection Control & Epidemiology Inc., New
Orleans, LA, Ernest N. Morial Convention
Center.** Info: gwhitaker@apic.org;
<http://www.apic.org>

**September 26-29, 2010; American Academy
of Otolaryngology-Head & Neck Surgery
Annual Meeting and OTO Expo 2010; Boston,
MA.** Info:
http://www.entnet.org/annual_meeting/index.cfm

**October 7-9, 2010; CAMA Annual Scientific
Meeting; Pensacola, FL. To be held at the
Crown Plaza Pensacola Grand Hotel.** Info:
http://www.civilavmed.com/Meeting_Events.htm

**October 10-14, 2010; 58th International
Congress of Aviation and Space Medicine;
Marina Bay Sands, Singapore.** Info:
www.icasm2010.com

**October 21-24, 2010; American Academy of
Environmental Medicine's 45th Annual
Scientific Meeting; Hilton La Jolla Torrey
Pines, San Diego, CA.** Info: <http://www.aee-online.org/CFP.html>

**October 24-28, 2010; American Osteopathic
Association's OMed 2010; Moscone
Convention Center, San Francisco, CA.** Info:
<http://www.do-online.org/> or contact
glapin@osteopathic.org

**October 27-30, 2010; XXVII International
Meeting of Aerospace Medicine; Dorado
Pacífico Hotel, Zihuatanejo, Guerrero,
Mexico.** Info: LuisAmezcuamezcuca@prodigy.net.mx; or visit
<http://www.amma.org.mx>

**November 3-6, 2010; The 21st International
Symposium on the Autonomic Nervous
System; Marco Island, FL.** Info: Anita Zeller,
AAS Executive Secretary, American Autonomic
Society, 18915 Inca Ave., Lakeville, MN
55044; 952-469-5837; fax 952-469-8424;
<http://www.americanautonomicsociety.org>.
**Deadline for abstract submission is June 1,
2010.**

**November 8-10, 2010, 48th Annual SAFE
Symposium, Town & Country Resort and
Conventin Center, San Diego, CA.** Info:
<http://safeassociation.com>

**November 6-10, 2010; 138th Annual Meeting
& Exposition of the American Public Health
Association; Denver, CO.** Info:
<http://www.apha.org/meetings/>

Associate Fellows Group Social

If you are a current member of AsMA and would like to become involved with the Associate Fellows Group (AFG) organization, there will be a recruitment social prior to the our reception on Monday the 10th of May. If you are interested in becoming a member of the AFG, please join us for cocktails and discussion on a wide range of topics. Further details will be available at the AFG booth.

SAFE Call for Papers

**48th Annual SAFE Symposium
November 8-10, 2010
Town & Country Resort and
Convention Center, San Diego, CA**

**Deadline for Abstract Submissions
is June 25, 2010.**

The primary objective of SAFE Association is the preservation of human life and to stimulate research and development in the fields of safety, survival, and life support through communication between professionals in industry, government, and education related to these fields. All 200 word abstracts must be submitted electronically in MS Word format to the SAFE Office at safe@peak.org using the form available on the SAFE website <http://safeassociation.com>. The SAFE office will coordinate all review and acceptance. For further information contact: SAFE Association, Post Office Box 130, Creswell, OR 97426; Phone (541) 895-3012; FAX (541) 895-3014; e-mail safe@peak.org; web site www.safeassociation.com

AEROSPACE PHYSIOLOGY REPORT

High Points in Aerospace Physiology: A USAF Perspective, Part I

*Maj. Yvonne Brandt, USAFR, BSC
Aerospace & Operational Physiology Programs,
Office of the Air Force Surgeon General,
Arlington, VA*

Bridging science to operational requirements is a challenge for Aerospace and Operational Physiology (AOP) whether addressing human factors associated with manned and unmanned flight, task management, cognitive workload, space operations, technology inserts, or sensor management. These topics, coupled with traditional threats of hypoxia, trapped/evolved gases, diet and nutrition, provide the foundation for all that AOP must address and deliver to the war fighters with the primary aim of improving performance. Challenging as it may sound, the current team of USAF AOP stands on the shoulders of giants in the field of aerospace medicine and physiology. The achievements of our aerospace forefathers began with identification and isolation of the most challenging environmental and physiological threats to the early aviators, and continued with the development of methods to educate and train crews. This three part series will highlight a few of the mile markers in the field of Aerospace and Operational Physiology and conclude with a view to the future.

Aerospace history is vast even though it only started just over 100 years ago with a powered flight lasting just over 5 minutes. It's unlikely the Wright brothers considered human factors or physiology in 1904 the way we do today. The first airplanes were made of wood and fabric and were very much a novelty. From 1914-1917, the world's military forces saw the value of the new flying machine. During WWI, when the ground troops were trapped in the trenches, the only branches with any freedom of movement were the flying squadrons of the European nations. Despite their enthusiasm, the mishap rate during the first year was abominable. The British discovered that of 100 aviators killed, only 2 were shot down and another 8 were due to mechanical problems. The rest were a direct result of human factors. Consequently, considerable thought was put into human performance and aviation; the dawn of aerospace medicine and aviation physiology.

In 1916, U.S. involvement in WWI looked unavoidable and an air service was assembled. The U.S. War Department issued Special Order No. 243 to levy authority on aviation in the Office of the Army Surgeon General Major (Dr.) Theodore Lyster, who was the first Chief surgeon of the Army's aviation section, known as the father of American Aviation Medicine. Major Lyster was to "...take whatever steps needed to establish the practice of aviation medicine" and create a lab at Hazlehurst Field outside Mineola, Long Island, NY, in 1917. The lab was moved in 1919 to Mitchell Field, Long Island. In the post-war period resources began

to wane but the lab survived, not through research but through teaching. By 1922 the lab officially transitioned into a school and is now known as the School of Aviation Medicine (SAM). At the same time, the Air Service has moved its flying training facilities to San Antonio, TX. The decision was logically made to move SAM closer to the pilot training facilities, the first move of SAM. Dr. Lyster decided there wouldn't be a need for the altitude chamber and left it behind in New York.

Meanwhile, the international aeronautical competition for speed, altitude, distance, and duration records was vigorously pursued through the 20s and 30s. Ballooning was also pursued for records, sport, and science. In England, Uwins ascended to 13.4 km (44,000ft) in an unpressurized aircraft in 1931, and returned with reports of oxygen starvation even while using oxygen masks. In 1931, Piccard and his crew ascended to 15.6 km (52,000 ft) by balloon in a sealed gondola. The concept of sealed cabins was technically feasible and tried in the U.S. as early as 1919, but it was not practical because of the difficulty in control-

ling the cabin temperature and pressure. In 1920, J. S. Haldane suggested the development of a 'stratospheric suit'—later made famous by Wiley Post. It was Haldane's successful work in the low pressure chamber that initiated more formal research with the Stratospheric Flying Suit, but at this point the link between aeromedical research and operational test and evaluation was still not connected.

Is this the end of the AF need for altitude chambers? Will research find its way back into aerospace medicine and aerospace physiology? Next month: Find out how we got to and through WWII and the post war era.

SOURCES

1. Marshall, GS. Physiological limitations of flying. Royal Aeronautical Society 1933; 37:389.
2. Peyton G. 50 years of aerospace medicine – 1918 to 1968. Series No. 67-180. Washington DC: AFSC Historical Publications; 1967.
3. U. S. Air Force. Medical Service Digest, Vol. XXVII No.4, p.21-25.

Are We Educators? The Bridge Between Science and Operations

Lt Col AD Woodrow, HQ AETC/SGPT

In university instruction, USAF Aerospace and Operational Physiology, or USN Aeromedical Safety Operations, the common goal is to address performance decay and inform/instruct the student in methods of optimizing outcome. For years, the core delivery was centered on device-based training rather than effects-based training. In spite of the development of effective training aids and simulators, the device of instruction most frequently used in the physiological training arena is the lecture. Many education gurus consider the lecture one of the weakest forms of educational methodology; however, the much criticized lecture method has some significant strength when properly used. For example, to stimulate interest and convey information not otherwise available to the student, it is an economical and effective instrument of teaching. A carefully planned and well delivered lecture is a platform a good teacher can use to cause the student to learn and understand much more than they would through printed media or computer-based training. But it is easy for the teacher to reduce their effectiveness by poor enunciation and distracting mannerisms. Many hours of student time have been wasted because the teacher went unprepared to lecture, or because the material prepared was not planned to the best interest of the group attending. Professor I.A. Richards of Harvard used this analogy: "You have no stimulation for a person whatsoever if he thinks he understands what you are saying and why you are saying it...but how wide should the gap be between what the student is offered and what he gets? There is, as it were, a piece of elastic between you and your audience; you must not snap the elastic or you have lost them. On the other hand, you must have the biggest possible tension on the elastic and thus must

be pulling at them most of the time. That is the whole point of teaching." Brilliant. If we simply provide 'consumer' level information—something easily consumed from color tri-folds in the waiting room—then we fail to establish that tension.

The teacher must remember that the perceptual sensory mechanisms—eyes, ears, nervous system, pressure sensors, olfactory senses—are the means through which all our learning is accomplished. Thus, the role of contrived experiences—such as the altitude chamber, Barany chair, parachute hanging harness and ejection trainers—become very important adjuncts to the classroom methods. In Aerospace and Operational Physiology, videos are also a useful tool, but should not be used in place of another, more effective teaching method. A constant evaluation of materials presented (e.g. video, audio, photo) must be made; nothing is more uninspiring than presenting the very same lesson plan to a student 5 years after the last presentation. A combination of materials may do a better job than a single method, and again, one may be more effective than another. The instructor must consider both the purpose of the material and the background and experiences of the aircrew in the class.

"What is perceived by the student is fixed in the mind more firmly than what is merely said over a hundred times. It is not the shadows of things but the things themselves that should be presented to the student." From this observation, the instructor needs to, once again, assess the objectives of the lesson and the methods to most effectively convey the message. A well conducted class is choreography of auditory, visual, and tactile input bound together with the enthusiasm for the importance of each lesson; not peppered with distractions of materials unrelated to the topic. The constant progress of excellence in teaching across the AOP spectrum is the goal. How will you meet that goal?



European School of Aviation Medicine

Training courses 2010/2011 for JAA-Aero Medical Examiners

AME class 2
Basic course 18 – 26 September 2010

AME class 1
Advanced course 4 – 12 December 2010

**Aviation Medicine/
Travel Medicine**
Diploma course 19 – 27 March 2011

JAA/FAA-Refresher 26 – 29 August 2010

Venue: Hotel Dorint, Wiesbaden/Germany

Application forms and further details under
www.flugmed.org or www.eusam.org



"Introduction to Aerospace Medicine Summer Short Course 2010"

PMCH 6382 – PMCU 4004 (3 credit hours)

June 28 - July 23, 2010; 8-5 daily

Course Director: James Vanderploeg, M.D.,
Associate Professor, PMCH, Aerospace
Medicine Residency Program

The Introduction to Aerospace Medicine course

provides familiarization with the history of aviation spaceflight and the specialty of Aerospace Medicine

Contact Diane M. Ellison at dmelliso@utmb.edu for details.



American Red Cross

**AsMA Volunteer Day
Blood Drive**

Wednesday, May 12, 9:00-4:00
Info: www.asmavolunteers.org

CAMA SUNDAY

May 9, 2010:

8:00AM-Noon

The Civil Aviation Medical Association, in cooperation with the Airlines Medical Directors Association, present:
"Risk and Regulation"

65th Annual Meeting of the Airlines Medical Directors Association
SATURDAY, May 8, 2010
8:00 am to 3:00 pm

<http://www.amda.aero>

Any AsMA member is welcome to attend.

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