

President's Page

AsMA has an outstanding leadership team, and I think it is appropriate that readers get a chance to hear other voices on the president's page. Without obligating future presidents, I have offered each of the current vice-presidents an opportunity to update AsMA membership on the many ongoing activities under their leadership. The following article is the fourth in this series.

Membership Services

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

I would like to thank Dr. Jennings for the kind opportunity to write one of his President's Pages. It is an honor to serve as a Vice President of this fine organization, and I am pleased to tell you about my area of responsibility. The most rewarding part of the job has been the people who serve this organization and help it achieve our mutual goals. I am awed on a daily basis by their selfless efforts, and you'll read about some of them below.

I will concentrate on the three committees that fall under my area, how they serve you, and how you can be involved. Of course, joining any of these committees would be a great way to support them, but members can be helpful without joining the committees, as well.

AWARDS COMMITTEE: Chaired by Commander (USN) Andy Bellenkes, Ph.D., this group has a yearlong process of gathering nominations, selecting awardees, and then preparing for the presentations at the annual Honor's Night banquet.

The Association has 15 awards that it can present. They are for a variety of categories and disciplines from very specific (for certain types of research, or certain career fields) to very general (for recognition of long term contributions to the organization). There are two sub-committees which review the nominees for the two awards for ASEM articles in certain areas.

The committee has upgraded their process over the last several years to encourage electronic submission of nominations via email to Dr. Bellenkes. He will also accept mailed nominations for those who cannot submit via email.

In past years there have been awards that were not presented due to a lack of nominations. Fortunately, for the current cycle we have nominees in all categories (as of this writing), but it's always a possibility that we won't. That's where you can help: please be alert to members doing good work, and who deserve recognition. Then nominate them. It's not hard, and the joy of seeing someone you nominated accepting an award is almost as good as getting one yourself.

MEMBERSHIP COMMITTEE: Under the joint Chairmanship of Dr. Warren Silberman and Dr. Jeff Myers, this group is charged with increasing membership of the association and promoting public relations. Some of you are aware that we have had a slow decline in membership over the last several years. It may be leveling off at around 3,000 members, but time will tell about that.



Richard T. Jennings, M.D., M.S.

Members of the committee analyze trends in membership. They work to retain current members, and convince delinquent members to renew their memberships. Some committee members work with specific specialties to encourage them, such as Janet Sanner's excellent efforts this year to increase the participation of nurses.

How to help the membership committee do their job better? The most basic and important thing you can do is keep your contact information current with the Association. In recent attempts by the Membership Committee to contact members and former members, approximately one-third of the emails bounced. Go to the "member's login" area of the AsMA website (www.asma.org) to update your information.

CORPORATE AND SUSTAINING MEMBER COMMITTEE: Dr. Marian Sides is the Chair of the Corporate and Sustaining Membership Committee. This group of energetic volunteers works with the 40 companies, associations, and other groups that have joined AsMA due to their interest in Aerospace Medicine. The Committee is actively recruiting new corporate members.

Corporate and sustaining members get substantial benefits from joining AsMA. Among these are access to an international forum of experts in aerospace medicine, links to corporate websites from the AsMA site, discounts on exhibit space at the annual meeting, the opportunity to update us on their activities in the news section of the journal, discounts on some Association fees, and other benefits.

The Committee is sponsoring two Panels and a Workshop at the upcoming meeting in New Orleans. Its members also produce a Newsletter (the C&S Courier), and are developing a website.

You can help the corporate and sustaining members by visiting their exhibits at the meeting. If you are part of an organization that has an interest in aerospace medicine, and it is not a C&S member, encourage them to join.

So there you have it, a thumbnail sketch of the three committees I supervise. Thanks to all who work so hard on their various tasks. We're a better organization because of these dedicated volunteers.

Medical News

Executive Director's Column



Rayman

The Age 60 Rule, Again and Again

The Age 60 Rule in the U.S. is with us once again. Whether it remains on the books or becomes merely a historical footnote is a question yet to be answered. In any event, the Federal Aviation Administration (FAA) formed an Aviation Rulemaking Committee (ARC) to review the Age 60 Rule and to bring forward recommendations to the FAA Administrator, Marian Blakey. I am not entirely sure what prompted this resurgence of interest, but I believe it had much to do with the new International Civil Aviation Organization (ICAO) standard allowing air transport pilots to continue flying up to age 65 as long as the other pilot in the cockpit is under age 60.

The marching orders to the ARC were to recommend the new ICAO policy or in general to leave things as they are. There were 14 members of the ARC comprising representatives of several airlines, labor, and yes, aerospace medicine. The ARC was given 60 days to complete its tasking, which extended over the Thanksgiving holiday. At the time of this writing, there have been two face-to-face meetings and two telecons as well as a flurry of e-mail exchanges. I am unable to disclose what the ARC recommended since all that dis-

ussion is still embargoed. Although I cannot divulge what was said at the meetings, I can tell you that everyone spoke quite openly and frankly, presenting cogent arguments to support their respective positions. However, the report will soon reach the Administrator's desk, after which it will certainly be made public. There may even be an opportunity for public comment.

Although I cannot tell you what we discussed or what conclusions we drew, I can reiterate AsMA's official position on the Age 60 Rule, which was so well defined by our position paper published in the August 2004 issue of the Journal. It was an excellent paper written by our Aviation Safety Committee, chaired by Chuck DeJohn.

The position paper that we published last year states quite clearly that although a number of studies have been done regarding the aging pilot, there are inconsistencies and contradictions. It was also noted that none of the cohorts were air transport pilots over age 60 because none were permitted to fly for U.S. airlines. The position paper closes with the following statement:

"On review of the existing evidence, the Aerospace Medical Association concludes there is insufficient medical evidence to support restriction of pilot certification based on age alone."

Over the next several months we will see how this drama unfolds.

Remember!
Council Meetings are open to all members of the AsMA. Your input and attendance are always welcome. Our next meeting will be on May 13, 2007, in New Orleans, LA.

AsMA Resolutions/Position Papers/Letters

SUBJECT	STATUS
Policy on Interval for Flight Physical Examinations	In progress
Policy on Countermeasures and Medical Care Moon/Mars Mission	In progress
Policy on Medical Standards for Flight Attendants	Completed and forwarded to regulatory agencies.
Policy on Emerging Infections	In progress
Policy on Fatigue Countermeasures	In progress
Policy on UAV Medical Standards	In progress.
Policy on Optimal Cabin Pressure	In progress
Policy on Go-No-Go pills	In progress
Policy on Biohazard Decontamination	In progress
Expert Witness Policy Statement	In progress

MEETINGS CALENDAR 2006-2007

February 6-9, 2007, Long Beach, CA. Medicine Meets Virtual Reality 15 (MMVR15). For more information, please visit www.nextmed.com/mmvr_virtual_reality.html or e-mail MMVR15@NextMed.com.

March 1-4, 2007, Orlando, FL. The American College of Legal Medicine's 47th Conference on Legal Medicine at the Caribe Royale Resort. For more information visit www.aclm.org or contact Sue O'Sullivan at info@aclm.org or by phone at 847-969-0283.

March 19-21, 2007, Annapolis, MD. 2007 Human Systems Integration Symposium. Info: Jennifer McNeely, jennifer.mckneely@jhuapl.edu; www.navalengineers.org/Events/HSIS2007.

April 3-6, 23, 2007, Cocoa Beach, FL. Human Performance, Situation Awareness, and Automation (HPSAA III) Technology Conference. Info: Mustapha Mouloua, Conference Chair, Dept. of Psychology, P.O. Box 1390, Orlando, FL, 32816, 407/823-2910, fax 407/823-5862, mouloua@pegasus.cc.ucf.edu, <http://faculty.erau.edu/hpsaa/>.

April 15-20, 2007, Honolulu, HI. 2007 International Conference on Acoustics, Speech and Signal Processing. Info: Institute of Electrical and Electronics Engineers, info@icassp2007.com; www.icassp2007.org.

April 16-19, 2007, Cobo Center, Detroit, MI. 2007 Society of Automotive Engineers World Congress. Info: Society of Automotive Engineers World Headquarters, 400 Commonwealth Dr., Warrendale, PA 15096, 724/776-4841, mjena@sae.org, <http://www.sae.org/congress>.

April 17-19, 2007, Nottingham UK. Ergonomics Society Annual Conference. Info: Sue Hull, Ergonomics Society, Elms Court, Elms Grove, Loughborough LE11 1RG, UK, +44 0 1509 234904, fax +44 0 1509 235666, hulls@ergonomics.org.uk, <http://www.ergonomics.org.uk>.

April 22-26, 2007, Dayton, OH. International Symposium on Aviation Psychology: "Airspace as a Cognitive System." For more info, visit www.wright.edu/isap.

April 23-26, 2007, Dayton Convention Center, Dayton, OH. 14th International Symposium on Aviation Psychology. Info: Richard Jensen, 5329 Van Fossen Road, Johnstown, OH 43031, 740/967-4030, rjensen@core.com, <http://www.wright.edu/isap/>.

April 28 - May 3, 2007, San Francisco, CA. 2007 International Performance Improvement Conference. Info: International Society for Performance Improvement, 1400 Spring St., Ste. 260, Silver Spring, MD 20910, 301/587-8570, fax 301/587-8573, <http://www.ispi.org/ac2007/>.

Proposed Changes to the AsMA Bylaws

In accordance with Article XII of the Bylaws of the Aerospace Medical Association, the following proposed changes to the Bylaws are printed herein. They will be voted upon at the next Annual Business Meeting, to be held Tuesday, May 15, 2007 at the Sheraton Hotel in New Orleans, LA. The Meeting is open to all members (no lunch purchase is necessary to participate in the meeting).

The omissions are listed in bold in parentheses after the word "omit:". The additions are underlined. The rationale for the changes is listed separately after each proposed change.

ARTICLE IV. FELLOWSHIPS

B. Fellow:

(Omit: **(5) The maximum number of new Fellows who may be elected annually shall be equal to 0.5% of the total membership of the Aerospace Medical Association counted to the nearest 100 members on January 1 of each year.**)

Rationale for changes: With a dwindling membership of 2900, the core of non-Fellow members who remain are more experienced, qualified, and serving than the typical member seeking Fellowship when we had 5000 members. Many of the members not selected in the past few years may have been selected in the 1970s with the same credentials. Removing this sentence from the AsMA Bylaws should remove at least some of the impediment to Fellowship without hampering the Fellows Group in their peer review of qualified members.

ARTICLE V. OFFICERS.

SECTION 1. Elected Officers.

The elected officers of this Association shall be a President, President-Elect, four Vice Presidents, and a (omit: **Secretary-Treasurer**) The President-Elect (omit: **and the Secretary-Treasurer**) shall be elected annually to serve for 1 year or until his/her successor is elected and assume office at the close of the annual business meeting of the Association. The Vice Presidents and the Treasurer shall serve for 2 years or until their successors are elected and assume office at the close of the annual business meeting of the Association (Omit: **and shall be elected as often as a vacancy occurs.**) The President-Elect shall automatically succeed to the office of President at the close of the annual scientific meeting next succeeding election to the office of President-Elect.

Rationale for changes: The Home Office staff and other elected officers or Standing Committees accomplish all typical secretarial duties except taking of meeting minutes. The President could appoint someone, possibly a member of the Home Office staff to take minutes at meetings, freeing the Executive Director (ED) to participate with less interference. The Treasurer is a critical officer and should be separate from the ED's salaried position to allow more efficient turnover of either position and a separate backup for these functions.

ARTICLE V. OFFICERS.

SECTION 5. Executive Director.

A. The Executive Director shall be appointed by the Council and shall not hold an elected office. (omit: **and may also be elected as Secretary-Treasurer**).

B. The Executive Director shall be the chief operating officer (omit: **and recording secretary**) of the Association and shall keep its records (omit: **the minutes of the meetings,**) and a file of its publications. The Executive Director shall notify all members of the time and place of meetings, (omit: **shall record the minutes and proceedings of the Council and**) notify Council (Note: change "its" to "Council") members of the time and place of Council meetings, and shall prepare the programs of the meetings under the direction of the Council.

D. The Executive Director is authorized to provide such assistance as is necessary for the proper conduct of the Association headquarters office, subject to the directives of the Executive Committee and the Council. The Executive Director shall employ and supervise the staff, authorize purchase of supplies and equipment, arrange for office and other facilities for operating purposes, within the budget and as approved by the Executive Committee, and is empowered to sign contracts and enter into agreements on behalf of the Association and within the policies established by the Council and the Executive Committee.

E. The Executive Director shall (omit: **, if also the Secretary-Treasurer or, if not,**) with the (omit: **Secretary-**) Treasurer, prepare a budget covering estimated annual expenses, to be submitted to the Council for adoption, and shall prepare a financial statement at the end of the term of office which shall be audited by a certified public accountant.

Rationale for changes: Efficient turnover of the office of the Executive Director is made more difficult if an office in the Association is also held by the same individual. A paid manager, usually works for the Board/Organization/Company and does not hold a separate voting position on that Board. This change separates the ED from the elected officers of the Association to prevent a situation where the ED position may have a conflict with the function of that office. This split allows another input for ExComm and Council (the office not held by the ED) with no such potential for conflict.

The Association is no less active than it was in the 1980s and many areas of outreach have, in effect, increased the responsibilities of the ED. Separating the duties of another elected office from the ED's duties will reduce current responsibilities and facilitate the ability to find a replacement whenever that becomes necessary. Finding someone to fill both sets of responsibilities would be much more difficult. Keeping the ED separate from elected office, yet retaining ex-officio, non-voting, membership on Council and ExComm allows an additional member of the Association to contribute to and vote during those meetings.

As our Bylaws currently read, the ED as Treasurer becomes the only person authorized to perform transactions regarding the portfolio [Article V. Section 5. D. "...and is empowered to sign contracts and enter into agreements on behalf of the Association and within the policies established by the Council and the Executive Committee." And [Article V. Section 5. E. "...custodian of all monies and securities and hold same subject to the direction and disposition of the Executive Committee under the direction of the Council."]. Together with the following change, this would include the Treasurer as a separate individual to ensure a backup authority exists.

ARTICLE V. OFFICERS.

SECTION 6. (omit: **Secretary-**, throughout) Treasurer.

The Treasurer shall have duties usually performed by a Treasurer and shall perform those duties as directed by the President, Council, or Executive Committee. The Treasurer shall be the chair of the Finance Committee and custodian of all monies and securities and hold same subject to the direction and disposition of the Executive Committee under the direction of the Council. (Omit: **If not also the Executive Director, the Secretary-**) The Treasurer shall perform the duties in cooperation with the Executive Director. In the event the Treasurer resigns, is incapacitated, or is otherwise unable to act, the President shall appoint an Acting Treasurer to perform the duties of that office until the next annual meeting or for the period of the incapacity. The Treasurer shall be bonded in an amount approved by the Executive Committee.

SECTION 7. Unbudgeted Expenditure of Funds.

See BYLAWS, p. 154.

BYLAWS, from p. 153.

No Officer (omit: , **including**) or the Executive Director, may make or authorize any unbudgeted expenditure exceeding \$15,000.00 without approval of the Executive Committee.

Rationale for changes: With the Treasurer becoming chair of the Finance Committee, the integration of those functions is made simpler and should reduce duplication of reporting effort and time during meetings. This dual responsibility is done in other organizations (UHMS) and implied in the sample Bylaws in Robert's Rules of Order Newly Revised, 2000. Separating the Treasurer from the Executive Director ensures a backup capability with respect to the financial side of the organization since the current personnel authorized to make changes in the investments are combined in one person, the ED-Treasurer.

ARTICLE VI. COUNCIL OF THE AEROSPACE MEDICAL ASSOCIATION AND EXECUTIVE COMMITTEE

SECTION 1. The Council of the Aerospace Medical Association.

The governing body of this Association shall be the Council of the Aerospace Medical Association, hereinafter referred to as the Council. The President shall preside at all meetings (Omit: **and the Executive Director shall be the Secretary**) of the Council.

SECTION 2. Membership of the Council.

Membership of the Council shall consist of the President, President-Elect, immediate Past President, 4 Vice Presidents, (omit: **the Secretary-**) Treasurer, 12 elective members, 1 member selected by each of the Constituent Organizations, 1 member selected by the Fellows Group, 1 member selected by the Associate Fellows Group, the Regent for Aerospace Medicine of the American College of Preventive Medicine, and a student or resident representative selected by the Aerospace Medicine Student Resident Organization. The Executive Director (Omit: , **except when also elected as Secretary-Treasurer,**) shall be an ex-officio member without vote. Of the 12 elective members, 4 shall be elected to the Council each year for 3-year terms. No such elected member shall be eligible for more than two successive terms as an elective member. (Omit: **No member shall be eligible for more than two successive elective terms on the Council. This provision does not apply to elected officers.**) In the event a member of the Council resigns or is otherwise unable to complete a term on the Council, the Nominating Committee shall propose a nominee or nominees for election to fill the remaining year or years in that term.

SECTION 3. Powers of the Council.

SECTION 4. Meetings of the Council

B. Special Meetings: Special meetings of the Council shall be held at the time and place called by the President, or the (omit: **Council Secretary**) Executive Director may call a meeting upon written request of any 12 members of the Council.

SECTION 5. Executive Committee.

A. The Executive Committee shall consist of the President, President-Elect, four Vice Presidents, (omit: **Secretary-**) Treasurer, Executive Director (ex officio without vote) (Omit: , **who shall also act as Secretary of the Committee**), and three members of the Council nominated by the President for the succeeding year, who shall be elected by a majority vote of the Council at its first meeting following the annual election of officers and councilors. (Omit: **The President shall chair the Executive Committee**)

Add: H. The Executive Committee shall create, review, and amend the Aerospace Medical Association Policy Manual as necessary to be consistent with the Bylaws and submit it for approval by Council.

Add: I. The Executive Committee shall select the time and place of the annual scientific assembly.

(Change to) J. Meetings. A majority of the Executive Committee shall constitute a quorum at any duly called meeting of the Committee. The President shall call such meetings of the Executive Committee as the business of the Association may require, or a meeting shall be called by the (Omit: **Secretary of the Executive Committee**) Executive Director upon written request of a majority of the Executive Committee.

Rationale for changes: These changes provide for consistency with changes in Article V and VI. and clarify section headings. Changing the description of the 12 elected members of Council should eliminate any question as to which of the elected members may not serve more than 2 successive terms (Members-at-Large). The addition of Section 5. H. reflects Article X. Section I. as a power of the Executive Committee placed here to help consolidate more responsibilities of the Executive Committee. As important as the AsMA Policy Manual (Policy Procedures) are to the function of the Association, they need to be cited in the By-laws as to who establishes them and who changes them. Currently, the AsMA Policy Manual has no source as to its authority other than in the Introduction section of that manual: "Suggestions for revisions to the manual may be addressed to the Chair of the AsMA Bylaws Committee or the AsMA Executive Director. Additions or changes to this policy manual will be submitted to and approved by Council." Bylaws direction on the AsMA Policy Manual should include Council approval (Ref: SECTION 3. Powers of the Council. A. "The Council establishes policy for the Association..."), but should probably allow the Executive Committee to create, review, and amend the Policy Manual.

ARTICLE V. OFFICERS.

SECTION 2. President.

The President shall (omit: **preside at**) chair all meetings of the Council of the Association and the Executive Committee. (Omit: **shall chair the Council. He shall appoint committees except the Executive Committee and the Nominating Committee.**) He shall appoint chairs of Association committees unless provided otherwise in these Bylaws. (Omit: **With the approval of the Executive Committee, he shall appoint the Standing Committees.**) The President has the authority and obligation to provide specific tasking to committees and other functionaries doing work for the Association. (Omit: **A formal report shall be provided to the President annually by the appropriate officials in order to document progress and identify issues.**)

Rationale for changes: These changes clarify and consolidate more of the Presidential duties. Presiding and chairing are redundant/synonymous in the current wording. Appointing the committees could be interpreted as appointing all members of the committees which Presidents typically leave for the committee chairs. The presenting of annual Standing Committee reports is not a duty of the President and should be moved to the Committees and worded more specifically.

ARTICLE IX COMMITTEES.

SECTION 3. Standing Committees

O. Science and Technology Committee: (New definition) This committee is responsible for informing and educating the Association regarding interdisciplinary problems in the areas of systems analysis and technology utilization, as well as aeromedical, biomedical, and human factor requirements.

Rationale for changes: The Science and Technology Committee said the revised version the committee agreed upon in 2002 is what they have been doing for the past decade or two. If the President wants a specific written product, he can always ask for it like he could of any committee. Also, studies may imply need for funding for which they have no current source.

This Month in Aerospace Medicine History-- February 2007

By Walter Dalitsch III, M.D., M.P.H.

Seventy-five Years Ago

Various considerations in limiting monthly flying hours. "The question is constantly arising as to the maximum hours per month a pilot may fly and still remain efficient. That a limit is present must be admitted but just were that limit exists is a matter for debate... "First of all, what happens to the pilot who flies excessively? We know from past experience that excessive flying results in chronic fatigue or 'staleness.'

"During the war it was estimated that the average flying life of the pilot over the lines was 150 to 300 hours. By that time he either had been killed or had to be relieved permanently from flying duty. Such flying, however, in undependable equipment with fighting and trying conditions in general when the pilot never knew when he took off if he would ever return is quite a different matter from transport flying in relatively safe equipment over lines equipped with adequate landing fields, beacons, radio, good meteorological service, on regular schedules. While the two are in no way comparable, nevertheless cases of staleness and inefficiency have arisen in transport pilots.

"Schneider defines fatigue as 'a progressive flagging of efficiency together with subjective sensation of loss of control of the muscles.' There is a depression of physiological activity, mental or physical. Subjectively, there is first a feeling of local tiredness in the active muscles and finally sleepiness. Objectively, there is a diminished capacity for work...

"Transport flying may be divided into day and night flying. To deal first with the former, it is believed that the civilian lines may do well to emulate the army and as an average prescribe a maximum of 100 hours per month for line pilots. Poor terrain, heavy passenger loads, poor average weather conditions and lack of a co-pilot should reduce their maximum to 90 hours or even less. Good terrain, the presence of a co-pilot and good average weather conditions may increase it somewhat, perhaps to 110 hours. Or in case of repeated short flights under good conditions perhaps slightly more.

"As to night flying, this is admittedly more hazardous and more of a strain. With the same factors acting in modification a limit of 60 to 75 hours per month is suggested...

"This whole subject is one that deserves intensive study and coöperation of the medical profession with operators and pilots. The limits suggested here are, of course, tentative and may have to be revised in the light of further experience. At the present time, however, the operator who schedules his pilots in the near vicinity of 100 hours per month and has proper medical-supervision of his pilots is doing his share in protecting the public until further information is available" (3).

Epileptic 'absences' in relation to flight (Medical Director, Aeronautics Branch, Department of Commerce). "A knowledge of epilepsy, particularly with respect to the momentary 'absences' and other minor equiva-

lents, as well as amnesic [sic] states following head traumas, is of vital importance to the flight surgeon. While these phenomena interest every physician, their occurrence on the ground may not involve special hazard. In the air, however, it may cost a life, or lives; and the responsibility will rest directly upon the flight surgeon who failed to discover the defect. Further, the potentiality for momentary 'absences' and automatism lurks in every individual who has sustained a severe head trauma and the examiner must have this possibility in mind before again qualifying for flying duty the pilot who has sustained such injury. Nor is it safe to disregard a possible latency in this direction which may become a manifest symptom, weeks or even months afterward" (4).

Fifty Years Ago

Comparing personnel requirements in space flight to aviation (U.S. Air Force School of Aviation Medicine, Randolph Air Force Base, Texas). "The accomplishment of powered flight into space will depend not only on the development of suitable cabins, propellants and engines, but also on the equally important issues of selection and training of space crews...

"In analyzing the personnel requirements for any situation it is necessary to consider the following aspects of the problem: (1) the aptitude and skill requirements essential for performance of the task; (2) the biologic and physical requirements related to the environment, the machine and the mission; and (3) the psychologic stresses which may be anticipated and the tolerances they imply...

"One conclusion which seems of particular interest as a consequence of this analysis is that space flight is not drastically different from most aspects of aviation which are now familiar. When engineers solve the remaining problems of development, it is expected that personnel will be available with the resources and capabilities to undertake the mission. Space flight may thus be approached as the addition of another dimension to the gradual unfolding of the sciences which have already made magnificent accomplishments in powered flight. However, it is necessary that research and interest in the human factors; aspects keep abreast of progress in engineering" (1).

Air travel and abnormal sinuses. "Changes in atmospheric pressure created during flight may produce undue stress on the antral membrane of an abnormal sinus when it is devoid of bony support. The oral surgeon must be aware of the physical factors encountered during flight which may adversely affect the post-operative course in patients from whom considerable alveolar bone is removed during the extraction of posterior maxillary teeth. In cases where alveolar bone is lost in the vicinity of the antrum, the oral surgeon should obtain roentgenograms to evaluate the sinus. Whenever infection or other abnormalities are noted, treatment should be recommended and the patient advised against air travel" (6).

Current status of aeromedical evacuation. "Aeromedical evacuation today stands at the threshold of new developments. Turboprop and jet-powered aircraft are soon to shrink our planet by shortening travel time, and evacuation activities will increase in comfort, speed, and convenience... Aeromedical evacuation merits understanding on the part

of participating physicians, now that the sciences of medicine and aviation have united to produce both efficient carriers and workable technics [sic]. Preventive medicine practices minimize the danger of spreading communicable disease by air evacuation. Flight surgeons are able to participate in the design of MATS transport planes. Study and experience have produced a substantial list of desirable characteristics and equipment for patient-carrying aircraft which are included in present air evacuation planes and programmed for future designs. A bus-ambulance and a proposed standard loading ramp improve ground handling of patients. The new portable respirator, accompanied by a highly specialized medical team, assures the safe, world-wide transfer of poliomyelitis patients. Organizational progress guarantees close integration of patient movement control centers, medical teams, air crews, aircraft, and ultimately of the entire evacuation activity" (2).

Twenty-five Years Ago

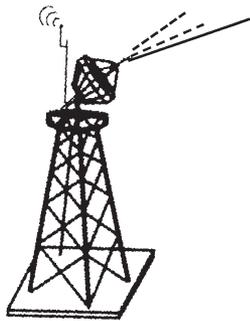
Changes in intellectual functioning at altitude (Mount Sinai School of Medicine, New York).

"Psychological testing was done on 20 subjects at various altitudes (sea level, 3,810 m, and 5,000 m) during a 35-d mountaineering expedition to Denali (Mt. McKinley). Intellectual functioning and personality changes were studied. While little variation was noted at the lower altitude, at 5,000 m there was a marked deterioration in cognitive ability. This was accompanied by a sharp increase in paranoia and obsessive-compulsiveness and smaller increases in depression and hostility" (5).

Role of vision in postural reaction (Laboratoires des Physiologie Neurosensorielle et Physiologie du Travail et d'Ergonomie, Paris, France). "Stabilizing the visual surroundings of human subjects influences postural control during perturbations of their equilibrium. The latency of the first EMG burst is increased and its amplitude is reduced. Body pitch is 36% stronger than with normal vision. Eye closure does not produce any significant modification of muscular responses and postural performance. This result explains why vision is not considered a rapid source of postural reaction. Eye closure cannot be considered to be visual deprivation" (7).

References

- 1) Beyer DH, Sells SB. Selection and training of personnel for space flight. *J Aviat Med*, 1957; 28(1):1-6.
- 2) Braswell LR. Progress in aeromedical evacuation. *U.S. Armed Forces Medical J*, 1957 (Feb).
- 3) Editorial: Flying time for the pilot. *J Aviation Med*, 1932; 3(1):1-5.
- 4) Longacre RF. Epilepsy: Points of interest for the flight surgeon. *J Aviation Med*, 1932; 3(1):20-39.
- 5) Nelson M. Psychological testing at high altitudes. *Aviat Space Environ Med*, 1982; 53(2):122-6.
- 6) Szmyd L. Oral surgery complications caused by flight. *U.S. Armed Force Med J*, 1957 (Feb).
- 7) Vidal PP, Berthoz A, Millanvoye M. Difference between eye closure and visual stabilization in the control of posture in man. *Aviat Space Environ Med*, 1982; 53(2):166-70.



Science & Technology Watch

Keeping You Informed Of The Latest Advances In Science And Technology

This month, Cardillo and Russo introduce us to a new technique to objectively evaluate the effectiveness of treatments and response to stressors by comparing quantitative electroencephalograms to established normative databases.

Quantitative Electroencephalography for the Assessment of Performance

Carlos Cardillo, M.S., Michael Russo, M.D., U.S. Army Aeromedical Research Laboratory, Fort Rucker, AL

Quantitative-Electroencephalography (QEEG) is a methodology for transforming brain electrical activities into spectral, pictorial, and statistical formats using signal detection and analysis techniques. QEEG typically converts a multi-channel electroencephalogram (EEG) into a domain that elucidates relevant information, permits tests of statistical significance, or associates numerical results with EEG data for subsequent review or comparison.

The reliability of the QEEG measures, based upon repeated longitudinal within-subject comparisons and comparisons to reference databases, is a critical asset in the application of QEEG for both clinical practice and research. A QEEG reference database is an extraction of different quantitative features of the EEG, most often from the frequency domain, at each electrode from a normal or a clinically defined group. The extracted features are then normalized for all subjects. The quantitative features of an individual under investigation may then be compared to the equivalent features in the database using parametric statistics based on z-scores, allowing an estimation of the deviance from the database values. The deviance provides a measure of the likelihood that an individual's EEG activity is different from those of a normal or clinically defined group in the database.

The potential usefulness of the QEEG in the clinical community is in its ability to characterize "normal" brain electrical activity. For example, an aviator with depression may have an abnormal QEEG, reflecting a depressed condition. If given an effective antidepressant, the QEEG of that same aviator would immediately show a drug effect; then at some future point in time, the QEEG may show normalization to a non-depression state. QEEG normalization may be used to

corroborate clinical assessment and potentially aid in returning an aviator to flight status by documenting normalization of brain electrophysiology.

Quantitative Electroencephalography

Studies have shown that in normal conditions QEEG measures (e.g. frequency and power distribution) are: dependant on and can be predicted by age (8); independent from ethnic and cultural factors (5); and independent of skin and skull thickness (2). With regard to comparisons of QEEG data to established reference databases, Roy John et al. (7) reported that QEEG norms have high sensitivity and specificity. Also, the electroencephalographic description of the pharmacological effect of psychotropic drugs (Pharmaco-EEG) is considered to be one of the most sensitive methods of describing drug effects on human CNS at a functional level (4). Therapeutic equivalent psychotropics produce similar QEEG alterations within 6 hours of oral administration. The validity and reliability of these observations were demonstrated by Itil et al. (6) and Herrmann et al. (3) in retrospective and prospective studies. Itil et al. also observed that patients with Depression and Alzheimer's have significantly different QEEG profiles than those of age/sex matched healthy populations. Significant differences in bioelectrical activity in "sick" groups compared to "healthy" subjects suggested that the EEG may be reflecting the biochemical imbalance in these patient populations.

Alpha attenuation and an increase in delta and theta activity are the first electroencephalographic signs of sleepiness (10). On an 87 hours of extended wakefulness study with stimulants, it was observed that sleep-deprived subjects have different QEEG spectrum (profiles) than those not sleep-deprived on the occipital and frontal leads; and that the QEEG profiles of the sleep deprived subjects are converse to the QEEG profiles induced by psychostimulants in well-rested volunteers (1). Based on this, one can hypothesize that QEEG differences between rested and sleep-deprived subjects are in fact due to quantifiable biochemical changes in the brain produced by sleepiness and fatigue. Correct doses of psychostimulants would temporarily reverse that chemical imbalance, and the QEEG would reflect normalization of the sleep-deprived brain.

Discriminant function models and correlation statistics may be applied to database information to categorize individual brain activities. Algorithms could process the QEEG signal of a particular operator to eliminate artifacts, compare with the "normal" QEEG profile, and produce an index of the individual's mental status. A two-channel system could be enough to detect significant brain function changes, particularly changes produced by sleep deprivation. Frontal leads would best detect beta and gamma changes in the prefrontal cortex, a region subserving attention and higher-order cognitive processes, and would reflect the negative effects of sleep deprivation. Posterior leads would best detect delta, theta, and alpha rhythms in the occipital cortex, a region highly sensitive to variations in alertness and arousal (9), and would reflect the effectiveness of pharmacologic countermeasures through sensitivity to drug-induced electrocortical changes (3, 6). Conveniently, a future QEEG system to aid in

the real-time assessment of aviator brain activity could be built into a portable or console-embedded EEG amplifier.

Conclusions

Information obtained by measuring real-time QEEG changes in reference to norms could be used to assess drug effectiveness in treatment paradigms and aid in assessment of alertness and sleepiness levels in the operational community. QEEG may be applied to assess the effectiveness of treatment prior to overt behavioral changes and evaluate the effectiveness of fatigue countermeasures (drugs, nap, etc.) towards the goal of an early return of an individual to an optimal mental condition.

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The AsMA Science and Technology Committee provides the Watch as a forum to introduce and discuss a variety of topics involving all aspects of civil and military aerospace medicine. Please send your submissions and comments via email to: barry.shender@navy.mil. Watch columns are available at www.asma.org in the AsMA News link under Publications.

Aviation Medical Activities in Romania

by Dr. Silvio Finkelstein



Finkelstein



Macri

At the invitation of Dr. Marian Macri, President of the Romanian AVMED Society (one of our most recent AsMA Affiliated Organizations) and Director of the National Institute of Aerospace Medicine, I had the opportunity to visit Romania, become familiar with their level of expertise and activities in our field, and lecture at a special session of the Society and the AVMED Institute.

Colonel Associate Professor Dr. Marian Macri is an enthusiastic practitioner of our specialty; he has been recently elected to the International Academy of Aviation and Space Medicine and is assessing the possibility of offering Romania as a venue for a future ICASM Congress. His managerial abilities have been widely recognized and, as proof of that, the Institute under his direction has been awarded the Juran Excellence Award for Management.

The AVMED Institute has a staff of over 170 professionals who perform not only assessments for aviation duties, both civilian and military, but also serves as a polyclinic where medical attention and treatment are being provided. It is an autonomous institution, subor-



ROMANIAN AVMED INSTITUTE--Colonel Macri and Senior Staff at the Institute's entrance.



Left to Right: Dr. Macri, Dr. Finkelstein, Mr. Bogdan Donciu, Director General of Civil Aviation, Major General Mihail Orseata, Deputy Chief of Air Force Staff, General Constantin Gheorghe, Minister for Homeland Security, H.E. Argentine Ambassador Adrian Guillermo Mirson, Mr. Dan Dumitru, Secretary of State, Office of the Prime Minister, and General Iosef Rus, Minister's Counselor, Ministry of National Defence.

inated directly to the Ministry of Defense. Dr. Macri arranged for me to visit many high level government officers, including the Ministry of Defense, the Air Force Staff, the Civil Aviation Authorities of the Ministry of Transportation, and the Secretary General of the Ministry of Defense.

The Romanian Society of Aerospace Medicine meets in plenary session several times a year where clinical and research communications are presented not only by Staff members of the Institute but also from other academic units as well. It publishes a Journal of Aviation Medicine and Psychology.

In connection with my invitation to visit Romania, I was asked to give a presentation drawing on my own 50+ years of exposure to Aviation Medicine. The presentation, which was well attended by Representatives of several Ministries, the Argentine Ambassador to Romania, and colleagues from the AVMED Society and the AVMED Institute, was entitled: "The evolution of Aviation Medicine in the context of Operational Safety." Right after my presentation, a ceremony was held in which I was granted "Honorary" Membership in the Romanian Society of Aerospace Medicine.

It was highly significant that my presentation was scheduled for the year 2006, since there were many activities in Romania and other countries to celebrate the 100th anniversary of Traian Vuia's flight in Montesson, France, on 18 March 1906. As part of my audiovisual presentation I showed a picture of a replica of Traian Vuia's aircraft which was donated by the Government of Romania and is on display at ICAO Headquarters.

All of the academic and protocol activities took place in Bucharest, a very elegant city with impressive parks, boulevards, museums, an Arch de Triumph, and a Palace of Parliament.

At the completion of the activities in Bucharest, we were invited to a weekend trip to Transylvania, to the Prahova Valley. This was unforgettable!! The beautiful forests, the alpine resorts of Brasov, Sinaia, Azuga, Predeal, and the famous castles nestled in the Carpathian mountains were magnificent and worthy of longer visits. We were treated to inside tours of the Bran Castle (the one that inspired Bram Stoker to write his Dracula legend) and the jewel-like Peles Castle.

I was very impressed by the level of motivation, dedication, and support from the High Level Government Authorities to the specialty of Aviation Medicine and to Dr. Macri's programs. I am delighted that the Romanian Society became an AsMA affiliate and about their future plans to eventually host an international congress.



PELES CASTLE--The group in front of the fairy-tale Peles Castle.

Journal CME/MOC Reminder

AsMA has been running a feature that accredits certain articles published in *Aviation, Space, and Environmental Medicine* for Continuing Medical Education (CME) and Maintenance of Certification (MOC). Three articles are selected every issue for which there are questions. Physicians desiring CME/MOC must answer the questions on a form and submit it with payment to the Home Office. The Home Office will grade the questions and archive CME/MOC credit. This means a physician can accumulate a maximum of 33 hours of CME/MOC each year. (Because the March issue contains only abstracts of the Annual Scientific Meeting, only 11 issues will have questions.) Specific instructions will accompany each accredited article.

Russell B. Rayman, M.D.
Executive Director

AME Seminar Schedule for 2006-2007

Feb. 2-4, 2007	San Diego, CA	N/NP/P (2)
Mar. 5-9, 2007	Oklahoma City, OK	Basic (1)
Mar. 16-18, 2007	Bellevue, WA	Cardio (2)
May 14-17, 2007	New Orleans, LA	AP/HF (3)
June 11-15, 2007	Oklahoma City, OK	Basic (1)
July 13-15, 2007	Oklahoma City, OK	N/NP/P (2)
Aug. 17-19, 2007	Washington, D.C.	OOE (2)
Sept. 14-16, 2007	Savannah, GA	Cardio (2)

(1) A 4½ day basic AME seminar focused on preparing physicians to be designated as Aviation Medical Examiners. **Call your Regional Flight Surgeon.**

(2) A 2½ day Theme AME seminar consisting of approximately 12 hours of AME specific subjects plus 8 hours of subjects related to a designated theme. **Registration must be made through the Oklahoma City AME Programs Branch.** Call Lea Olsen (405) 954-4258.

(3) A 3½ day Theme AME seminar held in conjunction with the Aerospace Medical Association (AsMA). **Registration must be made through AsMA (703) 739-2240.**

N/NP/P	Neurology/Neuro-Psychology/ Psychiatry Theme
Cardio	Cardiology Theme
AP/HF	Aviation Physiology/Human Factors Theme
OOE	Ophthalmology, Otolaryngology, Endocrinology Theme

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AEROSPACE NURSING SOCIETY NEWS

President's Message

February is the month historically known for Valentine's Day. The emblem designed to be the symbol has been the shape of a heart. The color used has been red. This month is very important for men and women's health (Go Red Month) related to education about cardiac risk factors and disease prevention. Recommended changes are an increase in physical activity in the form of exercise, a heart-healthy diet, and smoking cessation.

The American Heart Association suggests that to understand your risks of heart disease, learn some simple steps you can take to strengthen your heart and tap into some terrific heart-healthy programs. For more detailed information the website is <http://www.americanheart.org>. Another good resource that is no charge is the HeartCenterOnline Newsletter. The e-mail address is: HeartCenterOnline@heartcenteronline-mail.com

Have a "Heart Healthy Month" and a very "Happy Valentine's Day" on February 14th!



Take the time to remember and acknowledge those loved ones at home and those who are deployed.

I also wanted to provide the Brig. Gen. Claire Garrecht Award criteria for your review. Please consider candidates who qualify for this honor.

Garrecht Award Information

The Brig. Gen. Claire Garrecht Award honors an ANS member for the best scientific paper presented during the Annual Scientific Meeting of the Aerospace Medical Association. This award, sponsored by Educational Enterprises Inc., consists of a plaque and honorarium.

Criteria: Membership in the AsMA and ANS. Abstract must be submitted and accepted for presentation.

Procedure: A copy of the paper following the prescribed format (contact the committee chair for format) must be submitted to:

Awards Committee Chair/ANS
Charles R. Tupper, Lt Col, USAFR, NC, CFN
791st Expeditionary Aeromedical Evacuation Squadron/AE, OT
Ramstein AB, Germany
DSN: 479-4470
E-mail: charles.tupper@ramstein.af.mil

Janet L. Sanner, RN, MSN, COHN-S, CCM
President, Aerospace Nursing Society

Angina pectoris is treated with drugs that affect the blood supply to the heart muscle, the heart's demand for oxygen, or a combination of both types. Drugs that affect the blood supply are coronary vasodilators; they cause blood vessels to relax. When this happens, the opening inside the vessels (the lumen) gets bigger. Then blood flow improves, letting more oxygen and nutrients reach the heart muscle. The heart's demand for oxygen can be assisted with drugs that reduce blood pressure, which reduces the workload on the coronary system (and the heart) and reduces the need for oxygen. Drugs that affect the heart rate have a similar effect, the most common being beta-blockers and calcium antagonists.

Since there are several types of oral medications we will take a quick look at each type of oral medication.

Aspirin: Aspirin is an antiplatelet agent which prevents platelet aggregation by irreversible cyclo-oxygenase inhibition with subsequent suppression of thromboxane A2. The antiplatelet effect can last as long as 7 d.

Nitroglycerine: Nitroglycerine relaxes the veins and the coronary arteries. By relaxing the veins, it reduces the amount of blood that returns to the heart and eases the heart's workload. By relaxing the coronary arteries, it increases the heart's blood supply.

Beta blockers: These decrease the heart rate, reduce myocardial oxygen demand, and decrease myocardial contractility.

Calcium antagonists: These cause smooth muscle relaxation, resulting in peripheral arterial dilation and afterload reduction.

Angina pectoris, if severe enough, may need a medical procedure to correct the problem. Since there are several types of procedures we will take a quick look at each of the procedures.

Percutaneous transluminal coronary angioplasty: PCTA, angioplasty, balloon dilation, or balloon angioplasty. A catheter (a thin plastic tube) with a balloon at the end is inserted into an artery and moved to where the blockage is located. The balloon is then inflated and the resultant pressure opens the fatty plaque deposit. The catheter is then withdrawn, and if necessary a stent is placed at the site of the blockage to keep the artery open.

Laser angioplasty: A catheter with a laser on the end is used to open the blockage, and if necessary a stent is placed at the site of the blockage to keep the artery open.

Atherectomy: A catheter with a rotating blade on the end is used to cut away the blockage, and if necessary a stent is placed at the site of the blockage to keep the artery open.

Coronary artery bypass graft surgery: A blood vessel is grafted and used to route blood around the blocked part of the artery allowing the blood to travel around or bypass the blockage.

Before performing any of these procedures, the location(s) of any blockage(s) must be found. This requires coronary arteriography, during which a doctor guides a catheter

See *ANGINA*, p. 163

Angina Pectoris: Can I Control It and Continue Flying?

by Dave Smith

This is the second in a series of articles describing in greater detail the 15 medical conditions that are automatically disqualifying according to the FAA.

Angina pectoris is chest pain or discomfort that is the result of myocardial ischemia, which is caused by an imbalance between myocardial (heart muscle) blood supply and oxygen demand. Angina is a common presenting symptom (typically, chest pain) among patients with coronary artery disease. There are several causes for this, however, the most common is that one or more of the heart's arteries has either narrowed or is blocked. The resulting insufficient blood supply is referred to as ischemia.

Typically angina is an uncomfortable pressure, squeezing, fullness, or even pain in the middle of the chest area. However, the discomfort may be felt in the shoulder, back, arm, and even the neck and jaw area. The discomfort that results from angina pectoris can be quite debilitating. There are many types of chest pain that can be totally unrelated to angina such as heartburn and severe lung inflammation.

Angina most often occurs when the heart needs more blood than is being supplied. People with stable angina have episodes of discomfort or pain that are generally predictable. Running between flights may possibly trigger an attack while simply walking might not. Angina can happen during physical exercise, severe temperature fluctuations, and while enduring a period of extreme emo-

tions.

People with unstable angina have unexpected episodes of discomfort or pain that most commonly occurs when they are at rest. The resulting discomfort or pain can possibly be more severe or prolonged than typical angina, particularly if it is a first-time experience. As stated earlier the most common cause is reduced blood flow to the heart muscles due to atherosclerosis (narrowing of the coronary arteries). An artery may be narrowed or partially obstructed by a blood clot or plaque buildup. However, occasionally inflammation or infection can also cause angina.

Unstable angina is an acute coronary syndrome and should be treated as an emergency.

People with new, worsening, or persistent chest discomfort should be evaluated in a hospital emergency department or "chest pain unit" and monitored carefully. They're at increased risk for:

- Acute myocardial infarction (heart attack).
- Severe cardiac arrhythmias. These may include ventricular tachycardia and fibrillation.
- Cardiac arrest leading to sudden death.
- Variant angina pectoris, also called Prinzmetal's angina. It generally occurs spontaneously, and nearly always occurs when a person is at rest. It usually doesn't follow physical exertion or emotional stress, either.

Attacks can be very painful and usually occur between midnight and 8 a.m.

Variant angina is due to transient coronary artery spasm. About two-thirds of people with it have severe coronary atherosclerosis in at least one major vessel. The spasm usually occurs very close to the blockage.

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AEROSPACE PHYSIOLOGY REPORT

Aerospace Physiology Award Nominations

by *David A. Welge, Maj, USAF, BSC, CAsP, Awards Committee Chair*

The Aerospace Physiology Society (AsPS) presents three major achievement awards to recognize individuals who perform extraordinary work within the Aerospace Physiology Community. Awards will be presented at the Aerospace Medicine Association's 78th Annual Scientific Meeting, held in New Orleans, LA, 13-17 May 2007. Society Awards will be presented at the annual luncheon, Wednesday, 16 May 2007.

The AsPS presents **three** awards. These awards are presented for outstanding achievement in all areas of aerospace physiology: operational support, training, research, and leadership. The descriptions of each award are:

The **Paul Bert Award** recognizes outstanding research contributions in aerospace physiology. This award was established in 1969 and was originally given for achievement in operational physiology. It is named in honor of the famous French physiologist, Paul Bert, the "Father of Pressure Physiology." Nominees will be considered for research covering the previous 5-year period. Limit the nomination to 2 or 3 major research contributions. The Award committee considers unrecognized nominations from the past 3 years, though it is strongly recommended that those nominations be updated annually in writing. Research areas may range from basic science to research in highly applied areas of aerospace physiology. The Society currently sponsors the Paul Bert Award. The 2006 winner was Dr. Brian Self, Ph.D.

The **Fred A. Hitchcock Award** recognizes career contributions of senior aerospace physiologists for excellence in either operational aerospace physiology or aerospace physiology research. The award was established in 1972, and is named in honor of Fred A. Hitchcock, Ph.D., co-translator of Paul Bert's classic work, "Barometric Pressure." International ATMO of San Antonio, TX, sponsors the Fred A. Hitchcock Award with an honorarium, a plaque, and an edition of Paul Bert's classic work, "Barometric Pressure." The Award committee considers unrecognized nominations from the past 3 years, though it is strongly recommended that nominations be updated annually in writing. Nominees for the Fred A. Hitchcock Award must be members of AsPS. The 2006 winner was Mr. Tom Bowen.

The **Wiley Post Award** recognizes outstanding contributions in direct operational physiology and aeromedical training and education. In 1972, the Wiley Post Award replaced the Paul Bert Award for Operational Physiology. It is named in honor of the aviation pioneer Wiley Post. The Wiley Post Award is presented for exceptional service

and achievement in operational physiology, including education and physiological support of Dept. of Defense, FAA, NASA, or civilian aircrew. The Gentex Corp. of Carbondale, PA sponsors the Wiley Post Award with an honorarium and a plaque. Nominees will be considered for the previous 12-month body of work in operational physiology. Unrecognized nominations from past years will not be considered. The 2006 winner was Sean McCarthy, LT MSC USN.

Award Submission Criteria

DEADLINE: 07 April 2007

The standard Aerospace Medical Association Awards form shall be the format. The nomination should include:

- 1) A citation of 80 words or less,
- 2) a bulletized list of significant accomplishments of less than 300 words,
- 3) a one page professional biography of the nominee, and
- 4) a portrait photograph of the nominee.

Standard award forms may be downloaded from the AsMA website, or contact the Award Chair by email. Digital email submission of the award package is preferred. MS-Word for documents and GIF or JPEG files for graphics are the preferred file formats. Hard copy nominations will be accepted by mail. Awards not submitted on the AsMA form will not be accepted. Nominations should specify the time interval over which the nominee's contributions were made.

Society and Association members are strongly encouraged to nominate and recognize outstanding contributions by professionals within the aviation scientific community. Nominations may be submitted by anyone, regardless of AsMA or AsPS membership. Chain of command endorsements are not required for military nominations, but may be considered by the committee.

Award nominations are due no later than 07 April 2007. Late nominations will not be considered or carried over to the next year. Send nominations to the Award Chairman at:

49 ADOS/SGGT
Attn: Maj David Welge
280 First Street
Holloman AFB, NM 88330-2873
E-mail: david.welge@holloman.af.mil

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Board Certification Announcement 2007

By *Thomas J. Wheaton, CDR, MSC, USN*

The Executive Council of the AsMA, acting upon recommendations of the Aerospace Physiology Certification Board, grants certification in aerospace physiology. Board certification in aerospace physiology was established by the Aerospace Medical Association (AsMA) to encourage the study, improve the practice, and elevate the standards of excellence in aerospace physiology. Formal Board Certification provides an avenue for professional and peer recognition in aerospace medicine, and is a worthy goal for members to attain.

This year's certification examination will be offered at the 78th Annual Scientific Meeting of the Aerospace Medical Association on Sunday, 13 May 2007 in New Orleans, LA.

Board certification is for professionals with an abiding interest and demonstrated productivity in the field of aerospace physiology. Applicants must possess, as a minimum, a baccalaureate degree either in physiology or a closely related science. A history of significant contributions to aerospace physiology is also required. Applicants should have 5 years of active professional experience in an aeromedical field.

The 5-hour exam contains questions covering various areas relevant to aerospace physiology including, but not limited to, general human physiology, acceleration physiology, decompression physiology, impact, hypoxia, vibration and noise, operational aspects, space physiology, and spatial orientation.

Applications and letters of reference are due to the Admissions Committee no later than the close of business, **Friday, 02 March 2007**. Applicants should contact the Admissions Chair for an application form (available in English only). Applicants should also submit a suitable portrait photograph, a short professional biography of less than 300 words, two professional letters of recommendation submitted directly to the Board, and a one-time, non-refundable Application Fee of \$25 (U.S). A non-refundable \$75 Examination Fee is due prior to the exam. Make checks payable to the Aerospace Physiology Certification Board. Applicants are encouraged to submit documents to the Admissions Chair in a digital format; MS-Word compatible for text documents, and high-resolution JPEG for graphics/photos.

Applications for Aerospace Physiology Board Certification are available from the Admissions Committee Chairman: CDR Thomas J. Wheaton, MSC, USN, MS, CaSP
13529 Osprey Lane, P.O. Box 202
Dowell, MD 20629
Email: thomas.wheaton@navy.mil (professional), or tjwheaton@comcast.net (personal)
Deadline for Application: 02 March 2007.

Send information for publication on this page to: **Dale Orford**
15516 E Acacia Way,
Fountain Hills, AZ 85268
480-837-7919; dorf@cox.net

WING NEWS & NOTES

Message from Our President

By Conolly Barker

Aloha One and All!

February is regarded as the month of love - mostly because of Valentine's Day celebrated in the U.S. and elsewhere. Here in Hawaii, love is celebrated all year around with residents urged to live the aloha (loving) spirit, drive in an aloha manner, and welcome all with aloha! What a wonderful way to approach life. In many ways, I think that the Wing practices aloha as well. This is one of the most welcoming groups I belong to. We welcome familiar friends and newcomers alike with love and enthusiasm. We welcome new experiences as we visit different cities and cultures every year. This year, the Wing hopes to have an information table in the AsMA Registration hall to welcome visiting spouses who do not yet know about the Wing. Perhaps you know someone who might otherwise stay home during the AsMA meeting because they do not know anyone or are timid to explore a strange city on their own. Show some aloha and tell them about the Wing! Share the welcome and the fun that we have. And above all, come to New Orleans and experience the special flavor of aloha in that wonderful city.

I hope to see you there! As they say in the South, "Y'all come!"

Wing Members Attend International Meeting

By Louise Grenier Thibeault

The 54th International Congress of Aviation and Space Medicine Bangalore, India, Sept. 10 -14, 2006

Travelling to India from North America is by no means simple. From Montreal, Canada, we flew to Chicago, IL (USA), to Frankfurt, Germany, to Mumbai, India, and finally, 32 hours later, we reached Bangalore at 04:30 Saturday morning. This itinerary was chosen over other possibilities because of less down time waiting in airports between flights.

Despite this early hour, our friendly hosts were waiting for us at the airport and drove us to our hotel, the Grand Ashok. The hotel was very comfortable, air conditioned, with clean rooms, a large pool, and a well equipped gym and spa. The employees were very pleasant, polite and always willing to help. Other hotels in the same area, the Sheraton, the Meridien, and the Leela Palace were sumptuous and very exotic.

Bangalore, located at 1000 meters above sea level, enjoys very moderate and pleasant weather. During our séjour, the weather was most enjoyable and even coolish during the evening. Bangalore, the 7th largest city in India, the gateway to many major cities, is home to over 4.5 million people. Bangalore is known under several nicknames: The Garden City because of its many green areas, lush foliage along with several types of blooming trees; The Stone City thanks to its rich deposits

of granite; India's Silicon Valley because of the high concentration of multinational computer and high tech industries; The Fashion Capital for the beautiful silk, the Pub City, the Neon City, the Floriculture Capital, etc.

Bangalore with its pollution, rich and poor people, handsome school children all in uniforms, crazy noisy traffic, yellow autorickshaws (tuk-tuk), and cows roaming the streets, provides a change of scenery and is well worth visiting.

The spouses program took us around the city to first the ISKCON Temple dedicated to Krishna. After removing our shoes and leaving our cameras behind, we climbed several steps chanting a prayer and then reached the main room where some prayers were taking place. A lunch was offered to us before leaving the area. The following day we went to the Cottage Industry Exposition where we could buy gorgeous Pashmina shawls, knitted vests or pullovers, handicrafts and carpets. After lunch at Pizza Hut, we went to the HAL museum. This museum houses a collection of aircraft and several galleries of key political as well as important visitors' photographs that chronicle the history of aircraft manufacturing and aviation industry in India. It was quite interesting. We also visited some shopping areas and the botanical garden.

The Academy dinner took place at the Cottage Industry Exposition where we first had a showing of beautiful carpets made of wool or/and silk, then attended an exquisite dance show, followed by a very lovely buffet served outside in the garden. Indian food was spicy but still most enjoyable accompanied with a cool Kingfisher beer.

On Wednesday, all the participants and accompanying persons were invited to an air show at the Air Force Station Yelahenka. After tea and hors d'oeuvre, we sat on the tarmac and watched the Indian Air Force Sarang Helicopter display team put on a fantastic show using three helicopters in formation. We also had the privilege of watching one of the three world-renowned aerobatic teams, the Indian Suryakiran (Rays of the Sun) flying in formation, carrying out a variety of maneuvers, loops and rolls with chilling precision, and colorful smoke streams.

To close this wonderful event, the ICASM dinner took place at the Windsor Sheraton. Everyone was very chic, especially the Indian



ICASM IN INDIA--Helen Lestage, Judith Donaldson, Louise Grenier Thibeault, and Jan Perry.

women in their beautiful saris. The evening was very relaxed and all were a bit sad to say goodbye, one more time, to old and new friends.

I take this opportunity to thank the organizers, our very gracious hosts from the Indian Society of Aerospace and their wives who were very kind and available to guide us during the social program.

Hope to see you all in Vienna in 2007.

Members News

John and Harriet Hodgson recently celebrated their 40th wedding anniversary with a cruise aboard The Rotterdam, a Holland America ship. Says Harriet, "We went to places I never dreamed I would visit such as Istanbul and Odessa. The photo of us wearing the hats was taken on Holland night and the menu included foods from The Netherlands such as Hodgepodge, a mixture of mashed potatoes, carrots, and rutabaga. We had a wonderful time, but needless to say, we didn't bring home the hats!"



CELEBRATING 40 YEARS--Harriet and John Hodgson at Holland Night.

Habitat for Humanity Project

The Aerospace Medical Association is partnering with the New Orleans Area Habitat for Humanity during the 2007 annual meeting. Conference attendees and AsMA members interested in contributing back to our host community are invited to volunteer with Habitat for Humanity on Saturday, May 12, from 7:15 am to 2:30 pm.

Conference attendees, spouses, family, and friends are all invited, but must be 16 years of age to participate. We will be assisting in the construction of new houses, so volunteers can expect to engage in light manual labor. All equipment and training will be provided, but volunteers should bring necessary personal items, such as light work clothes (long sleeves and pants), eye protection, work shoes/boots, and work gloves.

We are currently planning to meet in the lobby of the Sheraton at 6:00 am on Saturday, May 12th, for a group departure to the work site.

If you are interested in participating, please contact the service project coordinator, Dr. Kjell Lindgren at kjell.lindgren@gmail.com

Send information for publication on this page to: **Corporate News**
Aerospace Medical Association
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NEWS OF CORPORATE MEMBERS

Wyle Receives Prestigious Cogswell Security Achievement Award

Wyle Laboratories Inc.'s largest company-run facility has been awarded the U.S. Defense Security Service's 2006 James S. Cogswell Outstanding Industrial Security Achievement Award. Wyle's facility in Lexington Park, MD, was one of just 29 selected out of 12,000 cleared defense contracting firms nationwide to receive the service's prestigious award this year. It is given annually for extraordinary excellence in an overall industry security program.

The award was made recently at the annual seminar of the American Society of Industrial Security in San Diego, CA. It was accepted by Brent Bennitt, Wyle executive vice president and general manager of the company's Aerospace Group, which is headquartered in Lexington Park, and by Sean Coogan, Wyle director of corporate security.

The selection process for the Cogswell Award is rigorous, with nomination made exclusively by Defense Security Service industrial security representatives. Only facilities that have at a minimum two consecutive superior industrial security review ratings and show a sustained degree of excellence and innovation in their overall security program management, implementation, and oversight may be nominated. Final selections for the award are made by the service.

Established in 1966, the award is named in honor of the late Air Force Col. James S. Cogswell, the first chief of the unified office of Industrial Security. He was responsible for developing the basic principles of the industrial security program, which include an emphasis on the partnership between industry and government to protect classified information, which ultimately helps to ensure the protection of the U.S. war fighter.

About Wyle Laboratories, Inc.

Wyle Laboratories, Inc., a privately held company, is a leader in providing high tech engineering services, testing and research to commercial, industrial and government customers. The company also provides support services, life sciences, special test systems and other services to the aerospace, defense, nuclear power, communications and transportation industries.

Gentex Awarded Contract by USAF for QDM System

Gentex Respiratory Products has been awarded a \$1.5M contract by the U.S. Air Force (USAF) for the Aircrew Quick Don Mask (QDM) Protective Breathing Equipment. This is slated to be a 14-month program, which will culminate in the delivery, support, and testing of Operational User Evaluation (OUE) Units. This is the first contract award by the Department of Defense (DoD) for Gentex's newly introduced QDM system. The new QDM system will be a sustainable, emergency, single-handed operational, full-faced oxygen mask.

The mask leverages many proven competencies from all Gentex Business Groups, providing integrated respiratory, optical, and communication devices in an emergency full-face mask, as well as including new and innovative features to match 21st century missions and crew stations. The system will be used to administer oxygen directly to aircrew to prevent loss of consciousness in the event of sudden loss of cabin pressure, and protect against the adverse affects of toxic and irritating fumes in the event of an aircraft fire.

The U.S. Air Force requires such equipment to protect aircrew members from the physiological effects of reduced barometric pressure when cabin altitude exceeds 10,000 feet. If rapid decompression occurs at higher flight levels, aircrew members have only seconds to act in order to maintain useful consciousness. Additionally, aircrew members must be protected from the adverse affects of toxic and irritating fumes in the cockpit during an emergency. Current Air Mobility Command (AMC) procedures for smoke in the cockpit and cabin require pilots and crew to don both an oxygen mask and a separate anti-smoke goggle to provide respiratory and ocular protection. However, the existing anti-smoke mask and goggle were not originally designed to integrate together and be donned as a single unit. In an emergency, the anti-smoke goggles would be donned after donning the oxygen mask resulting in a situation where the pilot would not have ocular protection until the separate anti-smoke goggles were in place. This system will be deployed on the following aircraft without aircraft modifications: C-5, C-9, C-17, C-130 series, C-135 series, E-3, E-8, and KC-10.

About Gentex

Gentex is a world leader in the development, fabrication and service of integrated life safety products, materials and technologies that enhance user performance and save lives. They remain committed to innovation, superior quality, and engineering. Highly diverse and wholly focused on the safety and preservation of life, Gentex Corporation offers a wide range of leading products, materials, and technologies. After more than a century of operations, Gentex continues to be a modern and dynamic corporation with an ongoing commitment to innovation, responsiveness, high quality, and superior performance.

Lockheed Martin's F-35 Finishes All Taxi Testing

The first Lockheed Martin F-35 Lightning II has successfully completed all ground taxi tests, among some of the last activities clearing the way for its inaugural flight. In a series of tests that began on Dec. 7, F-35 the pilot guided the fighter along the runway at increasing speeds to evaluate the aircraft's ground handling and systems. On Dec. 12, two final taxi runs were executed, the first at 80 knots (~ 92 mph) and the last at 110 knots (~ 127 mph). Pushed along by the Pratt & Whitney F135 turbofan—the most powerful

fighter engine in history—the Lightning II performed its final taxi runs successfully and as predicted.

Over the next 24 hours the flight test team reviewed all taxi-test data, and although the date for first flight was not definite, the flight window was planned for when all conditions—weather, etc.—were "go." Flight photos will be available after the flight on site and online at the press release section of Lockheed Martin's website (www.lockheedmartin.com/) and at www.teamjsf.com.

The stealthy F-35 is a supersonic, multi-role, 5TH Generation fighter designed to replace a wide range of existing aircraft, including AV-8B Harriers, A-10s, F-16s, F/A-18 Hornets and United Kingdom Harrier GR.7s and Sea Harriers.

About Lockheed Martin

Headquartered in Bethesda, Md., Lockheed Martin employs about 140,000 people worldwide and is principally engaged in the research, design, development, manufacture, integration, and sustainment of advanced technology systems, products, and services. The corporation reported 2005 sales of \$37.2 billion.

AOPA Fights to Protect Airports from Incompatible Land Use

One of the Aircraft Owners and Pilots Association's (AOPA's) goals is to have state and local governments enact compatible land-use requirements that will protect general aviation airports from encroachment—one of the top threats to airports nationwide. The city of Shelton, WA, is taking its lead from the state legislature to create an overlay zone for Sanderson Field that will protect it from incompatible land use. Local pilots and Airport Support Network volunteer Jack Krause were instrumental in influencing the city to develop the plan. Those who are concerned with protecting their airports from encroachment can also help by checking with local elected officials to see if a compatible land-use plan exists—and is being enforced—for their airports.

About AOPA

With a membership base of more than 409,000, or two-thirds of all pilots in the United States, AOPA is the largest, most influential aviation association in the world. AOPA has achieved its prominent position through effective advocacy, enlightened leadership, technical competence, and hard work. Providing member services that range from representation at the federal, state, and local levels to legal services, advice, and other assistance, AOPA has built a service organization that far exceeds any other in the aviation community.

ALPA Joins D.C. Rally to Restore Pilot's Rights

Airline Pilots Association, Int'l. (ALPA) pilots and staff joined scores of other unions in a rally recently in the shadow of the U.S. Capitol to demand that the next Congress restore and

honor the rights of airline pilots and other working Americans. Despite near-freezing temperatures and a wind chill in the high teens, nearly 100 ALPA pilots and staff stood their ground, demanding that the new Congress pass pro-worker legislation, including the Employee Free Choice Act. This Act would enable employees to choose freely whether they can join a union, without the threat of intimidation. The ALPA contingent stood in the heart of the union ranks, flanked by steelworkers, teachers, firefighters, and more. Numerous speakers headlined the rally including local and national union leaders.

About ALPA

ALPA is the largest airline pilot union in the world and represents 60,000 pilots who fly for 39 U.S. and Canadian airlines. Founded in 1931, the Association is chartered by the AFL-CIO and the Canadian Labour Congress. Known internationally as US-ALPA, it is a member of the International Federation of Air Line Pilot Associations. ALPA is committed to airline safety and security, pilot representation, and pilot advocacy.

CHS Launches New HybridHealthsm Service Line

Comprehensive Health Services (CHS) has launched HybridHealthsm, an extension of its onsite health care programs that includes expanded physician services for client employees, retirees, and their dependents. These expanded health care services will include the provision of a broader range of treatment and prevention programs focused on acute and chronic health conditions. With the formal launch of this new service line, CHS delivers Fortune 1000 commercial and government customers expanded onsite health care services that extend well beyond traditional occupational health and wellness services and take a comprehensive approach to employee, retiree, and dependent health care when requested by the client.

The HybridHealth initiative will become one of the customized services that CHS employs when designing and managing nationwide workforce health programs. Designed to build healthier, more stable and productive workforces, and to reduce and control rising health care costs, CHS services include onsite health centers, nationwide medical exams, and screening programs delivered through 12,000 physicians in 10,000 clinics in 50 states, wellness and health promotion programs, absence management, and environmental health and safety. Each is available individually, in clusters, or as an integrated health program.

About CHS

Founded in 1975, CHS is a nationwide leader in the design, implementation, and management of outsourced occupational health and wellness programs. Serving Fortune 1000 corporations and the largest federal agencies, CHS delivers customized solutions for maintaining a healthier, more stable and productive workforce. With in-house medical professionals, a national network of CHS-certified physicians and health care providers, and a proactive approach fortified by a time-tempered foundation of best practices, CHS partners with its customers to provide flexible, performance-based workforce wellness and health programs that result in bottom line benefits across the organization.

Mayo Clinic Study Finds Worsening of Osteoarthritis in Smokers

New findings from a study led by a Mayo Clinic rheumatologist indicate that men with knee osteoarthritis who smoke experience greater cartilage loss and more severe pain than men who do not smoke. Results have been published online in the *Annals of the Rheumatic Diseases*. To conduct this study, the researchers examined 159 men with symptomatic knee osteoarthritis who participated in a prospective study on the natural history of the condition, the Boston Osteoarthritis of the Knee Study. The current study focused on men, as there were too few women in the original group studied who smoked (4%).

The researchers took MRIs (magnetic resonance images) of the more symptomatic knee of each patient at the study beginning, and also 15 and 30 months later. Cartilage loss over follow-up, based on knee MRIs, was determined at the tibiofemoral joint (the connection between the thighbone and shinbone) and the patellofemoral joint (the junction of the kneecap and the thigh bone) in the knees, and a scoring tool was used to assess knee pain severity. Of the men, 19 (or 12%) were current smokers at the study's start. These men also were leaner and younger than other study participants, so the researchers adjusted for these factors. The investigators found current smokers had a 2.3 fold increased risk of cartilage loss at the medial tibiofemoral joint and a 2.5 fold increased risk of cartilage loss at the patellofemoral joint compared to the men who had quit smoking or never smoked. Current smokers also had higher pain scores than men who were not current smokers, at the beginning of the study (60.5 vs. 45.0, with 100 as the highest possible pain score) and at follow up (59.4 vs. 44.3).

The association between smoking and cartilage loss in knee osteoarthritis could be explained by one or more of the following theories, according to the researchers:

- Smoking may disorder the cells and inhibit cell proliferation in the knee cartilage
- Smoking may increase oxidant stress, which contributes to cartilage loss
- Smoking may raise carbon monoxide levels in arterial blood, contributing to tissue hypoxia (insufficient blood oxygenation), which could impair cartilage repair

The researchers believe that the increased pain experienced by smokers with knee osteoarthritis may not be due to the effect of smoking on cartilage loss, as cartilage does not have pain fibers. They have several theories for the link:

- Smoking may affect other knee joint structures mediating knee pain
- Smoking may affect one's pain threshold for knee or other musculoskeletal pain

The researchers say these findings are provocative and deserve further study, especially given the number of potential ways in which cigarette smoking could have a negative effect on knee joint cartilage.

About the Mayo Clinic

Mayo Clinic is a not-for-profit medical practice dedicated to the diagnosis and treatment of virtually every type of complex illness. It is the first and largest integrated, not-for-profit group practice in the world. Doctors from every medical specialty work together to care for patients, joined by common systems and a

philosophy of "the needs of the patient come first." More than 2,500 physicians and scientists and 42,000 allied health staff work at Mayo Clinic, which has sites in Rochester, Minn., Jacksonville, Fla., and Scottsdale/Phoenix, Ariz. Collectively, the three locations treat more than half a million people each year.

Sanofi-Aventis Announces Results of PREVAIL Study

Sanofi-Aventis recently announced that the results of the PREVAIL (Prevention of VTE after Acute Ischemic Stroke with LMWH Enoxaparin) study demonstrated a significant 43% reduction in venous thromboembolism (VTE) events with enoxaparin vs. unfractionated heparin (UFH) in medically-ill patients who suffered an acute ischemic stroke. Enoxaparin is an anticoagulant of the low molecular weight heparin (LMWH) class. Its clinical applications are linked to its antithrombotic properties. It is used to inhibit clot formation in venous or arterial vessels to avoid potential acute or chronic complications of venous or arterial thrombosis such as pulmonary embolism, myocardial infarction, or death of cardiovascular origin.

The primary efficacy endpoint of the study was the composite of symptomatic or asymptomatic deep-vein thrombosis (DVT), and/or symptomatic or fatal pulmonary embolism (PE) during the treatment period. The significant 43% relative risk reduction in VTE events observed with enoxaparin vs. UFH for the primary efficacy endpoint (10.2% vs. 18.1%; $p = 0.0001$) was associated with a consistent reduction in proximal DVT by 53% (4.5% vs. 9.6%; $p = 0.0003$). There was no significant difference in clinically important bleedings (1.3% vs. 0.7%, $p = 0.20$), corresponding to the combination of both symptomatic intracranial bleeding, the most serious complication, and major extracranial bleeding. The reduction in VTE risk was also observed in patients presenting with different levels of stroke severity, with no significant difference in clinically important bleedings.

About Sanofi-Aventis

Sanofi-Aventis is the world's third largest pharmaceutical company, ranking number one in Europe. Backed by a world-class R&D organization, Sanofi-Aventis is developing leading positions in seven major therapeutic areas: cardiovascular, thrombosis, oncology, metabolic diseases, central nervous system, internal medicine, and vaccines.

Brown Bag Series Offered

Universities Space Research Association's (USRA) Division of Space Life Sciences (DLS) Brown Bag Series presents "A Seminar in Two Parts:

Part 1: Effects of Adaptive vs. Strategic Learning on Locomotor Generalizability Training

Part 2: Artificial Gravity as a Multi-System Countermeasure to Bed-Rest Deconditioning"

on Thursday, February 15, 2007, Noon to 1:00 p.m. with Lara E. (Liz) Warren, Ph.D., at the USRA Division of Space Life Sciences, Artificial Gravity Project, NASA Johnson Space Center. For info: Call USRA at 281-244-2000 or e-mail info@dsls.usra.edu.

Send information for publication on this page to: **News of Members**
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NEWS OF MEMBERS

Jan D. Galla, M.D., Ph.D., CDR, USNR-MC (ret.), formerly the Assoc. Attending, Cardiothoracic Surgery, The Mt. Sinai Medical Center, New York, NY, has changed his medical specialty and is now serving as Sr. FAA AME and President, Teterboro Aviation Medical Services, LLC, in Teterboro, NJ.

Dr. Makanjuola A. Owolabi, FWACP (Av. Med.), Medical Director & Consultant in Aviation Medicine in Kaduna, Nigeria, has been invested as a Foundation Fellow in Aviation Medicine, Faculty of Internal Medicine, by the West African College of Physicians (WACP), a constituent organization of the West African Postgraduate Medical College. He was awarded the Fellowship in November in Freetown, Sierra Leone.

New Members

Baron, Jaclyn B., B.Sc., Seneca, SC
 Christiansen, Rowena, M.B.A., M.B., B.S., Clifton Hill, Australia
 Connelly, Mark S., B.S., Chapel Hill, NC
 DeKlerk, Pieter S., M.B.Ch.B., FRACGP, Albany, Australia
 Gill, Matthew C., Capt., USAF, MC, FS, Roseville, CA
 Ivkovic, Vladimir, M.Sc., Zagreb, Croatia
 Kapadia, Kishan J., D.O., Piscataway, NJ
 Mims, Brian, TSgt., USAF, APO AE
 Moores, Carol A., LTC, MC, USA, Blythewood, SC
 Sargsyan, Ashot E., M.D., League City, TX
 Smith, John R., M.S., Ed.S., Cedar Key, FL
 Quattrone, Richard D., CDR, MC, USN, Pensacola, FL
 Wuyts, Floris L., Ph.D., Boom, Australia

In Memoriam

Lt. Col. Roger W. Page, Jr., USAF

Lt. Col. Roger W. Page, Jr., USAF, has died. Lt. Col. Page began his career in the USAF in 1967 after earning a Bachelor's degree in Zoology from the University of Texas that same year. He graduated from Undergraduate Pilot Training in 1968 and served in Southeast Asia flying the OV-10A Bronco as a forward air controller. He was then assigned to Air Training Command in Sheppard AFB, TX, as a T-38 instructor pilot in 1970.

He joined the ranks of the Air Force aerospace physiologists in 1973 and was sent to Williams AFB, AZ, as Assistant Chief of Aerospace Physiology. In 1976, he went on to serve as Chief of the Aerospace Physiology Branch under the Commandant of Cadets at the Air Force Academy in Colorado, where he administered the cadet physiological training program. In 1979, Lt. Col. Page was selected to

serve as Assistant Chief of Air Force Aerospace Physiology in the USAF Medical Service Center at Brooks City-Base, TX. He was the first pilot to be board-certified in aerospace physiology.

Lt. Col. Page was a member of the Aerospace Medical Association (AsMA) from 1976 onwards and served AsMA's Aerospace Physiology Society as Membership Chairman and later President. He was awarded the Wiley Post Award in 1984 along with Lt. Col. William J. Cairney for a study conducted on the psycho-physiological, human, environmental, and investigative factors in tactical air operations.

Lt. Col.(Ret.) Robert D. Wendel, M.D.

AsMA has just learned that Lt. Col.(Ret.) Robert D. Wendel, M.D., died in August 2006. Born in Fresno, CA, in 1935, Dr. Wendel graduated from Fresno High School in 1953. He was recruited by IBM prior to finishing his B.A. degree at Fresno State College. He served in IBM's Poughkeepsie, NY, office, where he learned about computer technology. He left IBM several years later to join the Atlas Missile Project in Texas and later returned to California to work as a missile guidance specialist at Vandenberg Air Force Base, where he worked on one of the first operational computer systems.

Dr. Wendel returned to Fresno State College and completed his B.A. degree in 1962. He was then accepted into the University of California College of Physicians and Surgeons, where he earned his M.D., with honors, in 1966. He then completed a 1-year post-graduate internship at Valley Medical Center in Fresno. He served in the Air National Guard as a flight surgeon, where he won numerous medals, and served in the first Gulf war as a medical officer. After he retired from the military, he opened a private practice in Fresno specializing in occupational and rehabilitative medicine.

He was a member of the American Medical Association, the Veterans of Foreign Wars, The American Legion, and the Aerospace Medical Association.

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through an artery into the coronary arteries. Then the doctor injects a liquid dye through the catheter and high-speed X-rays record the course of the dye as it flows through the arteries. The blockage(s) can then be identified by tracing the flow.

These are just examples of different medications and treatments that are used to treat angina pectoris. This is not a complete listing of medications or treatments that are available to use for this condition. You should consult your physician for more detailed information on the treatment of angina pectoris.

Remember, there are some individual medications and certain combinations of medications that the FAA does not permit to be taken while on flight duty.

The FAA does not issue a list of approved medications; therefore, you would need to check with your AME or the NPA AeroMedical Committee representative to see if the medication that your treating physician wants you to use is permitted by the FAA.

AsMA Future Meetings

May 13-17, 2007
 Sheraton and Marriott Hotels
 New Orleans

May 11-15, 2008
 Sheraton and Hilton Hotels
 Boston, MA

May 3-7, 2009
 Westin Bonaventure Hotel
 Los Angeles, CA

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