

Highlights of the AsMA Council Meetings May 13 & 16, 2007, Sheraton Hotel, New Orleans

The following are some of the highlights of the Council meetings. Wherever the information is also part of the Minutes of the Annual Meeting, it is not presented here. Committee and Constituent and Affiliate organization reports (when available) are on file at the Home Office.

Affiliate Applications: The European Society of Aerospace Medicine (ESAM) and The Netherlands Aerospace Medical Association were approved for Affiliate membership.

The Expert Witness Statement was approved by Executive Committee and published in the May Journal.

Bylaws: The Bylaws had been reviewed for 6 of our 13 Constituents. It was noted that a life member of a Constituent must also be a life member of AsMA.

AMA Activities: We expect an AMA membership audit sometime this year. We will have a membership booth at the June AMA House of Delegates meeting.

In spite of the efforts of the AsMA Ad Hoc Committee for the establishment of a central repository for reporting passenger in-flight medical events, there is very little interest in the airlines of the world at this time. This is probably due to budget constraints primarily. It was decided not to pursue this project any further at this time but to reconsider it again in the future.

Executive Committee approved a policy letter in response to an FAA NPRM on Periodicity. It concludes that it is in agreement with extending the interval for medical examinations for under age-40 air transport pilots from 6 months to 12 months and for general aviation pilots under age-40 from 36 months to 60 months. The letter was submitted to the appropriate office at the FAA in early May. It will also be posted on the AsMA website. A more detailed and referenced position paper is also being prepared by the ATM Committee.

Resolutions: A description of the resolution process is to be posted on the website. (It is currently part of the Policy Compendium available for download from the site)

Journal: The Editor, Dr. Nunneley, announced she continues to welcome and encourage the submission of supplements although they are subject to rigorous peer review as are all individual articles. She complimented Sarah Rubio for her outstanding performance as Assistant to the Editor.

The Managing Editor reported that we will be changing printers and there will be some changes in style in the Journal. Two supplements have been published during 2007. For meeting abstract review, we will remain with CSA. The Journal on DVD is now available at this meeting and can be purchased. There was discussion of placing the Newsletter online.

Annual Scientific Program: There were 584 abstracts with a 5% rejection rate.

Scholarships: The Davis Scholarship is awarded to Dr. Kjell Lindgren and the AMSRO Travel Scholarship to Dr. Slava Epelman.

Aerospace Human Factors Committee is working on a policy on fatigue countermeasures.

Aviation Safety Committee continues to

work on a policy paper on optimal cabin pressure. A short version was distributed to Council for review: it states that AsMA, at this point, cannot recommend a lower cabin altitude based solely upon health and cockpit performance considerations.

Education & Training Committee is working on a compendium of aerospace medicine courses. In addition, the Committee will assume responsibility for preparing questions for the Journal MOC feature.

Membership Status/Dues: Membership has leveled off at over 2,900. Efforts will continue to enlist new members particularly among delinquents.

International Activities Committee is working with the Communications Committee to establish a multi-lingual website.

Fellows: Dr. Anderson gave background information explaining the need to change the current Fellows' election process. He briefly reviewed the work of his Ad Hoc Committee including a proposed election process with milestones.

Education and Training: Dr. Stepanek recommends exploring the possibility of recording the Bauer and Armstrong Lectures by CD or DVD and, if successful, to possibly expand this to the rest of the meeting. This would require analysis of cost versus benefits.

Because of problems with incorrect e-mail addresses, it was suggested that AsMA consider a universal address for its members. This could also be used for automatic dues payments and notices. This suggestion was favorably received by Council and referred to the Communications Committee for further exploration.

A brief report was given by the *Aerospace Medicine Regent* to the American College of Preventive Medicine, Dr. Christopher Armstrong.

Aerospace Physiology Certification Board: Gail Hathaway will be the Council representative on the Board. Jaime Rivas, Troy Faaborg, and Greg Ostrander were approved to serve as members of the Board. Troy Faaborg and Jaime Rivas, both of whom passed the exam, were approved for certification in Aerospace Physiology.

Council will meet in November, the week before Thanksgiving (Nov. 14) and the Executive Committee will meet on August August 17 - 18.

Committee Chairs for 2007-07

Aerospace Human Factors: Thomas E. Nesthus, Ph.D.

Air Transport Medicine: Nigel Dowdall, MBChB

Aviation Safety: Charles A. DeJohn, D.O., M.P.H.

Awards: Dwight A. Holland, Ph.D.

Bylaws: Robert W. Weien, M.D., MPH

Communications: Joseph P. Dervay, M.D.

Communications Co-Chair: Daniel J. Callan, D.O.

Corporate & Sustaining: Marian B. Sides, Ph.D.

Education & Training: Jan Stepanek, M.D.

Finance: P. Glenn Merchant, Jr., M.D.

History & Archives: Stanley R. Mohler, M.D.

International Activities: Chris Kleinsmith, M.D.

Membership: Warren S. Silberman, D.O.

Membership Co-Chair: K. Jeffrey Myers, M.D.

Nominating: Prof. Michael Bagshaw, MB, FFOM, DAvMed.

Resolutions: Richard Scheuring, M.D.

Science & Technology: Barry Shender, Ph.D.

Fellows chair: George Anderson, M.D.

Science program chair: Susan E. Northrup, M.D.

Deputy program: Philip J. Scarpa, Jr., M.D.

Posters: Philip J. Scarpa, Jr., M.D.

Panels: Peter B. Mapes, M.D.

Arrangements: Peter H. U. Lee, M.D., MPH, MS

Constituent Representatives to Council for 2007-08

Aerospace Human Factors Association: Thomas E. Nesthus, Ph.D.

American Society Of Aerospace Medical Specialists: CAPT Richard A. Beane, MC, USN

International Association Of Military Flight Surgeon Pilots: CDR Kris M. Belland, MC, USN

Aerospace Physiology Society: CAPT Vincent W. Musashe, MSC, USN

Aerospace Nursing Society: Cathy DiBiase, B.Sc.

Life Sciences & Biomedical Engineering Branch: Estrella Forster, Ph.D.

Society of U.S. Naval Flight Surgeons: Frank A. Chapman, M.D.

Society of U.S. Air Force Flight Surgeons: Lt. Col. John Andrus, USAF, MC, SFS

Airlines Medical Directors Association: Thomas N. Bettes, M.D.

U.S. Army Aviation Medical Association: TBA

Space Medicine Association: Mark R. Campbell, M.D.

Associate Fellows: Col. Margaret B. Matarese, USAF, MC

CAMA Annual Scientific Meeting

October 10-13, 2007 San Diego, CA

"Aviation Medicine New Frontiers"

The program is approved for FAA-AME training and is acceptable for CME credit.

Articles of Aeromedical Interest

Here is the latest listing of journal articles published in other journals that may be of interest to you:

1. Li G, Baker S. Crash risk in general aviation. JAMA 2007; 297:1596-98.
2. Abramowitz HB, Gertz SD. Venous stasis, deep venous thrombosis and airline flight: can the seat be fixed? Ann Vasc Surg 2007; 21:267-71.

AsMA Future Meetings

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

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

May 9-13, 2010
Sheraton Hotel
Phoenix, AZ

Notes on the Fellows Group Meeting

Sheraton Hotel, New Orleans,
May 14th, 2007

by George K. Anderson, M.D., Chair

The annual meeting of the Fellows Group was called to order at 6:00 pm on May 14th, 2007 in the Sheraton Hotel on Canal Street in New Orleans. Three agenda items were addressed.

The 2007 Election of Fellows

The pre-meeting phase of the 2007 Election Fellows resulted in the selection of nine new Fellows by mail ballot. According to the election rules in place at the time of this election, which allowed the election of a number of new Fellows equal to one half of one percent of the total membership of the Association, a total of 15 Fellows could be elected in 2007. After proper discussion of the nominees, 6 additional Fellows were elected on the first written ballot. The elected Fellows are listed elsewhere.

The Election Reform Initiative of 2007

The Fellows Group Chair, Dr. George Anderson, introduced the work of an ad hoc working group of Fellows and Associate Fellows, which had been engaged in the effort to improve the Fellows election process for several months. This election reform initiative had been undertaken after the Association Council, during its November 2006 meeting, proposed a Bylaws change to eliminate the one-half of one percent rule. The Bylaws change was to be included as an agenda item at the annual Association Business Meeting.

The ad hoc working group followed a systemic evaluation and action sequence including a preference survey, the building of a set of assumptions, and the design of a new election process. Each of these phases of the initiative was worked using an e-mail review and comment loop to all members of the ad hoc working group.

A lively discussion of the elements of the initiative followed the presentation of the proposed new election process by the Fellows Group Chair. Questions were answered, and sometimes heated comments were made. A proposal to vote on the matter by secret ballot was passed. Following comments on due process by the Fellows Parliamentarian, Dr. Royce Moser, a motion

to approve the new election process was passed by secret ballot vote (aye 80, nay 48).

The motion to approve the process by which new Fellows are elected read as follows:

"A new process by which Fellows are elected shall be instituted for the election of the 2008 Class of Fellows and for the class years that follow. This process is in accordance with bylaws Article IV, Fellowship, Section B.4, "Fellows will be elected annually through a published process developed by the Fellows and approved by Council." The features of this process include the building of a slate of nominees by a Fellows Nominating Committee, the management of evaluation criteria by a Fellows Evaluation Committee, election by vote on the slate of nominees at the annual Meeting of Fellows, and voting by proxy for those who cannot attend. The process is based on the Fellows Election Process Assumptions document of March 18, 2007 and the Fellows Group Organizational Structure and Fellows Election Process Milestones document of March 23, 2007. These documents should be maintained for reference and the Aerospace Medical Association Policy Procedures document should be changed to reflect the new election process."

The documents mentioned in the motion will be available for all to review once the Aerospace Medical Association Policy Procedures document is administratively updated to reflect the changes mandated by this motion. The identical motion had been passed by the Association Council at its meeting on May 13th. The Fellows Group Chair presented the new election process to the breakfast gathering of the Associate Fellows Group on May 15th. At lunchtime on that day the Bylaws change to eliminate the one-half of one percent rule was passed at the Association Business Meeting. The positive vote on that change completed the actions necessary to fully implement the new election process.

Election of the Fellows Group Chair

The Fellows Group elects its Chair each year at its annual meeting for a 1-year term. Dr. George Anderson was nominated for the position, a motion to close the nominations was passed, and an election vote resulted in his re-election for a second term. Following this action, a motion to adjourn the meeting was made and passed.



ARMSTRONG LECTURE-Alex Tai (right), Chief Operating Officer and a pilot for Virgin Galactic, receives a plaque and honorarium from Bill Mitchell (center) and George K. Anderson (left), representing the sponsor Environmental Tectonics Corp.

Tai Delivers Armstrong Lecture

Alex Tai Chief Operating Officer and a pilot for Virgin Galactic, delivered the Armstrong lecture on May 17, 2007. The lecture was sponsored by ETC. Mr. Tai spoke about the "Development of Commercial Spaceflight" as envisioned by Sir Richard Branson and Virgin Galactic.

When Branson formed the Virgin Group, he shook up the music industry, then the airline industry, and now he is working on trains and spaceflight. But always with "Safety first" in mind. Virgin has also committed \$3Billion to bioethanol fuel.

The Virgin Galactic space plane features a fully pressurized cabin with large windows. It is constructed of light weight composite materials and has unique wings for a glide

FUN RUN

The Annual Fun Run was held at Riverfront Park in New Orleans, LA on Monday, May 14th. The event was sponsored by Dick Trumbo of Aerospace Life Sciences, Inc. The event was organized by Lt. Col. Thomas Clarke. This year there were 56 runners and 2 teams. The winners and their times were:

Men's Category (Under 40)

1. Ted Meeuwssen (19:10)
2. Anthony Banks (20:00)
3. Jon Riccietello (20:48)

Men's Category (Over 40)

1. Jeff Rabin (20:56)
2. Joerg Siedenburg (22:14)
3. James Collier (22:49)

Women's Category (Under 40)

1. Sandy Modzelewska (24:17)
2. Kate Manderson (26:24)
3. ML Wolbrink (26:40)

Women's Category (Over 40)

1. Ann Hoyniak-Becker (28:04)
2. Paula Corrigan (29:04)
3. Michelle Richardson (30:31)

Teams

USAFSAM RAMs: average 23:35

U.S. Navy RAMs: average 27:30

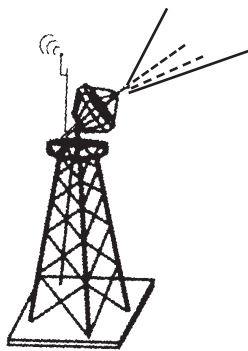


FUN RUN-(Top photo) Runners get ready to board the buses at Riverfront Park. (Bottom photo) Lorenzo Vargas (left) who just turned 79 years old (!) with Charles Barker (center) and Dwight Fulton (right) after the race.

landing. The cabin can accommodate 6 passengers and 2 pilots. Beginning in 2009, Virgin plans to fly 500 passengers in the first year. The passengers may need pressure suits and drugs for motion sickness. They will have reclining seats. Flight plans will be filed with FAA.

For a passenger wanting to fly aboard Virgin Galactic there will be a medical exam, compliance with any FAA regulations and an informed consent form. The mission duration includes 3 days of training for a 2-h flight with approximately 4-5 min of weightlessness at a maximum altitude of 100 km. Ticket prices start at \$200,000.

Current partners are Wyle Labs and NAS-TAR-ETC.



Science & Technology Watch

Keeping You Informed Of The Latest Advances In Science And Technology

Dr. Manning describes an ambitious proactive initiative whose outcome is near and dear to our hearts—to ensure safe, secure, and on-time air travel.

NextGen: The Next Generation Air Transportation System

Carol A. Manning, Ph.D., FAA, Civil Aeromedical Institute, Oklahoma City, OK

The Next Generation Air Transportation System (NextGen or NGATS) is an initiative to transform the U.S. air transportation system by the year 2025. NextGen is necessary because stresses are being placed on the current air traffic system that must be resolved before they reach crisis level. For example, by 2025, demand for aircraft operations is expected to triple. There are concerns that the current air transportation system will not be able to accommodate the required growth. In addition, the current aviation system is not expected to handle anticipated safety and security issues.

The goals for NextGen focus on significantly increasing the safety, security, and capacity of air transportation operations and thereby improving the overall economic well-being of the country. Creation of the NextGen vision and plans for accomplishing the NextGen goals are being developed by the Joint Planning and Development Office (JPDO). The JPDO consists of the U.S. Departments of Transportation, Defense, Homeland Security, and Commerce, and the FAA, NASA, and the White House Office of Science and Technology Policy.

The JPDO envisions that NextGen will increase National Airspace System (NAS) capacity to meet future user demands by providing new infrastructure, shifting resources to meet user demands, implementing more efficient procedures, and minimizing the effects of constraints, such as weather, on overall system capacity. The NextGen goals will be achieved through a combination of new procedures and technologies that will manage passenger, air cargo, general aviation (GA), and air traffic operations. Eight key capabilities have been identified to achieve these goals:

- Network-enabled information access;
- Performance-based operations and services;
- Weather assimilated into decision making;
- Layered adaptive security;
- Position, navigation, and timing services;
- Aircraft trajectory-based operations;

- Equivalent visual operations; and
- Super density operations.

NextGen will provide more information to the user of the air transportation system, which will allow users to make more real-time decisions about their operations. Regulations in the NextGen timeframe will be described in performance terms rather than in terms of specific technologies or equipment. Incorporating probabilistic information about weather into air traffic management (ATM) decision tools will minimize the adverse effects of weather on operations. The NextGen security system will be constructed of "layers of defense" that will help reduce the overall risk of threats while minimally affecting efficient operations. Instead of being driven by geographic constraints, positioning, navigation, and timing services will allow operators to define flight paths based on their own objectives. Trajectory-based operations allow aircraft to file flight plans based on four-dimensional trajectories (4DT) that incorporate an aircraft's expected flight profile and time information (such as departure and arrival times). This specific information allows the service provider to assess the effects of proposed trajectories and better understand NextGen demands and constraints. Improved visual information will allow aircraft to conduct operations without regard for visibility or direct visual observation. NextGen super density operations will incorporate procedures that improve airport surface movements, reduce current spacing and separation requirements, and better manage flows into and out of busy metropolitan airports.

Implementing these capabilities will result in greatly improved air transportation operations in the year 2025. Changing from clearance-based operations to trajectory-based operations will increase capacity and efficiency. Increased levels of service and dynamic resource management will be available that meet user demands as compared with today's policies of constraining operations due to resource restrictions.

Enhanced equipment and technologies will enable achievement of NextGen capabilities. Advancements in aircraft capabilities will allow aircraft separation standards to be reduced. Technologies such as Automatic Dependent Surveillance-Broadcast (ADS-B), Required Navigation Performance (RNP), Area Navigation (RNAV), and DataLink (DL) will provide more information to the cockpit, which will allow pilots to make better decisions about real-time operations.

Technology will also allow NextGen to be an air transportation system that functions without requiring many interventions to individual flights. In the NextGen timeframe, automation and other tools will be available to reduce controller requirements to interact with individual aircraft. The transition of separation responsibility from the controller to the flight crew (otherwise known as shared separation capability) will allow controllers to focus on strategic management of aircraft flows rather than tactical control of individual flights, thereby reducing high workload and increasing productivity.

One of the major goals of NextGen is to provide more information and flexibility to users and reduce government intervention and control of resources. This will result in availability of more and better information

for more users, and will lead to improved decision-making capabilities. NextGen information will be timely, relevant, accurate, quality assured, and compatible with established security procedures.

Achieving NextGen capabilities will require four changes to occur in today's system: 1) automation will be introduced in ground operations and air traffic controllers will take on more supervisory control responsibilities; 2) air-ground communications will be enhanced and more collaboration will occur between air and ground operators; 3) more self-separation by pilots (aided by technology, automation tools, and better weather information); and 4) greatly expanded use of RNAV/RNP capability, thereby allowing more predictable flight performance. These changes must be introduced incrementally between now and 2025. Human factors research will be necessary to address issues such as: how will the aviation operators' jobs change in the NextGen timeframe? How will selection and training requirements change for these operators? Can human-centered design principles be used effectively to develop systems that support the maintenance of operator situation awareness? When does it make sense for pilots to use self-separation and when should a tactical controller step in and take back control? What kind of information about weather is required to establish operator awareness about aviation weather situations?

The Next Generation Air Transportation System is expected to be more flexible, resilient, scalable, adaptive, and highly automated—meeting up to two to three times the current demand for air transportation services. The NextGen system is expected to accommodate up to three times today's traffic levels in an increasingly complex air traffic management system. To achieve the goals of NextGen, it will first be necessary to conduct a considerable amount of human factors research to ensure that operators have the information they need to perform their jobs and can maintain awareness of the new system in which they will work.

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.

Members-- Remember!

AsMA Council Meetings are open to all members of the AsMA. Your input and attendance are always welcome. Our next meeting will be on November 15, 2007 at the Holiday Inn Eisenhower Ave., Alexandria, VA.

This Month in Aerospace Medicine History-- August 2007

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

Seventy-five Years Ago

Fetermination of flying adaptability (Flight Surgeon, U.S. Army; Medical Examiner, Aeronautics Branch, Department of Commerce, Cincinnati, OH): "Flying adaptability as an endowment of the successful flyer is so thoroughly accepted that it is really not a matter of debate... One has it, or hasn't it, as one is either a flyer or a failure at it. This intangible something in a flyer is, to him, not so much a consciousness of possession, as it is an admission that one must have it to become a flyer. And in the air performance of student aviators, it is adaptability or the lack of it that largely determines their progress, promising success to the well endowed, or forecasting the ultimate elimination of the unadaptable. It must be emphasized that such is the course of flying training of an aggregation of young men whose physical health has been attested after a careful examination, and who have displayed good intelligence and a proven capacity for learning..."

"[A] proposed test conceives Flying Adaptability as a group of fourteen components or 'human qualities essential to successful flying training and useful survival,' and weighs and values each component separately on a mathematical basis which is expressed in point value, a perfect score aggregating 200 points. In conformity with experience that 'no one person will show all the best qualities to the exclusion of all the poor ones,' a perfect score of 200 points is not expected, but 160 points shall be required for qualification. The structure of this composite test of qualities with relative ratings is as follows (4):

Flying Adaptability Test

Personal and Family History.....	20
Judgment.....	20
Emotional Content.....	20
Attention.....	20
Intelligence.....	15
Resistance to Emotional Stimuli.....	15
Alertness.....	15
Precision.....	15
Ability to Relax.....	10
Psycho-Motor Activity.....	10
Temperamental Assimilability.....	10
Reaction Time and Accuracy.....	10
Coördination Response.....	10
Equilibrium.....	10
Total Points.....	200"

Tragic loss: "The American Nurses Aviation Service, Inc. suffered a tragedy in the loss of the 'American Nurse' the plane that took off from Roosevelt Field, N.Y., for Rome in August.

"This trip was in honor of the American Nurses and was planned as a non-stop flight from New York to Rome. It was also a trip planned to test the subject of fatigue on endurance flights. The pilot was William Ulbrich. He was accompanied by Edna Newcomer as co-pilot, an associate member of the Association and by Dr. Leon M. Pisculli, the Director General of the Association.

"All three had rigid physical examina-

tions such as required by the Department of Commerce. In addition they had basal metabolism tests, electrocardiograms and blood chemistry examinations. It was planned that Dr. Pisculli would take blood specimens during flight and on arrival and that basal metabolism tests would be done on arrival also. This work was in furtherance of the research already done by Miller and Ginsberg and reported in this Journal in September 1931.

"The plane was sighted over the ocean but was never heard of after that" (1).

Fifty Years Ago

Determination of flying adaptability ...again. (Department of Neuropsychiatry, U.S. Naval School of Aviation Medicine, Pensacola, FL): "No screening devices for selecting candidates for flight training have yet been developed which eliminate those who may fail because of their reaction to stress experienced during actual flight training. Many studies in this area have been accomplished. Improvements have been made in the various psychologic measuring instruments but psychologic scientists working in this field readily admit we are still short of our goal. The variability and unpredictability of human reactions is a factual matter with which medical officers constantly must contend.

"Recognizing the lack of specificity in our current screening criteria, flight surgeons examining applicants for flight training are prone to pass the questionably stable candidates hoping they will somehow measure up in the training program. In a sense this tendency increases the accident potential of any group of candidates..."

As long as military service is required of young men, candidates for naval aviation will be observed who are not truly motivated for careers as pilots: There is the added attraction of a short cut to a commission. With the recognized dearth of highly qualified candidates and the need for a continued high output of young naval aviators, it is difficult to criticize the examining flight surgeons for 'passing' as acceptable all who meet our current screening criteria. It is not contended that all anxiety is necessarily bad, because it is well known that controlled anxiety enhances the alertness and effectiveness of an aviator. But many of the manifestations of anxiety are such as to increase the real hazard of flying and contribute to the unexplained accident. However, until such time as we have improved psychologic devices for determining a student's tendencies toward anxiety or high ability to utilize defenses against anxiety which are not in themselves hazardous, we must, as flight surgeons accept this risk in the early stages of flight training. Only by close contact with instructors and students can we identify these student aviators whose symptoms make them poor risks for aviation careers. We must never relax the vigilance incumbent in our role as physicians in aviation medicine, else these psychosomatic manifestations of anxiety will continue to cause unexplained accidents among the men we serve" (3).

Industrial hygiene in aviation medicine (Office of the Surgeon, Strategic Air Command, Offutt Air Force Base, NE): "Many scientific and technical skills are required in the solution of problems involving 'human engineering,' but the contribution the industrial hy-

giene engineer is capable of making in this aspect of aviation medicine is only beginning to be recognized. Industrial hygiene engineers, in addition to their engineering training, have specialized knowledge and experience with regard to the physiologic effects of exposure to physical, chemical, and biologic adverse factors in the environment. They also have specialized skills in the design of control measures for noise, ionizing radiation and exposure to hazardous chemicals as well as abnormalities of temperature, illumination and pressure. Some recent applications of these skills are described. The need for a co-operative effort among all of the disciplines involved is emphasized" (2).

Twenty-five Years Ago

Vision and the aging pilot (Committee on Vision, Assembly of Behavioral and Social Sciences, National Research Council, Washington, D.C.): "Most visual functions decline to some degree with age, and the rate of decline has been roughly characterized in the general population. There is, however, virtually no data on military pilots, and extrapolation from the general population requires caution. Individual variation in the effects of age is great, and military pilots are a select group presumably in better general health than the general population. Several visual functions that decline with age seem particularly relevant to pilot performance: contrast sensitivity, dynamic acuity, recovery from glare, function under low illumination, and information processing. Vision examinations currently given to military and commercial pilots do not measure these visual functions. The feasibility of supplementing existing vision examinations with measurements of these functions should be explored; such an assessment should consider both research issues and policy implications" (5).

REFERENCES

1. The American Nurses Aviation Service Inc. *J Aviat Med*, 1932; 3(3):176.
2. Meyer AF. Aviation medicine and the industrial hygiene engineer. *J Aviat Med*, 1957; 28(4):417-20.
3. Phillips PB. Psychosomatic disorders in pilot trainees: Report of nine cases. *J Aviat Med*, 1957; 28(4):364-9.
4. Schroeder JH. A study of the proposed flying adaptability test (A. C.) in the course of physical examination of civilian aviators. *J Aviat Med*, 1932; 3(3):150-5.
5. Sekuler RD, Kline D, Dismukes K. Aging and visual function of military pilots: A review. *Aviat Space Environ Med*, 1982; 53(8):747-58.

ARCHIVAL DVD FOR SALE ! 73 Years of the Aerospace Medicine journal

on one convenient DVD!
Free up yards of shelf space!
Easy to search PDF files!

Members: \$50
Nonmembers: \$150
Institutions: \$300
Plus Shipping & Handling:
\$5 U.S./\$10 International
Plus 5% VA sales tax (for Virginia residents only)
Contact Sheryl Kildall
skildall@asma.org
703-739-2240, x 107