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Flight **PHYSICIAN**

A publication of the Civil Aviation Medical Association



**VOL. 10, NO. 3
AUGUST 2007**

President's Article

Significant Transitions Coming in October

BY DAVID BRYMAN, D.O., FCAMA

President, Civil Aviation Medical Association
Senior Aviation Medical Examiner, FAA,
Transport Canada, JAA, Australia

IT HAS BEEN a great honor and privilege to be the president of CAMA for the past two years. My term ends this October, so this is my last article as your president. I have been extremely fortunate to have the guidance of a seasoned board of trustees, officers, and executive VP, Jim Harris.

Our organization has accomplished a lot over the past two years. Our fellowship and cooperation with our domestic and international colleagues have grown with both attendance at our meetings and participation at CAMA Sunday and AsMA panels.

We have always enjoyed close ties with the Federal Aviation Administration, but now our cooperative efforts have enabled us to offer FAA AME credits at the next CAMA meeting in San Diego. Our educational programs have done extremely well, and we have enjoyed meetings that were well-attended and rich with aviation medicine topics.

Continued on page 2

Safety in Aviation and Safety in Hospitals

*Comparing the Safety Records of Hospitals
and Flying*

BY JAMES LABAGNARA, M.D., FACS

Vice President, Medical Affairs, St. Joseph's
Healthcare System

Patient Safety

DID YOU KNOW as many as 195,000 people in the United States died due to preventable, in-hospital medical errors in each of the years 2000, 2001, and 2002?

This number was determined after the review of 37 million patient records. These deaths are not due to the patient's illness or the natural progression of disease but limited to medical errors alone. Patient safety is a national concern and unavoidable deaths are considered to be a national epidemic.

The associated additional cost incurred in the treatment and management of medical care necessary following injuries and errors, is estimated to be in excess of 17 to 39 billion dollars each year.

How is this possible? The majority of the preventable deaths are associated with 'failure to rescue' and death in low-risk hospital admissions (obstetrical admissions are excluded from the data).

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Sustaining, Corporate, and
Life Members 5

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President's Column from page 1

During my presidency, we have established a fellowship designation for our members and have awarded this honor to our past presidents. The fellowship committee will have yearly recommendations for new Fellows of CAMA. We look forward to the growth of this program.

With hot topics in aviation medicine, CAMA had the opportunity to respond to some important NPRMs, as well as offering advice from members with over 50 years of experience in aviation medicine. Some of the items discussed included the age-60 rule and periodicity of medical exams. Our editor, Dr. Susan Northrup, has been diligent in obtaining articles for publication in the *Flight Physician* as well as the AsMA "Blue Journal."

This coming October's meeting will bring about some changes for CAMA. The most important of these is the retirement of Jim Harris as our

executive director. He will be succeeded by Dr. David Millett. Dr. Millett has been a long-time CAMA member and recently retired as the FAA Southern Regional Flight Surgeon. Besides a great sense of humor, Dr. Millett brings a wealth of knowledge and experience to CAMA, and we welcome him with open arms as the best choice to follow Jim. Since words alone cannot thank Jim for all he has done for CAMA and aviation medicine over the past 17 years of service, we are dedicating this entire meeting to Jim for a job very well done.



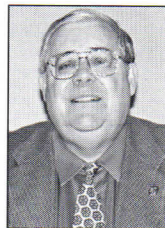
Dr. Bryman

Dr. Millett Retires

BY SUSAN NORTHRUP, M.D.

DR. DAVID MILLETT retired from the Federal Aviation Administration in November 2006 as the Southern Regional Flight Surgeon after 16 years with the agency. David has been a member of CAMA since 1979 and a member of the Board of Trustees since 1991. He was awarded the John A. Tamisiea Award in May 2006 by the Aerospace Medicine Association, a national award sponsored by CAMA.

A native of New York City, Virginia, New Jersey, and Ohio, Dr. Millett holds an undergraduate degree from



Dr. Millett

Denison University and a Medical degree from Yale University School of Medicine. After medical school, he spent two years as an assistant resident in surgery at the Yale-New Haven Medical Center before succumbing to the lure of aviation medicine. In 1971, he graduated from the USAF School of Aerospace Medicine. His military assignments included tours at Shaw AFB, Assistant Air Attaché and Post Medical Officer at the US Embassy in Moscow, and a distinguished career in the USAF Reserves before retiring as a Lieutenant Colonel in 1991.

We will welcome Dr. Northrup as CAMA's new president in October. She is also the newly appointed Southern Regional Flight Surgeon. Susan has known and worked with David Millett for many years, and together, they will be a great team to lead CAMA forward.

My hope is that CAMA will continue to grow and lead our specialty in aviation medicine. We welcome our new members and look forward to more participation and interaction at CAMA functions.

If you are a new member, I would strongly encourage you to attend the upcoming scientific meeting in San Diego. Remember, an AME attending this meeting will be given the same credit as attending an FAA-approved AME seminar. This meeting will be very special as we honor Jim Harris and look forward to a great attendance.

I thank you all for the privilege of being your president and look forward to seeing you at future meetings.

FP

After leaving active duty in 1978, he became the Director of Flight Medicine for Eastern Air Lines, serving in that position until 1987. He then spent several years in private practice, including designation as a Senior AME. In 1990, he was selected as the FAA Southern Region Flight Surgeon, where he continued to serve aviation medicine with distinction. He has won several awards, including, the FAA Fight Surgeon of the Year, the FAA Regional Employee of the Year, the FAA Spirit Award, the CAMA President's award, several FAA Superior Performance Awards,

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FLIGHTPHYSICIAN

A Publication of the
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The editors of *FlightPhysician* welcome submission of articles, letters to the editor, news bits, interesting aeromedical cases, and photos for publication. Please mail text in typewritten form or on floppy disk (MS Word preferred) to:

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Editor's Page

By **SUSAN NORTHRUP, M.D.**

Senior Aviation Medical Examiner

I'D LIKE TO THANK EVERYONE who sent me articles and picture! We hope to begin putting them in very shortly. That is not to say I don't need more!!

I really enjoyed seeing the different aircraft our members own and operate. I believe you will too as we flow them into this publication.

Another person I'd love to publicly acknowledge is Dr Steve Leonard who will be joining our editorial board. I used to think I was a stickler for the correct use of the English language, but he caught things I didn't! Kudos Steve.

Dr. David Millett and Dr. Jan Stepanek have also been very helpful in editing and fleshing out a plan for the future. We are hoping to develop "theme" publications – and we are open to suggestions.



All this being said, we still would like to make this a peer-reviewed journal. To do that, we need a three-issue "stack" of articles to begin. If you are interested, please volunteer to be an author or reviewer. We can't do this without your help!

As always, I'd like to give thanks and a big hug to Jim Harris. I couldn't do even half of what I do for CAMA without his assistance and reminders...

Feel free to call or email me with suggestions and/or comments at snorthrup63@earthlink.net or 678-283-0085.

FP



DR. MILLETT from page 2

and an honorary membership in Birds of a Feather.

Dr. Millett is a Diplomate of the National Board of Medical Examiners, a Fellow of the Aerospace Medicine Association, a member of the International Academy of Aviation and Space Medicine and the Airlines Medical Directors Association. He has served on many AsMA and CAMA committees for over 35 years. He has held teaching positions with Embry-Riddle, Florida International University (where he also earned a Masters of Public Health), and Emory University.

As a friend and colleague, not to mention his replacement as the FAA Southern Region Flight Surgeon, I am in awe of his career and accomplishments! David went out on top. He never lost a case in review by outside or higher authorities. He never had a decision overturned by "subsequent endorsement." Yet, through it all, he remained a friend of the aviator and the AME. As a member of CAMA, he had consistently gone above and beyond the call of duty. He is a sought-after speaker and administrator. His skills and comfort in dealing with all individuals and organizations led to his selection as Jim Harris' replacement after the San Diego meeting (which is dedicated to Jim). So, while David has retired from government life, we will continue to be the beneficiaries of his experience and expertise.

Please join me in congratulating Dr. David Millett on a distinguished career as a public servant and aerospace medicine professional!

FP

How and When to Report Doctor Visits and Conditions to the FAA

By DAVID SMITH

AS A PILOT, you are required to report all visits within the last three years to any physician, physician's assistant, nurse practitioner, psychologist, clinical social worker, or substance abuse specialist for treatment, examination, or medical/mental evaluation. You should list visits for counseling *only* if it is related to a personal substance abuse or psychiatric condition. Routine dental, eye, and your FAA medical examinations, consultations with an employer-sponsored employee assistance program, as well as routine marriage counseling *may* be excluded *unless* the consultations were for substance abuse, or they resulted in a referral for psychiatric evaluation or treatment.

However, if you have any questions or concerns, ask your Aviation Medical Examiner **before** writing anything on your form 8500-8! The form is an FAA document, and your AME *has to account* for and send in every form that has been issued to him. The information entered on a form cannot be changed and has to be submitted to the FAA. *Even if you only enter your name on the form, it has to be returned to the FAA.*

Once both you and your AME are ready list these visits on the form 8500-8 in Item 19: Visits to a Health Professional Within Last 3 Years.

You should give the name, date, address, and list the type of health professional that you consulted, and briefly state the reason for the visit. Multiple visits to one health professional may be aggregated or combined on one line.

Once you provide the information in Item 19, your AME should review these with you. It is crucial that your

AME reviews this properly with you. If any additional information is needed, this should be identified and submitted at this time. This, alone, is one of the many reasons that you will receive a letter from Oklahoma City requesting more information. Doing this properly at the time of your exam may save lots of time and worry later.

The reporting of any new conditions that have developed since the last FAA medical examination will be of particular importance. If the possibility exists that the condition you have seen a health professional for is disqualifying, you should provide your AME a copy of the medical records concerning this condition for submission to the FAA. This information that your treating physician will provide should indicate that your condition is either under control with the proper treatment or that the condition has been remedied. In this way the packet that your AME will send in with your exam results will be as complete as possible.

At this point, your AME should record any information that would be needed to document the review and provide the basis for your certification decision in Item 60. Your AME should record any information of either a personal or sensitive nature that has no relevancy to flying safety in Item 60 as: "**Item 19 reviewed with applicant. Medical history not significant or relevant to application.**" If an explanation for a condition has been reported earlier to your AME and there is no change in the condition, you should enter "Previously reported, no change." Your AME should comment on all

Continued on page 15

Civil Aviation Medical Association

SUSTAINING, CORPORATE, AND LIFE MEMBERS

The financial resources of individual member dues alone cannot sustain the Association's pursuit of its broad goals and objectives. Its fifty-plus-year history is documented by innumerable contributions toward aviation health and safety that have become a daily expectation by airline passengers worldwide. Support from private and commercial sources is essential for CAMA to provide one of its most important functions: that of education. The following support CAMA through corporate and sustaining memberships:

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Alex M. Wolbrink, M.D.
Robert L. Wick, M.D. (Deceased)

Thank you for supporting the Civil Aviation Medical Association

Hospital Safety from page 1

Four key areas account for the vast majority of the preventable deaths:

- Failure to rescue (mortality in patients developing specified complications during hospitalization)
- Acute renal failure
- Pneumonia
- Postoperative DVT and pulmonary embolus
- Postoperative sepsis
- Bedsores
- Shock and/or cardiac arrest
- GI hemorrhage and/or acute ulcer

Safety in hospitals is not a concern patients want to have when they become ill. Physicians, nurses, hospital administrators and employees also want their institutions to be safe places to work and deliver medical care. 'First do no harm' is the rule. The basic assumptions of the lay public and healthcare providers include:

- No person should be injured in a hospital
- There should never be a medication error
- There should never be mistakes in the operating room or any treatment area
- There should be no adverse drug reactions
- There should be no complications from anesthesia
- No patient should leave the hospital sicker than when he entered

While these goals may not be 100% achievable, we can certainly do better. There are certain intrinsic hazards in the delivery of medical care, which are always present. Patients may present for treatment with late stage disease, advanced degenerative conditions, advanced malignancies with metastases or trauma. Tumors may already involve vital structures.

Patients are often very sick and may be unusually susceptible and sensitive to a dose of medication or treatment. Body weight, body surface area, idiosyncratic reactions, unanticipated genetic metabolic defects and other factors unique to the biology of medical care may lead to injury. Advances in technology lead to new complicating factors, which were unforeseen at the time of development of the technology. The delivery of healthcare is a 24-hour operation. Hospitals operate continuously. Perhaps not enough time is taken to learn from an error or injury, because the demands of the next patient are always there. Medical care is dynamic work, and each action varies depending on the response to the prior treatment or drug, etc. Hospitalized patients are touched by many individuals (as many as 52 contacts with healthcare workers in a 24-hour period). Hospital employees as well as physicians and nurses have very different backgrounds and experience levels. People who do not know one another very well often find themselves working together in complex units and teams.

Aviation safety

In order for airlines to stay in business, the public must accept that the industry is safe. Annual airline deaths are consistently less than 100. An analysis of Aviation Fatalities by Type of Operation (figure 1) shows how safe airlines are. Note the exception in 2001 where the 9/11 deaths were considered to be aviation related even though they were caused by terrorist activities. Safety overrides all other factors. We are willing to put up with (albeit grudgingly) security screenings, removing our shoes, flight delays, cancellations, poor food and more if the likelihood of dying on the next flight is extremely low. How likely would we be to fly if the average

number of yearly deaths from aviation accidents was 190,000? The industry would 'die' from lack of ridership in a very short period of time.

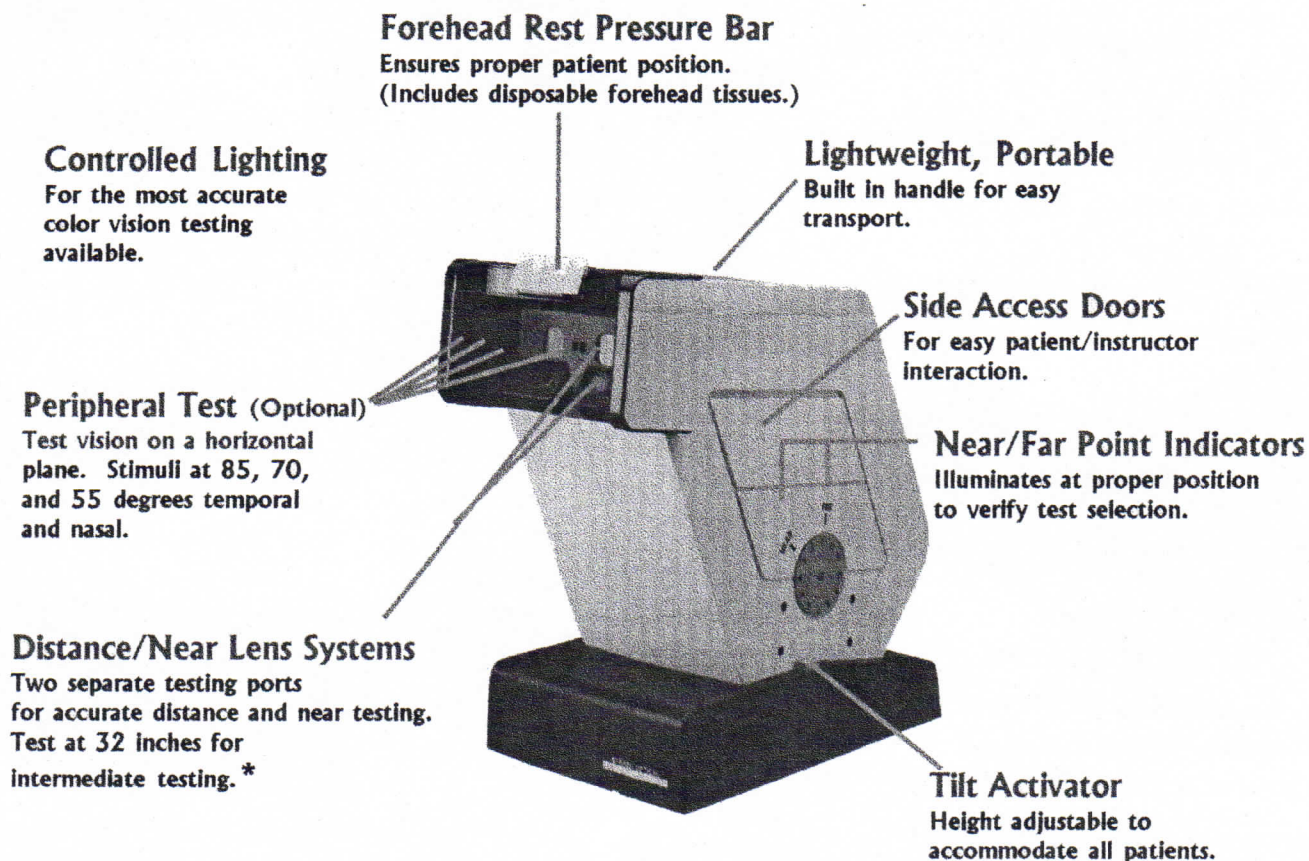
There are terrific financial incentives to improving quality in both industries. Travelers always want cheaper airline tickets but are not willing to compromise on safety. Passengers know safety and buy tickets because of it. Passengers want low cost and safety. We all agree that healthcare is too expensive and we all want to save money on everyone else's healthcare, but not our own. When sick, we want safe, quality care regardless of the cost. Hospital scorecards and CORE Measure scores are reported statewide just for this purpose. The business should be directed to the healthcare institution with the best quality and the best outcomes. This is the reason for treatment guidelines and standardized practice patterns. Standardized treatment, which is evidence-based, has been shown to improve quality and lessen complications and death rates. There are many examples of aviation industry concepts that have been adopted in the delivery of medical care.

- Airlines have standardized training of pilots and crews; hospitals are doing the same. Residents and medical students follow educational pathways so training and experience is as uniform as it can be. Nurses are cross-trained. Everyone should be CPR certified. Response to emergencies should be routine.
- Pilots are required to have recurrent training. ACLS and PALS certification for healthcare providers must be renewed. Reappointment requires CME and evidence of recurrent education.
- Airline crews are continuously being evaluated and graded on

Continued on page 10

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Prefilled Syringes

Atropine Sulfate 5ml (2)
Dextrose 50% 50ml (1)
Epinephrine 10ml 1:10,000 (2)
Lidocaine 2% 5ml (2)

I.V. Equipment

I.V. Catheter 20 gauge x 1" (2)
I.V. Set w/Y-site and clamp (1)
Sodium Chloride, 500ml bag (1)

Airway Equipment

Airway, Pediatric (1)
Airway, Small Adult (1)
Airway, Large Adult (1)

Manual Resuscitation

Ambu Bag (1)
Mask, Pediatric (1)
Mask, Small Adult (1)
Mask, Large Adult (1)
CPR Mask Adapter (1)

Miscellaneous Equipment

Alcohol Sponges (2)
Gloves (1 pr.)
Scissors (1)
Tape (1)
Tourniquet (1)

Needles & Syringes

3cc, 22 gauge x 1" (2)
3cc, 25 gauge x 5/8" (2)
18 gauge x 1 1/2" (1)
20 gauge x 1 1/2" (1)
22 gauge x 1 1/2" (1)

Reference Materials

AHA Algorithm Book (1)
EMK Contents Placard (2)
Seals: Red, Yellow, Green (1 ea)

Monitoring Equipment

Blood Pressure Cuff (1)
Stethoscope (1)

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Hospital Safety from page 6

performance. Residency education includes performance evaluations and stage checks. Physician reappointment relies on a profile of performance accumulated over the prior reappointment period.

- Pilots fly the same type of aircraft and do not easily move from one type to another. However, crew members can be interchanged as long as the type of equipment remains the same. Physician privileges are limited to a specific specialty. The days of Ben Casey and Marcus Welby are gone.
- Airlines have built-in redundancy in personnel and equipment, and hospitals are doing the same. Continuous monitoring by telemetry, fetal monitoring and pulse oxygen monitors are routine.
- Cross checking is the basis of hospital time-out procedures, multiple means of secure patient identification, etc.
- Checklists are done together by both pilots in the cockpit. Medication errors are reduced by bar coding and cross checking by different personnel in pharmacy and on patient floors. (Such a system of redundancy and cross checking would have avoided the Heparin overdoses in the Midwestern NICU some months ago which resulted in the deaths of infants.)
- Every aircraft accident and near miss is preventable and has a definable cause or series of events that lead up to the accident. The NTSB spends considerable time in evaluating all possible causes of aviation accidents, from personnel through equipment and engine malfunctions. A corrective action plan is then instituted to avoid similar events in the future. Crews are educated and taught how to react in similar circumstances. More often

than not, the cause is attributed to pilot error rather than equipment failure. The recent ComAir takeoff on the wrong runway in Lexington, Kentucky, is attributable to human factors. This is the rationale for hospital investigation of sentinel events and near misses. Root Cause Analyses lead to corrective action plans. All hospital errors are preventable and also have identifiable causes. More often than not, the cause is attributable to human error and not equipment failure.

- Airline crews have duty hour limitations since studies have shown lowered performance due to fatigue. House-staff in hospitals now have similar duty hour restrictions to reduce the likelihood of mistakes.
- GPS navigation is accurate within 10 feet on the surface of the earth and has reduced navigation errors. Position awareness through intraoperative navigation systems are accurate to within a fraction of a millimeter and have reduced the likelihood of surgical errors.
- Communication is key to safety. The pilot flying (PF) when handing over the controls to the pilot not flying (PNF) will say, "I am giving you control of the aircraft." The PNF will then say "I have the controls." The PF will then say, "you have the controls." There is no ambiguity about who has the aircraft. Instructions from air traffic controllers require a mandatory read-back. This is the basis of VORB (verbal order, read back) used by nursing, and communication is very clear.

Hospitals are places we go when we are sick. Given the choice, we all want to go to the hospital that is the safest. That means the hospital giving the best chance of surviving a heart attack, stroke or operation should get the business. **Quality drives the**

business. We do not want to seek care in an institution where we know patients do not make it out of the emergency room after a heart attack. In order for hospitals to stay in business, safety, excellent outcomes and the reputation, which follows, must continuously improve.

Safety in perspective

There are on average, 195,000 deaths each year in hospitals due to medical errors. Assuming (for sake of discussion) an average population in each of the 50 states, there would be 3800 annual deaths per state or 10.4 deaths per day. This number is higher in states like New Jersey where the population density is much greater. Whatever the number of avoidable deaths is in New Jersey, it is not acceptable.

Compare this to the number of annual deaths in the U.S. from all modes of transportation: 45,087 in 2002 (Figure 2). Of these, less than 100 occur related to commercial air travel. One-half billion passengers fly on 13.1 million flights every year without an accident. 35,890 flights take off and land every day without an accident. The odds of being in a fatal commercial aircraft are 1 in 2.2 million. One could take one random flight every day for 5,500 years with the risk of being in one accident. The statistics are remarkable.

In the airline industry, even a 99.9% success rate is not good enough. In healthcare, we somehow accept the current death rate from hospital and medical errors and failure to rescue.

FP

This is the first of a two-part series and is reprinted, with permission, from the St. Joseph's Healthcare System newsletter. We will conclude the series in our next FlightPhysician.

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May 11-15, 2008
Sheraton Hotel, Boston, Mass.

The Aerospace Medical Association's 2008 Annual Scientific Meeting will be held in Boston, Mass. The theme will be "The Allied Aerospace Health and Human Performance Sciences: Unity through Diversity."

The AsMA and its affiliates represent a wide range of endeavors and interests including basic research, clinical research, regulatory medicine, administrative medicine, and human performance. Our members ask the questions and seek the answers. They find the answers and apply them to the aviator, the astronaut, the regulatory body, the manufacturer, and others. And they contribute to the growing body of scientific aerospace knowledge and lead us in scientific advances. The aviation medical examiner and flight surgeon serve the "final common pathway" of all our work—the aviator and the astronaut—the human organism in air and space. That is why we come together with unity in diversity.

Abstracts for presentations can be submitted in one of three formats:

Slide (PowerPoint), Poster, or Panel (PowerPoint presentations) format. Panels, as well as proposals for debates and nontraditional forums for scientific information exchange, will be considered on a case-by-case basis. Accepted abstracts will be published in *Aviation, Space, and Environmental Medicine*.

All abstracts must be submitted via the electronic submission system linked to the association's web site: www.asma.org and click on the link to "the abstract submission site." You will need to register as a user on this site; however, if you have entered in a previous year, your username and password will be the same. Authors with questions regarding the abstract submission process should contact AsMA directly at (703) 739-2240, x101 (Ms. Pam Day); or e-mail pdlay@asma.org.

Individual slide (PowerPoint) presentations are limited to 15 minutes (including 5 minutes for Q&A). Poster sessions are assigned a display space (4 x 8 ft boards) for 2.5 hours; the authors are expected to be present for at least 90 minutes during that time.

Please note: Presenters (including panelists) will be required to register for the meeting.

Deadline for abstract submission is October 31.

TOPIC AREAS

- Acceleration/Escape/Impact
- Air Medical Transport/Air Evacuation
- Aerospace Human Factors
- Aerospace Physiology
- Air Transport Medicine
- Aviation Medicine
- Exercise Physiology
- Flight Safety/Accident Investigation
- Health Promotion and Wellness Programs
- History of Aerospace Medicine
- Hyperbaric Medicine
- Medical Standards/Aircrew Health
- Neurophysiology/Vision
- Occupational/Environmental Medicine
- Performance/Psychology/Psychophysiology
- Space Medicine
- Other Related Topics

FP

F
it
to Fly

An
Aeromedical
Column

Pilot Mental Health

PICTURE THIS: A young student pilot applicant arrives in the AME's office for his first flight physical. He has wanted to be a pilot ever since he was little, his parents have sent him to a professional flight school, and he is about ready to solo. He had some problems with depression during high school, has been taking antidepressant medications for a few years, and has done very well. Because his depression had been chronic and recurrent, his doctor recommended that he stay on it for a few more years.

Another scenario: A student pilot applicant discloses that he had a heart problem that required some hospital records to be forwarded to the FAA. When his records arrive, it is clear that he had also been treated for ADHD (Attention Deficit Hyperactivity Disorder) for several years during adolescence, but because he had "out-grown" the problem, he did not think it would be necessary to disclose this history in his FAA application.

One more: A commercial pilot working for a regional carrier finds herself unable to cope with the stresses of a difficult divorce and a child custody battle. She can't sleep, cries a lot, and her doctor strongly recommends anti-depressant medication as part of her therapy. She knows this will disqualify her from her flying, and this adds even more to her stress. She can't afford being off work, but also knows that she is not mentally at her best.

Last one: A pilot, who has tried to quit smoking many times and failed, is placed on an antidepressant found

Wouldn't you rather know that the pilot flying your family is adequately treated, rather than flying angry, depressed, or anxious, and foregoing treatment?

By **PETRA ILLIG, M.D.**

to be helpful with smoking cessation. Because he is taking this medication for something other than depression, his doctor thought it would be OK to fly with it.

These scenarios are very typical. It is heartbreaking when a student pilot or certified pilot encounters the need to be treated for mental health problems, as the FAA will not certify anyone to fly who is in need of treatment or approve the use of such medications.

Even if the individual elects not to take the medications because of this regulation, the pilot could nonetheless be disqualified based on the underlying diagnosis. Basically, the FAA feels that if a pilot has a mental health problem that needs treatment (with or without medications), then they are not stable enough to fly. Even if the treatment with medications is effective, the FAA feels that they should not be certified, on the basis that the need for medications shows lack of stability, as well as the possible side effects of the medications themselves. Somewhat of a Catch 22!

At any given time, approximately 15% of the general population suffers from some sort of mental health problem such as depression or anxiety, and about 5% suffer from serious recurrent mental illness. Pilots, of course, are a subset of the general population, and mental illness affects them at about the same rate as the rest of the population.

There are a lot of different kinds of mental illnesses, and I do not intend to go into detail in this article. Nor

is it reasonable here to discuss the serious chronic mental disorders such as bipolar disease and schizophrenia, as these are permanently disqualifying for flight. Since these disorders usually appear relatively early in life, most people afflicted with these disturbances do not get very far into flight training.

Emotional difficulty

However, there are other mental health problems that might be significant at the time of their appearance but are expected to improve and not necessarily recur. These types of problems can occur to anyone with normal mental health, due to the stressful situations anyone can find themselves in. Any human being, when faced with enough stressful turmoil, can experience emotional troubles that can translate into depression, anxiety, or a combination of both. The good news here is that, in contrast to the more serious chronic mental illness, which can be simplistically viewed as "bad brain chemistry," these situational depressions are generally temporary in nature, and usually respond very well to a period of time of therapy, sometimes including medications. These people can usually eventually get medically certified after treatment is over.

During the time of treatment, pilots in this situation are disqualified from flying. After treatment is concluded, the FAA will certify the individual after a "reasonable" period of

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time has passed (to determine that the problem does not recur), and a report from the treating physician indicating the one-time nature of the problem. What is a reasonable period of time depends on the situation. If the problem lasted only several weeks or a few months, it is likely that two months off medications is enough time to determine that the problem will not recur. If the problem lasted longer, say a few years, then two months may not be long enough to determine that it will not recur. The FAA will make its determination based on the treating physician's report. It is obvious that the more thorough the report is, the more likely the FAA will make a favorable determination.

Additionally, there are many medical indications for taking antidepressants for reasons other than mental health issues, such as smoking cessation, chronic pain syndromes, and migraine headaches. The FAA will not certify anyone using these medications for any purpose, due to the possibility of cognitive side effects that might not be apparent even to the patient.

How does this relate to people who need counseling for life stresses? The FAA does not have any problem with pilots obtaining psychological or therapeutic counseling for life stressors (such as marriage counseling) that does not involve a bona fide mental health diagnosis.

Herbals or food supplements

Nor does the FAA have any problem with pilots taking herbal or food supplements that are advertised to help with depression, such as SAM-e S (Adenosylmethionine) or St. John's Wort (*Hypericum perforatum*). It must be pointed out that none of

these substances have been found to be of use any greater than a placebo effect in controlled double-blind studies, and that food supplements are not regulated in the USA. This means that purity of the substance is not guaranteed or controlled. It is also important to point out that food supplements might not be benign in their effects. Just because it is a "health food" and "natural" does not mean it cannot produce unanticipated side effects in certain individuals!

So what does this mean to the pilot who is having emotional problems? First of all, as with any medical problem, it is important that the pilot do what is best **MEDICALLY** first! Whether it is a problem with diabetes, heart issues, cancer, or anything else, the pilot must be fit to fly first and foremost—even if this means taking some time off work! As with most medical problems, once things have stabilized, the FAA will recertify. It is not a good idea to hide medical or psychological problems, as this can have a very bad outcome for flight safety.

SSRIs

In contrast to several years ago, today's modern anti-depressants (called SSRIs) in general have a very low side-effect profile. That means that they are well tolerated by most people, have good effects in treatment, and are not subject to the potential serious side effects of older (tricyclic) anti-depressant medications. People who are prescribed the correct medication (this can take some trials as there is no exact science to determine what medication and dosage will work best for any individual!) usually feel much better and can resume normal functioning, while their counseling

and psychotherapy are getting them back on track.

These are not "happy pills" but rather are medications that help regulate brain chemistry back to normal, so people can feel well enough to tackle the underlying problems that started them down the unhappy fork in the road in the first place. Usually, when people have been able to successfully deal with their situation, the medication can be slowly withdrawn. Unless the person really suffers from a recurrent chronic depression or anxiety disorder, they should do just fine.

So, if most people do well on these medications while they are getting their lives straightened back out, why won't the FAA allow flight while on these meds? Part of the answer is that psychiatry is not an exact science. If someone has diabetes, it is easy to set guidelines based on blood sugar levels. However, it is very hard to determine whether Suzie on Prozac is doing well, while Joe on the same medication might be having some real problems that can interfere with flight safety.

There just aren't any good lab tests to determine this, and psychiatrists could argue the point either way for any individual patient. However, there is some hope. The FAA is looking into data from Australia and Canada, where the use of SSRIs is allowed in very select cases. So, I do hope that it won't be too terribly long before the FAA allows the use of these medications for certain pilots who do very well. After all, wouldn't you rather know that the pilot flying your family is adequately treated, rather than flying angry, depressed, or anxious, and foregoing treatment?

To your health!

Half a Century in Clinical Aviation Medicine: One Physician's Viewpoint

THE CONCLUSION OF A TWO-PART SERIES

BY VICTOR MAXWELL, M.D.

BY 1978, it was obvious to me that the U.K. needed a body like AsMA if possible, or if that was too ambitious, then one like CAMA. I decided to start in a small way and in 1980, I issued an invitation to all AMEs in the U.K. to a meeting to consider the possible formation of such a body. Because of very heavy snowfall the day before the scheduled meeting, only 25 people actually attended. They were enthusiastic and unanimously decided to proceed. We chose a name (the Association of Aviation Medical Examiners—AAME) and elected a committee. As I have discovered, if you suggest anything you get to organise it, and I was elected to be the first chairman—equivalent to president in a U.S. professional body. The Committee of five wrote the new constitution and published our intentions as widely as possible. A formal inaugural meeting was held in London in October 1980, and 50 doctors attended and joined.

The main objective of the Association was educational with a subsidiary intention of fostering a better relationship between the CAA and the AMEs. We had already decided that we wanted to organize a major scientific meeting open to all interested parties on a topic of current interest in the field of Aviation Medicine. In the U.K., beta blockers had just been approved for conditional use in professional pilots and my old RAF colleague John Cooke had had a great deal of experience in this area.

John was by now an Air Vice Marshal—almost the highest rank which can be achieved by a physician. He was also Whittingham Professor of Aviation Medicine and well known on the international scene. He agreed to chair the conference and supported the choice of topic. With his help, a panel of experts was chosen to speak and a congenial venue found.

In April 1981, the first annual scientific meeting of the Association took place in York. Many aspects of the use of beta blockade were discussed. It was attended by over 100 delegates and was well received. It was recorded and later published as a supplement to the "Blue Journal" in November 1981.

My feeling about the need for a body such as AAME was vindicated. Our credibility was established and the CAA accepted us as an equal partner in the furthering of the role of the AME. We had demonstrated ourselves to be responsible doctors interested in our work and wanting to learn more for the benefit of "our" pilots and aviation safety. The relationship has steadily strengthened, and our current chairman is a member of the CAA's Civil Aviation Medicine Forum. This is a collaboration for which I personally feel very gratified. AAME is now 27 years old and thriving—I remain an honorary vice president but am not involved in day-to-day activities.

In 1982, we were invited to become a constituent member of AsMA, a position we hold to this day.

This is a much valued recognition of our standing in the international community. Also at this time, we started to publish a new Aviation Medicine journal of which I was Editor. Called "Aviation Medicine Quarterly" it attracted some favorable comment but "died" after five years because of the difficulty in attracting sufficient clinical material and shortage of subscribers. This was another interesting experience for me and a salutary one—enthusiasm is not of itself sufficient.

I remained in full-time family practice and part-time aviation medicine, during which time I was appointed consultant to a major loss of license insurance company. In 1991, I relocated to London, leaving my active aviation medicine practice behind. I very much missed the regular "hands on" contact with "my" pilots. Work in other fields occupied my time with the aviation insurance work continuing unabated. I also organized most of the AAME's annual scientific meetings up to 2005 and also helped to administer the Diploma in Aviation Medicine Course, which was run by Professor John Ernsting from Kings College. Now, only my consultancy remains and it is time to look back.

What changes have I seen in 50 years in Aviation Medicine? The early years really were about military flying with civilian aviation medicine, either commercial or general aviation,

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taking a very secondary role. All research was based on the needs of the military—pressure suits, oxygen equipment, helmet design, gravity protection, ejector seat physiology, exposure to heat and cold and other aspects of survival being of paramount importance. The spin-off into the civilian flying environment inevitably followed and dual standards were recognized for the professional and private flyer.

One major advance was the notion that safety could and should be quantified within what was to be perceived to be an acceptable degree. It became apparent that somewhere there was a threshold for the risk of subtle or overt incapacitation. Then came the 1% rule—now we not only knew that there could be a threshold but also where we believed it to be. Practical experience began to make its impact with this quantification of risk, particularly in cardiovascular disease. Later came the introduction of formal protocols to be followed. The idea that the professional pilot had to be as fit as possible and that any significant cardiological problem that carried the slightest risk should be disqualifying was still widespread. It became obvious that most accidents were caused by inexperience and it was appreciated that it was no longer necessary to disqualify experienced pilots for trivial reasons. Another interesting development has been the acceptance of the two-pilot flight deck and the role of CRM (cockpit resource management) making for a safer environment if there is a sudden incapacitation.

Aviation Medicine in large part became Airline Medicine, although some overlap between civilian and

military aviation medicine remains. An interesting alteration which has affected particularly civilian flying is the change in emphasis from the pilot having to prove that he is fit to fly at each medical to the regulatory authority having to prove that he is not. Concessions have been made—for example the licensing of private pilots who are insulin-dependent diabetics.

A peripheral area which I believe should be taken 'on board' by the AME is involvement in passenger health issues. As serious accidents are becoming rarer, passengers are becoming more concerned about what they may be afflicted with, infected with, or poisoned by, whilst flying. Passengers, rightly in my view, are going to demand more and more information about the hazards of flying. I believe that the individual AME as well as the organizations to which he or she belongs have a responsibility to be a resource of factual and authoritative information. A great deal of misinformation still reaches the media.

My 50 years in Aviation Medicine have been fascinating. A wide knowledge of general medicine in all its aspects acquired from a long spell working in hospitals and then in general practice was invaluable. Working as an AME at the same time allowed me to switch from one aspect of medicine to another easily and frequently with benefit to both.* Each produced its different challenges and each brought its separate rewards.

If I have to summarize the last 50 years in one phrase, it would be the emergence of formal education in aviation medicine at all levels.

FP

WHAT TO REPORT from page 4

entries in Item 19, including the one marked "**previously reported, no change**" in Item 60.

If the FAA decides that they require more information regarding one of the reported visits, they will request the specific information that they feel is pertinent to the physical findings, examination reports, applicant disclosure, or other evidence that would suggest that there is the possible presence of a disqualifying medical history or condition.

Note that if the FAA does request additional information, this is generally a very short notice request. Generally, you have ten days in which to respond. Make sure that you have a good address on file and that you check your mail often.

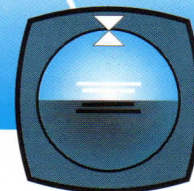
Remember, as we have discussed in earlier articles, you should consult your AME as to whether a condition or treatment is disqualifying at the time of diagnosis or treatment. This can keep problems from occurring when the time comes for your next medical certification physical exam.

FP

Please Visit CAMA's Web Site

www.civilavmed.com

- Members only area
- CAMA meeting Power Point lectures
- Meeting photographs
- *FlightPhysician* publications
- International Aviation Medicine interests



Aerospace Medical Association Annual Meeting Schedule

May 11-16, 2008 Boston, Massachusetts

Civil Aviation Medical Association Annual Meeting Schedule

October 10-13, 2007 San Diego, California
The San Diego Marriott
Mission Valley

October 7-11, 2008 Oklahoma City, Oklahoma
Crowne Plaza Hotel
2947 N.W. Expressway

October 14-17, 2009 Rochester, Minnesota Mayo
Clinic

FAA Aviation Medical Examiner Seminar Schedule

2007

August 27 - 31 Oklahoma City, Okla.
Basic

September 14 - 16 Savannah, Ga.
Cardiology

December 10 - 14 Oklahoma City, Okla.
Basic

For information, call your regional flight surgeon. To sign up for a seminar, call the FAA Civil Aerospace Medical Institute's AME Programs Office: (405) 954-4830.

Register for The Civil Aviation Medical Association Annual Scientific Meeting

October 10 - 13, 2007

Theme: Aviation Medicine New Frontiers

Marriott San Diego

Mission Valley

8757 Rio San Diego Drive

San Diego, CA 92018

Phone: 619-692-3800

For more information, contact Jim Harris:

- (405) 840-0199
- JimLHarris@aol.com

Coming in Future Issues of the *FlightPhysician*

Thanks to our members for submitting articles for publication, we now can enjoy a backlog of interesting subjects that will be useful to Aviation Medical

Examiners and airmen. Keep those articles coming!

In addition, we will continue to cover important topics related to medical certification.

Here are some of the subjects you can anticipate reading:

- Angina, Can I Control It and Continue Flying?
- Close Your Eyes...Recover
- Diabetes: How Do I Control It?
- Got Situational Awareness?
- Hypertension
- Letters to the Editor
- New Editor's Column
- New President's Column
- Report: San Diego Annual Meeting
- Risk
- Safety in Aviation and Safety in Hospitals, Part II
- The Human Component in GA Accidents