



# Federal Air Surgeon's Medical Bulletin



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Summer 2003

**Aviation Safety Through Aerospace Medicine**  
For FAA Aviation Medical Examiners, Office of Aerospace Medicine Personnel,  
Flight Standards Inspectors, and Other Aviation Professionals.

U.S. Department of Transportation  
**Federal Aviation Administration**

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## FAA Welcomes New Great Lakes Regional Flight Surgeon

**Nestor B. Kowalsky, MD**, was recently selected as the Regional Flight Surgeon for the Great Lakes Region. His first day was June 30th. Dr. Kowalsky replaces Dr. **Paul Brattain**, who retired earlier this year.

Since April 1987, Dr. Kowalsky was a Chicago Area Medical Director for American Airlines. He was previously Director of Flight Medicine for Eastern Airlines in Miami, Fla.

Dr. Kowalsky is a graduate of the McGill University medical school in Montreal, Canada, and he is board certified in Preventive Medicine. He currently holds active medical licenses in Illinois, Colorado, Florida, and Canada and is licensed by the US National Board of Medical Examiners. Dr. Kowalsky completed Flight Surgeon training at the Canadian Armed Forces Institute of Aviation Medicine in Toronto, Canada, in 1967. He served as a flight surgeon with the Royal Canadian Air Force from 1966 to 1969. Additionally, he earned an M.S. degree from Ohio State University in 1971. Dr. Kowalsky is an FAA senior aviation medical examiner, a medical review officer, and is a Certified Independent Medical Examiner.

*Continued on page 8*

## QUICK FIX

### Clarification of Medical Certification Validity

By **Richard F. Jones, MD**

ONE OF THE regional flight surgeons (RFSs) asked for clarification of a statement made in the "QUICK FIX" of the Spring 2003 *Federal Air Surgeon's Medical Bulletin*. The article said aviation medical examiners (AMEs) "should" advise airmen when "the AME reasonably expects to have submitted the results to the Aerospace Medical Certification Division," so that those with expired (or nearly expired) medical certificates would have supporting evidence of medical certificate on file before flying. The RFS accurately points out the medical certificate is valid from the moment it is issued by the aviation medical examiner, and this validity is not affected by the timeliness of subsequent submission of results to the AMCD. The "Quick Fix" statement was meant to encourage AMEs to tell airmen when they expect to transmit the examination. This would allow the airman to use judgment about whether or not to take the risks discussed in the article associated with not having a valid examination on file in Oklahoma City. The medical certificate is valid as soon as the AME issues it to the airman; however, AMEs need to be aware that there can be consequences to airmen if the transmission of medical information to Oklahoma City is delayed.

**Bottom line:** AMEs must submit examinations to the Aerospace Medical Certification Division as soon as possible, preferably the same day as the physical!

*Dr. Jones is the manager of CAMI's Aerospace Medical Education Division.*

# Capturing Little Bits of History

*Understanding the circumstances that have molded our way of doing business*

JUST A FEW DAYS AGO, I received a decision by the United States Court of Appeals for the Ninth District regarding the legal propriety of some of the questions on our Form 8500-8, Application for Airman Medical Certificate or Airman Medical and Student Pilot Certificate.

This decision reminded me of the significant impact that forces outside the Office of Aerospace Medicine have on the establishment and continuation of our medical certification policies and practices and in some cases, the medical standards themselves. In most cases, the impact comes from the administrative,

## The Federal Air Surgeon's Column



By Jon L. Jordan, MD, JD

judicial, or legislative branches of government or from organizations outside the government.

I am frequently asked, long after the fact, what generated the establishment of a certain practice or policy, and I sometimes find myself straining to remember. Fortunately, I have a very good memory (several of my staff say my memory is so good that I can even remember things that never happened!), but there are times when recalling events is a problem. There is currently no good mechanism for capturing these little bits of history other than relying on one's memory. For that reason, I will try, in this and future columns, to address a few of the circumstances that have molded our way of doing business.

The recent Court of Appeals decision titled *United States of America v. James M. Culliton* was filed on April 30, 2003. It involved the felony conviction of an airman for making false statements on the Form 8500-8. The airman appealed a conviction in the lower court, in part, on the grounds that the form is fundamentally ambiguous and that answering the questions on the form cannot serve as the basis for a false statement prosecution. The Court rejected the airman's contention and concluded that the form is not ambiguous under any standard of review. Coincident with this decision, the Court withdrew its earlier August 22, 2002, Opinion in this case that reversed the airman's conviction on the grounds that the questions on the Form are so confusing and capable of various meanings that a conviction based on answers to the questions is inconsistent with an individual's Due Process rights.

What makes this case historically interesting is that the Ninth Circuit's August 22 Opinion, which gave us significant concern about being able to use answers on the 8500-8 to prosecute an airman for falsification, was similar to the Eleventh Circuit Court of Appeals' decision in *United States v. Manaplat* 928 F.2d. 1097 (11th Cir. 1991). In that decision, the Court found the Form 8500-8 confusing in respect to the placement of questions related to "convictions" among purportedly medical questions and affirmed a lower court decision dismissing the indictment of the airman for falsifying the form.

For those aviation medical examiners who have been with us for a while, you may recall that in 1988, U.S. attorneys handed down 27 indictments as a part of a Federal crackdown on airmen failing to disclose alcohol- and drug-related traffic convictions on medical certificate applications. Images from T.V. news of airmen being escorted to jail in handcuffs remain in my memory. The *Manaplat* decision pretty much ended the action in those cases and caused us to revise the 8500-8 Form in an attempt to conform to the decision.

If you ever wondered about the origin, for Item 18 on the Form, of the phrase, "Have you ever in your life...", and why the "Conviction" questions 18v. and w. were removed from the "Medical History," and why we provide airmen with such detailed instructions on how to answer the question related to a conviction, it was in response to this litigation.

The reversal of the Ninth Circuit's decision in *Culliton* causes us to breathe a sigh of relief. Had the original decision been allowed to stand, we would have been left with the uncertainty of how effectively we could continue to use the current Form. The alternative would have been to attempt to revise the Form and provide complex instructions to applicants for answering the questions. This would have been an extremely complex task that would have likely resulted in a dramatic change to our Form. This, I am delighted to say, is a task that we do not now need to accomplish.

JLJ

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## Certification Issues and Answers

By Warren S. Silberman, DO, MPH

**W**ELL, it seems that as soon as you receive your current *Bulletin*, I am sitting here coming up with another article. There is much happening in the Aerospace Medical Certification Division (AMCD) these days. We have begun reviewing medical cases in the Workflow portion of the Document Imaging and Workflow System. This means that all examinations that are sent into the AMCD as hard-copy mail are being forwarded to scanning. Presently, all airmen whose names end in the letters A through E are being processed *entirely by electronic review*. So far, there have been no major problems.

Nine of our legal instrument examiners are working in the Workflow area, and the others continue to work cases using hard copy. We shall continue to phase in the remainder of our people depending on how the processing moves along. We have been waiting for this since October 1999!

**Personnel.** When **Henry K. Boren**, DO, rapidly departed for the Sandbox [spring *FASMB*, p.12], the Office of Aerospace Medicine in Washington received permission to hire another full-time physician. His name is **Richard Carter**, DO, MPH, and he came to us from the Army National Guard where he was the Chief Medical Officer at the Western Area Attack Helicopter Training Center, Marana, Ariz. I have personally known Richard since the late 1970s, when he was a medical student at the Phoenix



Dr. Carter

General Osteopathic Hospital in Phoenix, Ariz. He was also one of my Army RAM classmates. The Army National Guard was nice enough to allow him to retire early to assume this position. We needed an individual who would take a shortened training period. He is here, learning all the intricacies of civilian aerospace medicine, but he is not yet prepared to take any questions.

**Correction.** Several of my sharp legal instrument examiners pointed out something that could confuse you all that I neglected to mention in the spring 2003 *Bulletin* [*FASMB* 2003-1, p.4]. In # 10 of my case presentations, where airman Sky King had a left cerebral infarction, AMCD would also

require a current neurological status at the time of consideration for medical certification. This could be included in the cardiovascular evaluation. We would need to know if the airman experienced any neurological signs/symptoms during the 2-year observation period.

**Medications.** Well, I have decided to devote my question and answers in this issue to medications because, if you recall from past articles, granting medical certification to airmen on a disqualifying medication is the most common of AME errors (*FASMB*, winter 1998, p. 5; fall 2000, p. 3). For this reason, it bears repeating. Here are ten more cases to challenge your knowledge of medications in the certification process.

### Certification Issues (Answers on Page 4)

**1** An airman for 1<sup>st</sup>-class medical certification comes to his AME with a recent diagnosis of hyperlipidemia. The airman indicates in Block 17 a. that he is taking Zetia (ezetimibe), a new cholesterol-lowering agent. The AME issues a medical certificate to the airman. So, what's wrong with this picture?

**2** Billy Bob Smith is an agricultural spray pilot who works in Alabama. He goes to his AME for a 2<sup>nd</sup>-class medical certificate. He annotates in Block 17 a. that he is taking one Zyrtec (cetirizine) twice daily for mild seasonal allergic rhinitis. The AME notes in Block #60 that he informed the airman he may not take Zyrtec and pilot an aircraft. It is known to cause sedation. Billy Bob explains to the AME that he does not get sedated with the medication, but the AME insists that he cannot issue him his ticket unless he takes a nonsedating antihistamine. The AME elects to defer.

**3** Father Joe Time, an 80-year-old airman, comes in to obtain his 3<sup>rd</sup>-class medical certificate. Well, it seems Father wants to learn how to fly privately before he reaches 81! He notes in 18 h. that he has high blood pressure and writes in Block 17 a. that he is taking hydrochlorothiazide (HCTZ) and Aldomet (alpha-methyldopa). His blood pressure observed by the nurse is 170/80. The AME obtains a series of tests: cardiovascular evaluation, lipid panel, fasting glucose, serum potassium, and electrocardiogram. He then issues Mr. Time a 3<sup>rd</sup>-class medical. What was the problem(s) here?

**4** Nellie Nintendo, a 99'er from Nebraska, comes in for her 1<sup>st</sup>-class medical certificate. She notes in Block 17 a. that she is taking the medication Celexa (citalopram). Below Block 18 she notes that she was diagnosed with premenstrual syndrome and was placed on this medication by her gynecologist. The AME knows that AMCD grants medical certification for this condition and issues the certificate. So, what's wrong in this situation?

**5** An airman for a 3<sup>rd</sup>-class medical certificate reports use of prednisone pulse therapy for an acute exacerbation of asthma. As an AME, what should you do?

**6** A 71-y/o 2<sup>nd</sup>-class Certified Flight Instructor is diagnosed with adenocarcinoma of the prostate. The tumor is confined to the gland. The airman elects to receive external beam radiation followed by implantation of radioactive seeds. He happens to require renewal of his medical certificate while receiving his treatment. As an AME, what should you do?

*More questions and answers, next page*

*Dr. Silberman manages the Civil Aerospace Medical Institute's Aerospace Medical Certification Division.*

7 What about a case of a 1<sup>st</sup>-class airman who is placed on an investigational drug for malignancy? The malignancy is not metastatic, and the airman is doing well.

8 An applicant for 2<sup>nd</sup>-class medical certification admits to the use of Saw Palmetto for prostatic hyperplasia symptoms. What should you do?

9 An aviatrix with a colorful history of youthful indiscretions reports on her 3<sup>rd</sup>-class medical examination that she takes acyclovir four times a day to prevent painful outbreaks of herpes genitalis. As her sharp AME, you recall that page 22 of the *Guide for Aviation Medical Examiners* informs that one should defer if an airman is taking antivirals in a continuous manner. What should you do?

10 Lurch Adams, an owner of a T-6 Texan and member of the airshow team of the famous Adams Family Warbird Flying Circus, reports on his 2<sup>nd</sup>-class medical examination that he was diagnosed with spastic torticollis over the past year. He has been receiving injections of Botox (botulinum toxin) every month for this condition. As his AME, what should you do?

### Answers answers answers answers answers answers answers answers answers

1 The FDA released Zetia in October 2002 for the treatment of elevated cholesterol. It is a drug in a new category, and the FAA does not normally accept a medication for use by airmen until that drug is one year out from FDA approval. We like to wait to see whether there are any side effects that develop after general use. So, this AME was incorrect in granting issuance. (AMCD internal policy)

2 This AME has been reading his *Guide for Aviation Medical Examiners*! He was correct! Since the AME is not the treating physician, he would need to tell the airman that he should be on a nonsedating antihistamine prior to the granting of medical certification. AMCD will allow the use of Allegra (fexofenadine), Claritin (loratadine), or Clarinex (desloratadine). We would like the AME in these situations to inform the FAA in Block #60 that the airman is not experiencing any adverse effects from the medications (Allegra or Claritin) but will not deny medical certification should the AME fail to do so. AMCD would also not likely deny an airman should the AME write in Block #60 that he has warned the airman that he cannot pilot an aircraft within 48–72 hours of taking the Zyrtec. (*AME Guide*, p. 22)

3 Well this should be easier than playing “Where’s Waldo,” but you wouldn’t know it if you walked in our moccasins! There are two problems here. The *Guide for Aviation Medical Examiners* (p. 97) informs the AME that there are only five medications that are not approved for treatment of hypertension in airmen. They are Alpha-methyldopa, Guanabenz, Guanadrel, Guanethidine, and Reserpine. The other problem is the

BP value itself. Note, the blood pressure is not within our standards for medical certification of 155/95. The AME should have deferred the examination and told the airman what he would need to do to gain a medical certificate.

4 Celexa is a selective serotonin reuptake inhibitor. Does this help? The SSRIs are not currently acceptable for any medical condition. This is true even if the condition is not psychological. (*AME Guide*, p. 22)

5 If the applicant has an acute exacerbation of any medical condition, let alone asthma, they probably should not be flying. In this case, the applicant may be taking a daily dose of prednisone greater than 20 mg. The *Guide for Aviation Medical Examiners* indicates that you should not issue a medical certificate if the airman is taking steroids. As AMEs, you should know that we accept oral steroids for the treatment of a variety of medical conditions. What we do not accept is steroids in equivalent doses over 20 mg of prednisone. There is also the issue of the medical condition of asthma. Has there been an increase in exacerbations? What medications are required to maintain control? The AME needs to inform the applicant to return when the present exacerbation has resolved and the applicant is stabilized on therapy. If the 8500-8 has been started or completed, get it in to the AMCD in case the airman should go down the street to another AME and falsify a new examination. (*AME Guide*, p. 26)

6 While AMCD will grant medical certification for all classes of medical certificates to airmen with this condition, we will not grant this approval while the airman is actively receiving radiation or chemotherapy. In

the case of prostate cancer, the airman needs to complete this treatment and then request the certificate. AMCD has granted medical certification to airmen of all classes with radioactive seeds implanted for prostate cancer (internal AMCD policy).

7 The AMCD does not grant medical certification for any class to airmen who are receiving experimental or investigational drugs (*Guide for Aviation Medical Examiners*, p. 22).

8 This is an herbal or alternative medical treatment for a condition that is acceptable for medical certification. Herbal medications, for the most part, are acceptable to AMCD. There is one notable exception and that is medications containing ephedra (ephedrine), which is known to have adverse cardiac effects. Another consideration should be the medical condition for which the herbal medication is being taken. As AMEs, you should take a good history to make sure that the condition would not be denied or deferred based on Part 67.

9 In the case where an airman is taking an antiviral for herpes simplex, you may issue the medical certificate if you inform us in block #60 that the airman is taking the medication for this condition and is not suffering any side effects.

10 This condition is acceptable as long as the airman has good range of motion or at least can perform adequate scanning maneuvers in the cockpit. The medication also happens to be acceptable, but you/AMCD must warn the airman not to pilot an aircraft for 72 hours after receiving the medication.



# Dr. Jordan Testifies to Congress on Cabin Air Quality

*Dr. Jon L. Jordan, Federal Air Surgeon, testified before the House Aviation Subcommittee June 5, 2003, on the subject of cabin air quality. Cabin air quality continues to be a serious concern to many members of Congress, and provisions requiring the Federal Aviation Administration to conduct research in this area are in both the House and Senate reauthorization bills pending in Congress. The following are excerpts of his statement. The entire report is available on the Civil Aerospace Medical Institute's Web site. — Ed.*

## INTRODUCTION

...The issue of the quality of air in airliner cabins has for many years been a priority of this Subcommittee, and FAA shares your concerns. It has also been a matter of significant concern to aviation passengers and the crews that earn their living by working on commercial transport aircraft....

## RECENT DEVELOPMENTS

We are implementing the recommendations of the National Research Council (NRC) resulting from its study of airliner cabin air.... Studies have indicated that many aspects of cabin air are as good as or better than the air found in office and home environments. FAA regulations require that air carriers provide the equivalent of at least 10 cubic feet of air per minute per occupant, a ventilation rate that is consistent with recommendations for other public environments that are not as difficult to supply. Additionally, air carriers have the added benefit of flying at altitudes above the air pollution that is circulated into these spaces on the ground that we occupy on a daily basis.

Also, for those aircraft that recirculate some part of the cabin air, that air is typically passed through high quality filters, not used in homes or offices, before it returns to the cabin. Manufacturers of new airplanes used by air carriers incorporate either High Efficiency Particulate Air (HEPA) filters, similar to those used in hospital isolation areas and surgical suites, or particulate filters that are only slightly less efficient. Several airlines, in coordination with aircraft manufacturers, have even installed HEPA filters on board airplanes that did not originally incorporate them into their design. These filters can prevent clumps of viruses, bacteria, and fungi from reentering the cabin.

***FAA is committed to ensuring the safest flight possible – from the safety of the operation of the aircraft to the quality of the air that passengers and crew breathe inside the cabin.***

## SMOKING AND DISINSECTION

In the past, the two primary contributors to concerns regarding the health of cabin air quality were smoking and disinsection by spraying the aircraft cabin with an insecticide. Today... smoking is banned on all scheduled passenger flights of domestic air carriers and on almost all scheduled passenger flights of foreign air carriers to and from the United States.

***Studies have indicated that many aspects of cabin air are as good as or better than the air found in office and home environments.***

Chemical disinsection has also been significantly reduced and approximately half of the 12 countries that still require disinsection of all in-bound flights allow disinsection prior to boarding the aircraft.... Today, an interagency task group, established by the Secretary of Transportation and chaired by the Department of Transportation is working towards non-chemical methods of disinsection. One non-chemical method of disinsection, which looks promising, would involve an "air curtain" that would prevent insects from entering or exiting the airplane.

## THE NRC REPORT

...Congress directed FAA to request the NRC to perform an independent study of cabin air quality. The NRC study, which was completed in December 2001, with the help of FAA funding in the amount of \$830,000, examined

existing data from which the NRC developed ten recommendations related to cabin air quality. FAA has addressed the NRC recommendations with a plan to define and resolve air quality issues.

FAA concurs with the intent of all of the recommendations, and for many of these recommendations, we have either completed actions that address the underlying concerns, or we are in the process of addressing specific items....

The first four NRC recommendations involve assessing the validity of current regulations related to airplane ventilation systems and potential contaminants of cabin air. Current FAA regulations establish ventilation, ozone, carbon monoxide, and carbon dioxide standards based upon recommended standards provided by the Occupational Safety and Health Administration and the American Society of Heating Refrigerating and Air Conditioning Engineers (ASHRAE), in addition to pressure standards, to ensure safe comfortable travel. Our regulatory scheme ensures that passengers and crewmembers have enough uncontaminated air to allow for reasonable comfort during normal operating conditions, protects passengers and crew from hazardous ozone, carbon monoxide and carbon dioxide exposure, and establishes standards for pressurized compartments in transport category airplanes. Initially, we planned to task an aviation rulemaking advisory committee (ARAC) to assess existing cabin air environmental standards. However, recognizing that there are new initiatives to collect data on air quality in air transport aircraft, we have deferred action by an ARAC. We anticipate that by the close of 2006 or early 2007, substantial data will be available for our consideration.

*Continued on page 8*

High blood pressure is a risk factor or a cause of more than 210,000 deaths in the US each year and is often called the silent killer.

There is a saying among aviators – “Being legal does not mean you’re safe or proficient.” The same axiom holds true regarding high blood pressure, since recent changes in this disease’s definition seemingly conflict with FAA regulations.

Aviation medical examiners (AMEs) understand the measurement of blood pressure as an essential part of the FAA medical certification examination. A pilot is disqualified for all classes if she, or he, has a sitting systolic blood pressure above 155 mm mercury or a diastolic pressure above 95 mm mercury at the time of the exam.

However, on May 14, 2003, the National Heart, Lung, and Blood Institute (NHLBI), a division of the Department of Health and Human Services and National Institutes of Health,<sup>1</sup> issued new blood pressure standards.

As defined by the NHLBI, a blood pressure of 120/80 mmHg (or higher) is now considered *prehypertension*, a precursor condition to hypertension, which serves as a warning signal that risk is increased for high blood pressure. The new report also changes the former blood pressure definitions (see Table 1).

The new guides also recommend a change in medication<sup>2</sup> use.



By Donato J. Borrillo, MD, JD

**Table 1.** Revised hypertension standards issued by the National Heart, Lung, & Blood Institute. **These are not FAA-approved medical certification standards.**

| New NHLBI Hypertension Standards |                  |                   |
|----------------------------------|------------------|-------------------|
| Condition                        | Systolic (mm Hg) | Diastolic (mm Hg) |
| Normal                           | < 120            | < 80              |
| Prehypertension                  | 120-139          | 80-89             |
| Stage 1 hypertension             | 140-159          | 90-99             |
| Stage 2 hypertension             | ≥ 160            | ≥ 100             |

An aviator could, therefore, have untreated stage 1 hypertension (and possibly stage 2 hypertension) and still be within the medical standards — legal— to fly (*See axiom above*).

We know that pilots with a diagnosis of hypertension or those on medication to control blood pressure must provide

a detailed cardiovascular evaluation for FAA consideration. So, what’s an AME to do? And, does this “new definition” imply an increased risk for sudden incapacitation (the underlying factor for medical disqualification)?

The simple answer is, *no*. The AME should identify the elevated, but legal, blood pressure, inform the airman applicant of its health impact, and make recommendations for life style changes and medical follow-up. The AME should refer the patient back to his, or her, primary care physician **and may issue the certificate**. If the AME happens to be the primary care provider for the aviator, a work-up for essential hypertension should be conducted.

<sup>1</sup> *The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7).*

<sup>2</sup> Simplified and strengthened drug treatment recommendations. The guidelines recommend use of a diuretic, either alone or in combination with another drug class, as part of the treatment plan in most patients. The report notes that even though many studies have found diuretics to be effective in preventing hypertension’s cardiovascular complications, they are currently not being sufficiently used. The guidelines also list other drug classes that have been shown to be effective in reducing hypertension’s cardiovascular complications and that may be considered to begin therapy: angiotensin converting enzyme (ACE) inhibitors, angiotensin receptor blockers, beta-blockers, and calcium channel blockers. The report also gives the “compelling indications”—or high-risk conditions—for which such drugs are recommended as initial therapy. Use of additional drugs for severe hypertension or to lower blood pressure to the desired level. According to the new report, most persons will need two, and at times three or more, medications to lower blood pressure to the desired level.

*Continued next page*

If a diagnosis of high blood pressure is subsequently made, or anti-hypertensive medication is initiated, these actions effectively suspend the medical certificate, since this would be considered a significant change in medical condition or history. Pilots with a diagnosis of hypertension or those on medication to control blood pressure must provide a detailed cardiovascular evaluation for FAA consideration.

The consequences of high blood pressure, if left untreated, should be stressed to the aviator, since damage to major organs, including the heart, brain, and kidney may occur. It is a

major risk factor in heart failure, heart attack, stroke, kidney failure, and certain kinds of blindness. High blood pressure is a risk factor or a cause of more than 210,000 deaths in the U.S. each year, and is often called the silent killer.

Although it is legal to fly with a prehypertensive condition, it may not be healthy in the long run.



*Dr. Borrillo is the Medical Director of Occupational and Hyperbaric Medicine, The Toledo Hospital, ProMedica Health System. He is also a senior aviation medical examiner, an attorney, and a pilot with a Commercial rating.*

## A Case of HIV in an Airman Applicant

Case Report, by Jerome W. Tiefert, MD

*Summary: Medical certification of pilots with Human Immunodeficiency Virus (HIV) infection has been controversial. HIV infection has the potential to degrade aviator performance, sometimes in very gradual and subtle ways. This following case illustrates the use of the diagnostic and screening techniques needed to ensure safety for HIV-positive pilots and their passengers.*

### History

A 40-YEAR-OLD airman with a 7-year history of HIV presents with a request for a 1<sup>st</sup>-class certificate. He was initially treated with Norvir, 3TC and AZT. Current medications include Viread and Trizivir. The airman was denied medical certification 6 years ago by virtue of his HIV+ status and his medications. Five years ago, he was granted a 1<sup>st</sup>-class certificate, which he has maintained since then.

The airman has remained in generally good health. He had a history of positive antibody tests for hepatitis A and hepatitis B, but neither produced a clinically significant illness. An episode of secondary syphilis 4 years ago was successfully treated with injectable penicillin.

His first neuropsychiatric evaluation 6 years ago revealed abnormal conceptual reasoning and mental flexibility tests, suggesting possible cognitive dysfunction. The examiner felt that "test anxiety" might have been responsible for the negative results. The test was repeated after the applicant became more familiar with it, and it produced good results.

Four years ago, a CogScreen (Aviation Edition) demonstrated a slight decline in components of cognitive function that are commonly affected by HIV. A repeat examination in 1999, however, demonstrated "good to excellent" results. Subsequent yearly exams gave similar to better results. Overall functioning was well within the usual range of aviators.

*Continued on page 10*

### An Aviation Medical Examiner's 'Biggest Problem'



My biggest problem in the office with the exams is getting high readings from "white-coat hypertension." If the pilots lie down for a while and their blood pressure comes back to FAA-acceptable limits, I naturally issue the certificate. Sometimes I tell them to buy (for around 45 bucks) a home blood pressure outfit with digital readout (no stethoscope needed) to monitor their readings several times a day and see what the average is for the week. Certainly the 155/95 limit is *very* liberal. I think many pilots in the prehypertension range should be treated. A pilot with a continued reading of 150/90 definitely is at risk, although he may be issued a medical certificate.

This must be a common problem seen by other AMEs. The number of pilots who are currently on antihypertensive medication, I recall, was over 25,000.

I guess once a day I get a pilot who is somewhat apprehensive and I have him (or her!) lie down and relax for a while. But, is this pilot just suffering from "white-coat" hypertension or is this reading a sign of true hypertension? An appropriate (examiner's decision) comment from the AME is **always** needed.

Also, I have many pilots come for their exam without bringing appropriate documentation for their first report of being on antihypertensive medication or the briefer report for subsequent visits. (Mr. Jones continues to be on Lotensin 20/25 once a day. His blood pressure is well controlled with this medication without side effects. The last BP reading was 120/72 on June 3, 2003. His potassium is normal at 4.5 [Because he is on a diuretic].")

I have copied the requirements for the initial and subsequent hypertension-control reports for them to give their physician. Saves time and lets their doctor know exactly what is needed. All this is in the *Guide for Aviation Medical Examiners*.

Glenn R. Stoutt, Jr., MD, Senior AME  
Springs Pediatric and Aviation Medicine Clinic  
Louisville, Kentucky

NRC Recommendations 5 and 7 address allergen exposure and ventilation shutdown. We have already addressed both of these recommendations through Advisory Circulars (ACs)....

The agency also issued an AC implementing NRC's seventh recommendation, concerning ventilation failure or shutdowns on the ground...that whenever possible, passengers should be removed from an airplane within 30 minutes of a ventilation failure or shutdown. We have advised air carriers to implement this practice as long as operational safety is not compromised.

In Recommendation 6, the NRC suggested that FAA increase efforts to provide information on health issues related to air travel to crew, passengers and health professionals. Since this recommendation was received, FAA has redoubled its efforts to make available information and recommendations regarding air travel health and medical issues through our Web site (<http://www.cami.jccbi.gov/aam-400/PassengerHands.htm>) and have linked our site with others that provide health information to passengers and crews.

In Recommendations 8 and 9, NRC recommends that FAA establish a surveillance and research program for air quality and health that would provide the data to analyze the relationship between cabin air quality and health effects or complaints. These recommendations are being addressed through a joint research effort combining the resources and talent of FAA and ASHRAE.

We have identified \$550,000 to support ASHRAE's two-part research proposal, developed with industry, including input from flight attendants, to monitor cabin air quality and determine whether there are links between aircraft cabin air and reported health effects.... Coincident with the ASHRAE studies, instruments developed by the Johns Hopkins University Applied Physics Laboratory for continuous measurement of the air carrier operating environment will be placed on board

two aircraft to validate performance of equipment in contrast with measurements taken in the ASHRAE study.

FAA proposes, dependent on the availability of funds, to follow the ASHRAE study with a Chemical/Biological Threat Mitigation Project. Since September 11, 2001, we have had to focus on the threat of terrorism in our country, including the use of chemical or biological weapons. The goal of the Chemical/Biological Threat Mitigation Project is to determine the best methods to detect chemical and biological threats in the cabin environment, and develop

***FAA has assumed the lead agency role for the study of cabin air quality because our central position in the aviation world enables us to facilitate the interaction of the interested parties.***

safe processes to return contaminated aircraft to service and to deal with health issues involving exposed passengers and crew...to reach these goals and monitor the air for such hazards, we will need a device appropriate and adaptable to the airplane environment that can constantly monitor the air on board and provide real-time information on a potential air quality incident.

The data collected from these studies on air quality and the potential air quality correlation with health concerns will provide us with information essential to developing an implementation plan for the first four NRC recommendations. Specifically, we expect that we will be able to use the data we collect through this study to address the research recommendations on ozone, pesticides, and residue from aircraft ventilation systems....

Finally, FAA has assumed the lead agency role for the study of cabin air quality. FAA is best suited for this role because our central position in the aviation world enables us to facilitate the interaction of the interested parties.

#### **SARS**

Understandably, the recent outbreak of SARS has spiked concern about air travel. FAA is aware of the heightened

concern and has been working closely with staff at the Centers for Disease Control and Prevention (CDC) to promote awareness of prevention guidelines for travelers and all who work in the aviation industry. The CDC's experts on communicable disease are examining the relationship of the recent outbreaks to various modes of transportation. On April 3, 2003, FAA issued a notice to all FAA principal operations inspectors directing them to notify the airline operators as soon as possible about the basic CDC information on SARS. In addition, my office has been working with the Air Transport Association asking them, in the interest of passenger and crew safety and health, to work with their members to expedite implementation of the CDC's prevention recommendations....

#### **CONCLUSION**

...FAA is committed to ensuring the safest flight possible – from the safety of the operation of the aircraft to the quality of the air that passengers and crew breathe inside the cabin.



#### **Dr. Kowalsky from page 1**

In announcing the new regional flight surgeon's appointment, Federal Air Surgeon Dr. **Jon L. Jordan** stated, "I am delighted that Dr. Kowalsky has decided to join us. He brings to our organization a wealth of experience and knowledge, and I look forward to the contributions he will make to our already outstanding programs." Dr. Jordan asks everyone to join him in giving Dr. Kowalsky a warm welcome to the FAA Office of Aerospace Medicine.

Dr. Kowalsky says he is "excited and pleased" to be joining the Federal Aviation Administration. "Of all the federal agencies I've dealt with over the years, the FAA's culture of customer service has impressed me the most—they take care of their customers' needs."



### Minor Procedures

Dear Editor,

I have a question that would be great, I feel, for inclusion in a subsequent *Federal Air Surgeon's Medical Bulletin*. I figure if one examiner encounters this question, surely many others will as well.

Does FAR 67 preempt state regulatory requirements for the consent of a parent or guardian prior to performing an FAA exam on a minor applicant? Several recent cases have occurred in my practice where a 16- or 17-year-old applicant comes in by himself, only to be delayed while my office staff (trying to follow our routine procedures) tries to get the parents to fax written parental consent. I feel that parental consent is unnecessary since the AME is serving as an FAA Designee rather than as a treating physician. Is this correct?

Thank you,

**Troy Millican, MD**  
Columbus, Texas

Dear Dr. Millican,

When you are doing FAA examinations, you are practicing medicine. Although you are working as a designee, not as an employee of the FAA, you are bound by the same rules that govern all other aspects of your practice, including compliance with your state laws regarding minors. Only if a physician is actually employed by the government are state laws superceded, but federal employees must still obtain parental consent for FAA examinations.

—**Richard F. Jones, MD**

Manager, Civil Aerospace  
Medical Institute's  
Aerospace Medical Education Division



### Quick Fix Clarified

Dear Editor,

I would like to see a correction/clarification made in the Summer 2003 FASMB in regard to the article "Quick Fix," by Richard Jones, MD [*FASMB*, summer 2003, page 1].

In the paragraph under "Solution," he states, "Airmen who have delayed seeking certificates until near or past the expiration of the previous certificate should be advised not to fly until a date the AME reasonably expects to have submitted the results to the AMCD."

This is an erroneous statement. The airman has a legal certificate the day it is issued and not exercising the privileges of the certificate (i.e., be advised not to fly) until the AME has submitted the results is incorrect.

The purpose of the article is to reinforce to AMEs the importance of transmitting the exams within 14 days, not to delay the airman exercising the privileges of the issued certificate. Hopefully, this will be clarified, and before the pilot organizations notice and ask questions.

**Paul H. Clark, MD**

New England Regional  
Flight Surgeon

### Excessive White Space

...Indicates insufficient information was available to fill the allocated space. In this instance, *white space* means we need to hear from you. Consider this page to be your space to get questions answered by the experts in aeromedical certification. For quick replies, send an E-mail to: Mike.Wayda@faa.gov.

Or, address regular mail to:  
FAA Civil Aerospace Medical Institute  
Editor, FASMB  
AAM-400, P.O. Box 25082  
Oklahoma City, OK 73125

### Atrial Fib Question

Dear Editor:

We were again reading the Spring issue of the *FASMB* and picked up a couple of statements on page 11 in Charles Sweeney's report on atrial fibrillation [Atrial Fibrillation and Medical Certification, *FASMB*, spring 2003, page 11] that differs from our understanding. Hope you can clear it up for us. Dr. Sweeney mentions that sinus pauses of equal or greater than 3.0 seconds during waking hours would be considered disqualifying. It's been our understanding that 2.5 secs or greater is the cut off for certification. Also, he states that a three-month stabilization and adjustment [period] for Coumadin is required. Our understanding is that the FAA requires the last six months of INRs, which essentially means at least six months of stabilization is necessary. This is nit picking as far as I'm concerned, but it differs from what we've gotten in the past and we will get called on it someday, either by an AME or by a member.

**Gary Crump**

Aircraft Owners & Pilots Association

Dear Mr. Crump,

We changed the pause requirement to 3.0 sec or greater. For INRs, we accept a minimum of 3 months of control, meaning that the levels are within 2.0 to 3.0 for three months. If the airman demonstrates that he has had weekly INR levels for 4 weeks and they are all within the levels, we have also granted medical certification.

—**Warren Silberman, DO, MPH**

Manager, Civil Aerospace  
Medical Institute's  
Aerospace Medical Certification Division

## HIV from page 7

His laboratory exam revealed an initial CD4 count 7 years ago of 260/mm<sup>3</sup>. A viral load 6 years ago was below 500 copies/ml. Two years ago, the viral load was found to be 5,868 copies/ml. A repeat test, however, was negative, suggesting that the first test was erroneous. Two viral load tests 8 months ago were 12,760 and 10,745 copies/ml. Resistance to one of his current drugs was suspected, so the regimen was changed to the current one. Viral load two months after this was 286 copies per ml and remains low. CBCs, blood chemistries, and liver function tests all remained normal.

### Discussion

The HIV virus presents several threats to the aviator. Opportunistic infections such as pneumocystis, tuberculosis, toxoplasmosis, and cytomegalovirus may occur. Various psychiatric and cognitive changes, ataxia, seizures, neuropathies, and myopathies can develop. The psychological effects of having the disease, such as depression, may interfere with performance (1).

Cognitive and psychomotor changes caused by HIV can be very insidious, often presenting as apathy, inattention, impaired concentration, forgetfulness, mood swings, and withdrawal (2). The CogScreen appears to be a very sensitive indicator of early impairment (3).

The medications for HIV can produce side effects that impair performance. This individual is on Viread, a nucleotide reverse transcriptase inhibitor, and Trizivir, which contains AZT, 3TC, and abacavir, all of which are likewise nucleotide reverse transcriptase inhibitors. Side effects of these medications may include nausea, fatigue, occasional allergic reactions, muscle wasting, liver and pancreas toxicity, and anemia.

*Dr. Tiefert was a Wright State University Resident in Aerospace Medicine when he wrote this case report at the Civil Aerospace Medical Institute.*

## Aeromedical Decision-Making

The aeromedical approach to HIV may be broken down into four categories depending upon whether the application is a initial or repeat certification and if an AIDS-defining illness (AIDS-DI) is present:

1. Initial certification, no AIDS-DI: The AME should provide reports of symptoms, examination, and treatment. An assessment of cognitive function is needed. Lab must include viral load, CD4 counts, CBC, and kidney and liver function tests. Viral load must be < 10,000 copies/ml on 2 tests 1 month apart with CD4 > 350/mm<sup>3</sup>. Viral load must be < 5,000 copies/ml if the CD4 count is between 200-350/mm<sup>3</sup>. Two CD4 counts less than 200/mm<sup>3</sup> and more than 1 month apart is not acceptable.
2. Initial certification, AIDS-DI: Six-month observation after recovery from the AIDS-DI is required. Two tests more than 1 month apart showing viral load < 10,000 and CD4 counts > 350. Cognitive testing must be normal. CBC, kidney, and liver function tests must be within acceptable limits. If CMV infection is present, an ophthalmologic evaluation with visual field exam at initial application and every 6 months.
3. Recertification, no AIDS-DI: Quarterly determination of viral load, CD4 count, clinical assessment of cognitive function, and other tests deemed relevant are required. Cognitive testing for 1<sup>st</sup>- and 2<sup>nd</sup>-class certification every 1 year and 2 years for 3<sup>rd</sup> class. Viral loads per (1) above.
4. Recertification, AIDS-DI: Quarterly determination of viral load, CD4 count, clinical assessment of cognitive function, and other tests deemed relevant. The viral load must be < 10,000 and CD4 > 350. Report any change or discontinuation of medication. Cognitive testing should be done, as for (3) above. Progression of CMV retinitis, if present, must be reported.

### Conclusion

This aviator was granted special issuance. The case illustrates several important features of evaluating the HIV-positive patient. First, one should always consider the possibility of HIV-associated diseases, such as hepatitis B (4) and syphilis (5), as seen here. Second, labs results can be wrong, such as the erroneous viral load reported here. Request repeat tests for unexpected results. Third, be cognizant of subtle shifts in viral characteristics, such as developing resistance. Finally, remember that changes in cognitive and psychomotor performance can be subtle and dangerous. Be alert for such changes, but remember that neuropsychological tests can be influenced by extraneous factors and should be interpreted carefully.

### References

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2. "HIV Infection in Aviators: Some Neurological Considerations." Hastings, J. *Federal Air Surgeon's Medical Bulletin*, winter 1993, pp. 1.
3. "Guidelines for the Psychological Evaluation of Air Crew Personnel." Kay, G. in *Occupational Medicine: State of the Art Reviews*, Vol. 17, No. 2, April-June, 2002.
4. "Hepatitis B Virus and HIV Coinfection" Piliero and Faragon. *The AIDS Reader*, Oct., 2002.
5. "Epidemiological Synergy. Interrelationships Between Human Immunodeficiency Virus Infection and Other Sexually Transmitted Diseases." Wasserheit. *Journal of Sexually Transmitted Diseases*, 1992 Mar-Apr;19(2):61-77.



## Multiple Sclerosis

Case Report, by Matt Dumstorf, MD

### Case

A 44-YEAR-OLD man with 3,500 hours of total flying time applied for renewal of his 2<sup>nd</sup>-class airman medical certificate in February of 1999. Up to that date, he had never had any denials, suspensions, or revocations of his airman medical certificate. His aviation medical examiner noted no visual or neurologic complaints or symptoms on physical examination.

However, the AME did note that the pilot had had an onset of visual problems that began sometime in early to mid 1998. The airman's initial description of his problem was episodic periods of fuzzy vision, lasting from 15-20 minutes each. In addition, he also complained of numbness in his right leg and tingling of the right fingertips and hand. A diagnosis of multiple sclerosis was considered, and evidence to suggest this followed. A lumbar puncture revealed oligoclonal bands in his CSF, and an MRI scan of his CNS performed in late 1998 did show some probable evidence of focal demyelination.

The AME deferred the airman's renewal, and the FAA subsequently denied his renewal for an apparent history of demyelinating optic neuropathy. He was followed closely by a neuro-ophthalmologist in 1999 and in October of 1999, was given the diagnosis of multiple sclerosis with bilateral demyelinating optic neuropathy.

The pilot made several visits to clinicians in 2000. He was noted to have no neurologic complaints, and it appeared that his multiple sclerosis was in remission. A review of his records shows that, as of his clinical visit in November of 2000, he was receiving beta interferon (Avonex) injections without any noted side effects. It was recommended that he continue this therapy. A request for reconsideration of his medical status was granted, and his records were forwarded to an FAA neurology consultant.

*According to FAA certification records, there were 163 airmen with an established diagnosis of a degenerative brain disorder who had been certified as medically safe for flying duties. Multiple sclerosis is one of the diagnoses included in the degenerative brain disorder grouping. Thus, a diagnosis of multiple sclerosis is not an automatic permanent disqualification for airman medical certification.*

The consultant's opinion suggested that the pilot suffers from probable multiple sclerosis, which was previously symptomatic with both visual and spinal symptoms. As of his most recent exam in late 2000, he had resolution of his visual complaints, had an improved and stable neuro-ophthalmologic exam, and a normal neurologic examination. The recommendation was to grant him a time-limited (for one year) medical certification, with the stipulation that a neurologist closely follow him and will submit a yearly report from his treating physician regarding the history and stability of his multiple sclerosis. He was also cautioned that it was his responsibility to ground himself if any new or adverse symptoms developed, if he experienced side effects from the Avonex, or if a change in medication was required.

### The AME, the FAA, and MS

The airman medical neurological standards are clearly defined in Title 14, Part 67 of the Code of Federal Regulations. Two items within these standards are important to note as they relate to multiple sclerosis.

First, if an airman has a transient loss of CNS function(s) that does not have a satisfactory medical explanation of the cause, then that airman is deemed medically unfit to fly. For multiple sclerosis, this applies during the time period that a diagnosis has not been established, yet the patient is still experiencing symptoms. Thus, in the case illustrated above, the airman was denied his medical certification when he had a history of visual and spinal symptoms, yet no clear cause had been established.

Second, the airman neurological standards indicate that any neurological condition that either prevents an airman from performing the duties of

flying or that hinders the airman while flying from safe performance of those duties is a disqualifying condition. For multiple sclerosis, this would apply during the time period after a diagnosis has been established, yet the patient is still experiencing symptoms. In the case above, the airman was repeatedly denied requests for recertification until it had been established that he was clinically stable and no longer experiencing neurological symptoms from his multiple sclerosis.

In addition to the above neurological standards, AMEs and airmen must remain aware that the use of certain medications is unacceptable from an aeromedical perspective, regardless of the medical diagnosis that has been established. Such medications as baclofen (for spasticity), clonazepam (for tremor or ataxia), and amitriptyline (for paresthesias) that may be used to treat MS symptoms would be cause for immediate grounding of airmen.

At the end of the year 2000, according to FAA certification records, there were 163 airmen with an established diagnosis of a degenerative brain disorder who had been certified as medically safe for flying duties, compared with 29 who had been denied certification due to a diagnosis of a degenerative brain disorder. Multiple sclerosis is one of the diagnoses included in the degenerative brain disorder grouping. Although degenerative brain disorders are not quantified further into the individual diagnoses, discussion with the certification physicians led to the subjective conclusion that the majority of those certified airmen probably had multiple sclerosis. Of those 163 airmen, 34 were 1<sup>st</sup>-class, 34 were 2<sup>nd</sup>-class, and 95 were 3<sup>rd</sup>-class. Thus, a diagnosis of multiple sclerosis is not an automatic permanent disqualification for airman medical certification.

*Continued on page 15*

## AWARDS FOR EXCELLENCE AND ACHIEVEMENT

### FAA Annual Awards Ceremony Recognizes Accomplishments

By Mike Wayda

**T**HE OFFICE OF AEROSPACE Medicine's (AAM's) tenth annual awards program recognized outstanding employees at a ceremony held recently in Atlanta, Ga. The awards reinforce the contributions of individuals and teams in AAM. AAM employees across the country nominated their associates for specific award categories. Nominations were also sought for a separate award, the "Friend of AAM," for which only individuals outside of the AAM organization are eligible.

A national awards panel selected the winners in each category. Each award recipient was given a special recognition plaque by Federal Air Surgeon **Jon L. Jordan, MD, JD**.

Listed below are the award categories and recipients.

#### OUTSTANDING MANAGER

**Stephen W. Smiley**

*Civil Aerospace Medical Institute*

#### OUTSTANDING LEADERSHIP

**Nicole T. Vu, PhD**

*Civil Aerospace Medical Institute*

#### OUTSTANDING INNOVATOR

**Wallace Friedberg, PhD**

*Civil Aerospace Medical Institute*

#### ADMINISTRATIVE EXCELLENCE (TIE)

**Lori D. Samuel**

*Civil Aerospace Medical Institute*

**Jo Ann Perry**

*Southwest Region*

**Lorrenza Snyder**

*Civil Aerospace Medical Institute*



AAM Awards for Excellence Winners

#### OUTSTANDING TEAM

**Cabin Safety Research Team**

**Kenneth G. Larcher**

**David M. Dyer**

**Richard L. Butler**

**R. Van Gowdy**

**Ronnie F. Minnick**

**Cynthia L. Corbett**

**Garnet A. McLean**

*Civil Aerospace Medical Institute*

**David J. Ruppel**

**Julie G. Larcher**

*Advancia*

#### WILLIAM E. COLLINS PUBLICATION

**Crystal E. Cruz**

**Carol A. Manning, PhD**

*Civil Aerospace Medical Institute*

#### AAM MISSION SUPPORT

**Wilma J. Fairman**

*Civil Aerospace Medical Institute*

#### AAM OFFICE OF THE YEAR

**CAMI Clinic**

*Civil Aerospace Medical Institute*

#### OUTSTANDING CUSTOMER SERVICE (TIE)

**Joan L. Morgan**

*Great Lakes Region*

**Donna G. Potter**

*Civil Aerospace Medical Institute*

#### FRIEND OF AAM

**Michael P. Menser**

*Mike Monroney Aeronautical Center*

#### FLIGHT SURGEON OF THE YEAR

**Warren S. Silberman, DO**

*Civil Aerospace Medical Institute*

#### INSPECTOR OF THE YEAR

**Linda R. Swanke**

*Washington Headquarters*

#### REGIONAL EMPLOYEE OF THE YEAR (TIE)

**Melanie M. Schenck**

*Northwest Mountain Region*

**Ava M. Wright**

*Great Lakes Region*





## More Aerospace Medicine Accomplishments

### AsMA Recognizes AAM Employees

During the Aerospace Medical Association's (AsMA's) Annual Scientific Meeting in San Antonio, Texas, six Office of Aerospace Medicine employees were honored.

#### ASMA PRESIDENT-ELECT



**David Schroeder, PhD**, is the newly elected President of the Aerospace Medical Association. He is only the second non-physician in the 75-year history of the association to

serve in this capacity. The association is a multi-disciplinary organization involved in the application of professional and scientific knowledge, training, and research to promote and maintain the health, well-being in aerospace activities. Dr. Schroeder manages the FAA's Aerospace Human Factors Research Division at the Civil Aerospace Medical Institute.

#### FELLOWS

**Thomas Nesthus, PhD**, and **Alex Wolbrink, MD**, were elected AsMA Fellows. Each year, AsMA recognizes a very select group of active members who have made outstanding contributions to aerospace medicine, aeronautics, astronautics, undersea medicine, or environmental health, either in research, in the practical application of research, or by precept and example. Only one half of 1% of all active

members are recognized as AsMA Fellows every year.

#### MOSELEY AWARD

**Scott Shappell, PhD**, received the "Harry G. Moseley Award," given annually for outstanding contributions to flight safety. Dr. Shappell and his collaborator, **Douglas Wiegmann, PhD**, of the University of Illinois at Urbana-Champaign, were recognized for their significant contributions to aviation safety with the development and implementation of the Human Factors Analysis and Classification System (HFACS) worldwide. While initially established to provide a systematic approach to classifying the human factors associated with the US Navy and Marine Corps aviation accidents, the system has been used more recently to assess commercial and general aviation accidents. The database of civilian aviation accidents between 1990-1999 contains over 20,000 accidents. HFACS has provided an opportunity for scientists and investigators to consider a broader, more systems view of aviation accidents and incidents. This taxonomic approach also provides the necessary data for developing a data-driven approach to developing interventions and subsequently evaluating their effectiveness at reducing accidents.

#### LONGACRE AWARD

**Raymond King, PhD**, received the "Raymond F. Longacre Award." This award is given annually for outstanding accomplishment in the psychological and psychiatric aspects of aerospace medicine.

Recognized for their accomplishments (L-R): Drs. Nesthus, Shappell, Wiegmann, and Wolbrink.

Below: Dr. King (R) receives the Moseley Award from AsMA President Claude Thibeault, MD.



Dr. King has provided outstanding leadership in aerospace psychology for the past 15 years. As a flight psychologist for the Euro-NATO Joint Jet Pilot Training program early in his USAF career, Dr. King developed standardized protocols for the diagnosis and treatment of airsickness that have served as the basis for the development of similar programs throughout the world. His involvement in psychiatric issues concerning airman selection and crew performance in the USAF led to the development of his 1999 book, *Aerospace Clinical Psychology*. He has also been involved in providing aircraft investigation training internationally to flight surgeons, physiologists and psychologists. His experience with the conduct of psychological evaluations of flight crewmembers provided the appropriate background for him to serve as a psychiatric evaluator for NASA astronaut selection since 1991. Since coming to the FAA, he has served as the principal investigator for a program of research involving air traffic controller selection and training.

#### ERIC LILJENCANTZ AWARD

**Melchor J. Antuñano, MD**, received the "Eric Liljencrantz Award," given annually for excellence in aerospace medicine education. Dr. Antuñano was recognized for his outstanding accomplishments in the promotion of aviation safety in the US and abroad through his leadership as an educator. He is credited with 297



*Continued on page 16*

## Dr. Stoutt's Swan Song?

*As health-related subjects go, there may only be so many topics to discuss before they are thoroughly covered, and repeating them becomes—well, repetitious. That is Dr. Stoutt's reasoning in deciding to "retire" from writing this column. His contributions here are vast, covering the most obvious lifestyle problems (many of which are avoidable but correctable) that can lead pilots to lose their medical certificates—and also may hasten their demise. Dr. Stoutt says he receives much "psychic income" from writing, so we may hear from him when his PBA (psychic bank account) becomes dangerously low. So, reluctantly, we introduce the final installment of a remarkable string of articles—just for the health of pilots. —Ed.*

This first paragraph is a summary of the first article on pilots' health that started in 1997: *Faulty lifestyles cause about 70 percent of our health problems* [FASMB, fall 1997, p. 15].

The FAA cannot deny medical certification to a pilot who is obese, smokes three packs a day, does not exercise, eats mostly junk foods, has frequent high anger and stress levels, and runs consistently high (but under the 155/95 readings that are currently acceptable) blood pressure measurements, and has dangerous levels of cholesterol and other blood lipids. (See the excellent discussion of the new medical thinking about desirable blood pressure by Dr. Borrillo on page 6 of this issue.)

About the only lifestyle problems that the aviation medical examiner has non-negotiable guidelines for are the abuse of alcohol and the pilot who engages in recreational pharmacology (read, *drug abuse*).

About six years ago, I discussed these critical issues of lifestyle management with **Mike Wayda**, who is the editor of the *Federal Air Surgeon's Medical Bulletin*, and he agreed that it would be a good topic for the *Bulletin*. Here are some of the titles discussed in the quarterly issues:

- Topics and Issues (the first column)
- Pilots' Personality Profile
- A Brave New World of Medicine (Human genome project)
- Anger: How to Control a Killer Emotion
- Depression—A Recoverable Stall

*Dr. Stoutt is a partner in the Springs Pediatrics and Aviation Medicine Clinic, Louisville, Ky., and he has been an active AME since 1960. No longer an active pilot, he once held a commercial pilot's license with instrument, multi-engine, and CFI ratings.*

## TOPICS AND ISSUES

# Just for the Health of Pilots

By Glenn R. Stoutt, Jr., MD, Senior  
FAA Aviation Medical Examiner

- Monitoring Your Blood Pressure (See new recommendations below)
- Should I Take Vitamin/Mineral Supplements?
- How to Fight off Diabetes (Type-2)
- On Dieting
- Your Heart and Exercise
- Fiber in Your Diet
- The Brain in Alzheimer's Disease
- In Dieting, You Can't Fool Mother Nature
- Living Longer: Human Life Expectancy: Past, Present, and Future
- Your Health: Who's REALLY in Charge?
- Hip Fractures
- Cholesterol and Other Lipids
- The Epidemic of Obesity
- Physical Fitness
- Dietary Fat

All of these complete articles can be found on the Internet: Look in:

[www.cami.jccbi.gov/aam-400A/FASMB.html](http://www.cami.jccbi.gov/aam-400A/FASMB.html)

I was able to type this site correctly on about the third try, but now I keep the address in my computer's Favorites section so I won't have to type it each time. Browse around the site. It contains a wealth of good information for pilots.

I think these columns contain most of what you need to know to maintain a healthful lifestyle and add years to your life and life to your years.

Mike Wayda has been the consummate editor (and long-distance friend). His professional advice, skill, and encouragement have kept me going. Thank you, Mike! I am also very

pleased that Dr. **Jon Jordan**, our Federal Air Surgeon, did not give the axe to any of the statements. Always try to please the Boss.

The only purpose of the Civil Aero-medical Certification Institute (CAMI) is aviation safety, and I hope that some of the articles have helped ensure that pilots keep AOK both mentally and physically.

*I especially read and enjoy all the comments from fellow AMEs that were submitted to the Bulletin.* Tips and pearls of advice in performing the pilot examination are invaluable. I hope more examiners will write Mike with ideas that might help all of us to do an even better job.

Yours for good health and safe flying,

*Glenn Stoutt*

## TIPS AND PEARLS

- **BP tip.** If a pilot has elevated blood pressure readings when my medical technician measures it, I go right ahead and do the complete exam. If everything else is OK, just hearing that helps the pilot feel more relaxed when we recheck his blood pressure. A friendly, non-threatening, slow and calm AME can do wonders for the apprehensive patient.
- **Fright.** No question that the white-coat syndrome presents the biggest problem in the medical certification exam.
- **Hierarchy.** For the professional pilot, the most important thing in life is *family*. A current, valid medical certificate is next.

Continued ➤

- **Unruffled feathers.** We never want a pilot to be angry during the exam. This is why we try to be on time and unhurried. I have the luxury of working only 20 hours a week, so plenty of time is available. If I have to be late, the pilot is informed of this.
- **Work ethic.** Our staff memorizes our ethic: Slow, Calm, Cool, Relaxed, Pleasant, and Professional.
- **Knowledge.** All of our staff with anything to do with the pilot exam have passed the Aviation Medical Certification Standards and Procedure test and are familiar with the exam criteria that must be met.
- **Time.** Fifteen minutes after completing the 8500-8 forms is our upper limit for reception room waiting time. We have loads of fairly current magazines. A rule of thumb is that if a pilot is able to read an entire article, the wait has been too long and we offer the magazine to take home. Applicants for the medical should be out of our office in about five minutes after the exam.
- **Review.** The receptionist has the pilot check the certificate to see if everything has been correctly entered—very important. One time, we had an erroneous birth date that indicated that a commercial pilot was two years old. He had to come back. He was somewhat miffed. We apologized. As the late **Bear Bryant** once said, “Admit your mistakes, learn from them, and don’t repeat them.” (Coach Bryant is almost a deity here in the South.)
- **Share.** I think the absolute best idea is to encourage AMEs to send in ideas that have helped them with the physical exam—even a sentence or short paragraph—to be published in the *Bulletin* for others to use.



**Note: The views and recommendations made in this article are those of the author and not necessarily those of the Federal Aviation Administration.**

**M.S.** from page 11

## Multiple Sclerosis

Multiple sclerosis (MS) is the most common disabling neurologic disease of young people. It affects approximately 250,000 Americans. It favors women over men by nearly 2:1 and appears most often in the twenties and thirties. Caucasians are especially vulnerable. There is a slight cluster phenomenon within families, where one has a 1-3% risk of developing MS if a parent or sibling has the disease.

The **most common symptoms** are:

- Weakness or numbness in one or more limbs
- Optic neuritis: painful loss of vision in one eye
- Tremor and incoordination, especially of gait, from cerebellar dysfunction
- Double vision, dysarthria, or vertigo, from brainstem dysfunction
- Bowel or bladder dysfunction
- Fatigue

Most MS symptoms are focal, caused by inflammation of a specific tract or pathway within the CNS. Fatigue is the exception; patients can be overwhelmingly exhausted. Symptoms develop abruptly, last 6 to 8 weeks, and often completely resolve. However, the temporal profile of symptoms can be very unpredictable.

MS is seldom fatal, and usually only reduces life expectancy by a few months. The major concerns are quality of life and prospective disabilities. The disease typically follows one of three courses within 15 years after its onset:

- 20% of patients are bedridden or institutionalized
- 20% of patients require a wheelchair
- 60% of patients are ambulatory without assistance, having little to no deficit

**Good prognostic factors** are:

- Young age at onset
- Sensory symptoms at onset (numbness, paresthesias, visual loss)
- Rapid resolution of initial symptoms
- Benign course during the first 5 years

Objective tests such as MRI of the CNS, CSF analysis, and evoked potentials assist in the diagnosis of MS. A clinical diagnosis is made if all of the following criteria are met:

- Two separate CNS lesions.
- Symptoms must have occurred in two or more separate episodes.
- Symptoms must involve the white matter, not the gray matter.
- Neurologic exam must show objective abnormalities.
- Patient must be between ages 10 and 50, preferably between 20 and 40.
- No other disease is present that can account for the symptoms.

If all of the above six criteria are not met, one of the following criteria can be used to establish a definitive diagnosis:

- Two attacks with only one lesion, plus abnormal CSF (oligoclonal bands)
- One attack with two lesions, plus abnormal CSF
- One attack with one lesion, plus abnormal CSF and an abnormal MRI

**The treatment of MS has two main goals.** The first is to suppress the disease and alter its natural history. The second is to improve the symptoms and mask the deficits. Steroids often rapidly improve attacks, but they are ineffective at changing the natural history of the disease or preventing disability. Beta-interferon appears to reduce the rate of attacks and the volume of MRI lesions, but these modest benefits do not appear to have any major effect on disability within the first few years of treatment. Treatment often is symptomatic, with prescription medications diminishing or eliminating such symptoms as spasticity, tremor/ataxia, paresthesias, fatigue, and spastic bladder.

*Dr. Dumstorf was a Wright State University Aerospace Medicine Resident rotating through the Civil Aerospace Medical Institute when he wrote this case report.*

presentations at national and international scientific events in aerospace medicine in 23 countries and with 47 scientific publications covering a variety of aerospace medicine topics. He is a faculty member at Wright State University School of Medicine, the University of Oklahoma Health Sciences Center, the University of Texas Medical Branch in Galveston, the National University of Colombia School of Medicine, and the Santa Casa de Sao Paulo Medical School in Brazil. Dr. Antuñano was elected Honorary Member of the Greek Aerospace Medical Association, Honorary Member of the Colombian Society of Aviation Medicine, Honorary Member of the Slovenian Aerospace Medical Association, and Honorary Federal Air Surgeon of the Dominican Republic for his efforts in support of aerospace medicine in these countries. Over the years, thousands of physicians, psychologists, pilots, flight attendants, air traffic controllers, and other aviation personnel around the world have participated in aerospace medicine education activities offered, facilitated, or conducted by Dr. Antuñano.

**Poster Presentation**

**Janet Sanner**, RN, Occupational Health Nurse, Jacksonville Medical Field Office, presented her original research at the May 5 AsMA poster session. Entitled *Implementing Evidence-Based Data in Reduction of Cardiac Risk Factors*, her poster summarized her work in conjunction with AAM's Health Awareness Program, demonstrating an improvement in cardiac risk factors as a result of lifestyle changes. The three-hour presentation drew large crowds, with many AAM employees, including the Federal Air



**Ms. Sanner with Dr. Jordan**

Surgeon, Dr. **Jon L. Jordan**, there to lead the applause. "All in all, it was a very successful presentation," said Dr. **David Millett**, Southern Regional Flight Surgeon.



## 'Tiger Team' Expedites Medical Review

INITIATING AN all-out assault on the medical certification backlog, Aerospace Medical Certification Division (AMCD) manager Dr. **Warren S. Silberman** led a "Tiger Team" of ten top FAA medical officers in a week-long effort to clear up pending certification cases. The team reviewed and determined the outcomes of nearly 1,000 cases that had accumulated since two AMCD staff physicians were activated for military service in the past year.

As a result of the review, nearly 1,000 medical review decisions were achieved for airmen who were pending needed medical authorizations to fly. Authorization letters, approved by the Federal Air Surgeon, were in the mail to the affected airmen by the time the team members

completed their mission during the week of June 23-27.

Team members were recruited from the regions, headquarters, and the Civil Aerospace Medical Institute, where the team sessions were held. The intensive effort was initiated to provide better service to aviation medical examiners and airmen. Another positive outcome was that regional personnel received recurrent training in the latest certification issues.

According to Federal Air Surgeon Dr. **Jon Jordan**, the tasks accomplished during the week-long campaign were "remarkable and extremely satisfying." Another "Tiger Team" effort may be scheduled for later this year.



### Aviation Medical Examiner Seminar Schedule

**2003**

August 15 - 17 ----- Washington, D.C./Mclean, Va. ----- CAR (2)  
 September 15 - 19 ---- Oklahoma City, Okla. ----- Basic (1)  
 October 3 - 5 ----- Salt Lake City, Utah ----- OOE (2)  
 November 3 - 7 ----- Oklahoma City, Okla. ----- Basic (1)

**2004**

January 9 - 11 ----- Charlotte, N.C. ----- N/NP/N (2)  
 March 15-19 ----- Oklahoma City, Okla. ----- Basic (1)  
 April 23 - 25 ----- Dallas, Texas ----- AP/HF (2)  
 May 3 - 6 ----- Anchorage, Alaska (AsMA) ----- CAR (3)  
 June 21-25 ----- Oklahoma City, Okla. ----- Basic (1)  
 September 13-17 ---- Oklahoma City, Okla. ----- Basic (1)  
 November 15-19 ---- Oklahoma City, Okla. ----- Basic (1)

**CODES**

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

(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 12 hours of aviation medical examiner-specific subjects plus 8 hours of subjects related to a designated theme. Registration must be made through the Oklahoma City AME Programs staff, (405) 954-4830, or -4258.

(3) A 3½-day theme AME seminar held in conjunction with the Aerospace Medical Association (AsMA). Registration must be made through AsMA at (703) 739-2240. A registration fee will be charged by AsMA to cover their overhead costs. Registrants have full access to the AsMA meeting. CME credit for the FAA seminar is free.

The Civil Aerospace Medical Institute is accredited by the Accreditation Council for Continuing Medical Education to sponsor continuing medical education for physicians.