



Federal Air Surgeon's Medical Bulletin



Vol. 48, No. 4
2010-4

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



- • • • •
- 2 EDITORIAL: WORKING TO IMPROVE CERTIFICATION
-
- 3 CERTIFICATION UPDATE: MEDICATIONS, PART II
-
- 4 AME UPDATES: QUALITY STANDARDS, COLOR VISION TESTING
-
- 5 LETTER TO THE EDITOR: VISUAL ACUITY PROBLEM
-
- 6 WHO'S WHO IN AEROSPACE MEDICAL EDUCATION
-
- 7 2010 EAA AIRVENTURE OSHKOSH REPORT
-
- 8 PAPILLARY THYROID CANCER CASE REPORT
-
- 10 ALPHA-1-ANTITRYPSIN DEFICIENCY CASE REPORT
-
- 11 NEW THEME SEMINAR DÉBUTS AT ASMA
-
- 12 AVIATION MEDICAL EXAMINER SEMINAR SCHEDULE
- • • • •

Introducing the FAA's Aviation Safety Partnership

Pilots have new resources available

By Harriet Lester, MD

Here's a fact for you: Nearly half of all aviation medical examiners (AMEs) are also pilots.

In view of this statistic, the Eastern Region Division of Aerospace Medicine and the Civil Aerospace Medical Institute recently partnered with the FAA Flight Standards FAASTeam (Federal Aviation Administration Safety Team) on a new safety initiative.

Together, we hope to prevent accidents and continue to "tip" the safety culture in the right direction.

What inspired the collaboration was the unfortunate reality that over the past decade roughly 15 AME-pilots have died in aircraft accidents, primarily in



INFORMATION FOR PILOTS. AMEs at the recent Arlington, Va., seminar also participated in an information session with FAASTeam staffer **Felice Brunner** (at computer). They received aviation safety-related materials and viewed live links to online sources of pilot information. Shown with Brunner is AME **Fitzwilliam King**, MD, from Travelers Rest, S.C.

general aviation. This number, which came from an informal survey of my fellow Regional Flight Surgeons, is not a hard statistic and does not include

Continued on page 5

AEROSPACE MEDICINE TEAMS UP AT OSHKOSH.

The Great Lakes Regional Medical Division provided a service booth for pilots attending the recent AirVenture 2010 airshow. Shown are Federal Air Surgeon **Fred Tilton** (right) welcoming Secretary of Transportation **Ray LaHood**. Working certification cases is AMCD Manager **Warren Silberman** (center). In the background is Acting Great Lakes Regional Flight Surgeon **Matthew Dumstorf**. (More, page 7.)



Working Together to Improve the Certification Process

I hope you all had a safe and enjoyable summer.

The Office of Aerospace Medicine is an organization in the Federal Aviation Administration (FAA) Aviation Safety line of business that is responsible for the medical certification of approximately 600,000 pilots and 16,000 air traffic controllers. We receive and review about 450,000 airman medical applications each year. I am focusing my comments on pilots, but the certification of air traffic controllers is equally important.

Medical certification is a complex process. Fortunately, in the last few years, the United States Congress has authorized resources that have allowed us to add quality assurance staff and continue to enhance our electronic airman medical certification systems.

Federal Air Surgeon's Medical Bulletin

Library of Congress ISSN 1545-1518

Secretary of Transportation

Ray LaHood

FAA Administrator

J. Randolph Babbitt

Federal Air Surgeon

Fred Tilton, MD

Editor

Michael E. Wayda

The Federal Air Surgeon's Medical Bulletin is published quarterly for aviation medical examiners and others interested in aviation safety and aviation medicine.

The Bulletin is prepared by the FAA's Civil Aerospace Medical Institute, with policy guidance and support from the Office of Aerospace Medicine. An Internet on-line version of the Bulletin is available at: www.faa.gov/library/reports/medical/fasmb/

Authors may submit articles and photos for publication in the Bulletin directly to:

Editor, FASMB
FAA Civil Aerospace Medical Institute
AAM-400
P.O. Box 25082
Oklahoma City, OK 73125
E-mail: Mike.Wayda@faa.gov



This summer we reviewed the medical certification process and identified opportunities for improvement. As a result of the review, I have directed my staff to implement several changes. We also identified five ways that you, as aviation medical examiners (AMEs), can help us improve the quality and the efficiency of the certification process:

Limit unnecessary deferrals. Some medical applications must be deferred, such as the first application after a myocardial infarction. However, we receive many deferrals (e.g., simple hypertension) that could have been issued at the time of examination had the AME just read and followed the online guide. Every time you unnecessarily defer an application you create delays. The airman has to wait for certification, and you force us to use the time we should have been spending working a more difficult case that actually required our attention.

Call for help. If you have questions, call your Regional Flight Surgeon. We often authorize an AME to issue an airman medical certificate after such discussions. Even if we do not authorize you to issue a certificate, we can give you advice that you can pass on to the applicant.

Review and interpret. You are also responsible for reviewing and interpreting the tests you order. For example, if you perform an ECG as part of an FAA examination, you need to assess the results. A new right bundle branch block or multiple PVCs should be worked up. We have received ECGs in conjunction with issued certificates where the airman should have been sent to the emergency room for admission to the coronary care unit!

Your comments are needed. You must comment on each "yes" answer in block 18 and each abnormal physical examination finding in block 60 of the FAA Form 8500-8. While, technically speaking, there is nothing to prohibit the use of "Previously Reported, No Change (PRNC)," in section 60, **please do not do so.** We need a brief but informative narrative that documents your discussion with the airman.

Emphasize MedXPress. Encourage all applicants to use MedXPress. It will save you and your staff time and eliminate errors associated with transferring the applicant's history from paper to the electronic system. My personal AME has directed his staff to tell applicants that he will not see them unless they use MedXPress. **NOTE:** Presently, technical issues preclude the use of MedXPress for air traffic controller examinations.

We need your help to be successful. Working together, we have the opportunity to significantly improve the medical certification process and provide much better service to our aviators.

Thank you again for everything you do for us and your airmen.

—Fred

Medications, Part II

The following is the second part of a long list of medications and conditions that we refer to when making certification decisions. (See Part I, "Policies and Unacceptable Medications," *FASMB*, Vol. 48, No. 3, p. 3.)

Anticoagulation. The advent of the International Normalized Ratio (INR) has permitted the Federal Aviation Administration to allow airmen with a variety of conditions to gain medical certification with a waiver. Conditions such as mechanical valve replacement, deep venous thrombosis, pulmonary embolus, and chronic atrial fibrillation are just some of the conditions we allow. The INR levels must be within the parameters set by the condition. The airman **MUST** have monthly INR levels done. One of our requirements is that 80% of the levels must be within the parameters established by the condition.

Antiseizure medications. Recall that epilepsy is one of the 15 specifically disqualifying medical conditions. We do not permit the use of any of these medications for their intended use or for use in any other condition. You may see physicians use the antiseizure medication gabapentin (Neurontin) for painful peripheral neuropathy or carbamazepine (Tegretol) for trigeminal neuralgia. In both of these circumstances, the medications are not acceptable.

Baldness remedies. Propecia (finasteride), as an ointment for use on the scalp, is used for male pattern baldness. This is acceptable, but it would be appropriate for to obtain a note from the treating physician that the airman using finasteride has no side effects.

Colitis. Acute exacerbation of any form of colitis is disqualifying, and the airman cannot be cleared until in remission. So, as I have told you many times, equivalent doses of prednisone greater than 20mg are not acceptable. Steroid enemas or foam instillation into the rectum for proctitis is acceptable. Loperamide (Imodium) is used for diarrheal symptoms and is acceptable as long as the airman is not taking

Certification Update

Information About Current Issues



By Warren S. Silberman, DO, MPH

more than two tablets daily. Remember here, it is the condition that you must consider. Enbrel (etanercept) has been used in the treatment of both types of colitis. Etanercept is acceptable, but it will require yearly status reports.

Cancer therapy. In general, intravenous cancer therapies will delay certification decisions. The FAA wants to wait until the airman has completed treatment, even if the treatment is adjuvant. Besides the side effects of the actual treatments, the specific cancer that is being treated and the psychological issues that can occur while the airman is coming to grips with this malignancy are grounds to wait until the treatment has been completed.

There are exceptions to many of our policies. For example, the use of tamoxifen (Nolvadex) to reduce the risk of breast cancer is acceptable in aviation environment.

Diabetes mellitus treated with medications. The FAA accepts all oral hypoglycemic agents, but there are policy exceptions. The more recent medication Januvia (sitagliptin) can only be used with metformin and/or the thiazolidinediones. We also accept Januvia and both of the above medications. We do not accept the use of Januvia and a sulfonylurea. If Januvia is being used as the initial treatment for diabetes, then the airman must wait for 60 days to be considered, but if it is being added to the medication regimen, then the airman need only wait 14 days.

As you know, the combined use of oral agents and beta-blocking medications is limited, but Januvia can be used.

Byetta (exenatide) is an injectable medication that is used with any of the other oral agents. The restriction with this medication is that the airman must wait for 2 hours after use before flying. Byetta is also acceptable with beta-blocking medications. The new Byetta-type medication, Victoza (liraglutide), has not been approved by the FAA as yet.

The other oral agents acceptable with beta blockers are metformin, either of the thiazolidinediones, and acarbose (Precose).

Diabetes mellitus treated with insulin (authorized for third-class only). The FAA accepts all forms of insulin, as well as the different ways in which it is administered. We also accept the combined use of insulin and oral hypoglycemic agents, but insulin and beta blockers are an unacceptable combination.

Glaucoma treatments. Most forms of treatment are acceptable. Prostaglandins such as Xalatan (latanoprost), Lumigan (bimatoprost), and Travatan (travoprost); beta-blockers such as Timoptic (timolol maleate) and Betoptic S (betaxolol); the alpha-adrenergic agonist Alphagan (brimonidine); and carbonic anhydrase inhibitors such as Trusopt (dorzolamide) are all acceptable. However, parasympathomimetic agents and epinephrine are not acceptable.

Chronic myelogenous leukemia. This condition was not acceptable to the FAA until there was good success with the medication Gleevec (imatinib mesylate). This medication has allowed us to grant authorizations to many airmen. It requires a status report every 6 months and complete blood count, but airmen on this medication have done well.

Depression. In April 2010, the Office of Aerospace Medicine announced that we will allow airmen with a diagnosis of depression to fly while using four of the selective serotonin reuptake

Medications from page 3

inhibitors (SSRIs). The airman must have been on the same medication for 12 months. The only acceptable medications are fluoxetine (Prozac), sertraline (Zoloft), citalopram (Celexa), and escitalopram (Lexapro).

The policy is explained in detail in The Federal Register (www.thefederalregister.com/d.p/2010-04-05-2010-7527).

Still acceptable is the previous policy whereby the airman was taking any one of the SSRIs but had discontinued the medication (hopefully because of improvement). The policy that the airman will need to be off the medication for 90 days and provide a current functional status report remains unchanged.

Hepatitis C. Interferon alpha or the use of a pegylated interferon alpha is unacceptable for treatment of Hepatitis C. PEGylation is the process of attaching one or more chains of a substance called polyethylene glycol (also known as PEG) to a protein molecule such as interferon. Interferon will be slowly released into the body, but it does not react to PEG. Thus, PEG helps provide a protective barrier around interferon so it can survive in the body longer. The airman must be disqualified until the treatments have been completed. This type of interferon can cause depression and seizures.

Multiple sclerosis. The use of interferon beta-1b (Betaseron) is used in treatment of multiple sclerosis. While the condition itself may be unacceptable, the FAA has accepted the use of this medication in mild cases. Even though the side effects are similar to interferon alpha, they are not as commonly seen.

This list does not amount to the complete list of medications that we consider during certification decisions regarding the use of medications by airmen. Remember, it is not only the medication, itself, to consider but the condition that caused the need for it that is the main factor to think about when going after a waiver.



AME Updates

Quality standards for designees

By Brian Pinkston, MD, MPH

As some of you may remember from the *Federal Air Surgeon's Medical Bulletin* in 2005 (Vol. 43, No. 2), the General Accounting Office issued a report in October 2004 on aviation safety that focused on the designee systems within the Federal Aviation Administration (FAA). Since that time, the FAA has been focused on improving designee management, with the Federal Air Surgeon's Office playing a leading part in this program.

As AMEs, we play a crucial role in ensuring safety in the aviation transportation system. Accordingly, the FAA has initiated a system over the past few years to ensure we all met quality standards required of such an important position.

For AMEs, these quality standards are primarily comprised of three major components: currency in training, currency in examination performance, and proper decision-making in aeromedical dispositions. As you may remember, refresher training is required every 3 years. Online MAMERC training may substitute for in-person seminar training every other training cycle, but an in-person seminar is required at a minimum of every 6 years. There are a number of permutations on this

theme, your Regional Flight Surgeon is your key point of contact if you're getting close and could potentially have a problem meeting these requirements. These dates are hard dates, and failure to train on time is currently the leading cause for involuntary termination of AMEs.

Currently, the second most-common reason for AME termination is failure to perform at least 10 exams per year. Although this seems like an easy number to achieve, and it is the minimum number determined to keep current with AME Guide and other policy changes, military AMEs often have difficulty sustaining this level. The main reason is that they may have a large demand at one base and then move to another job or base that doesn't allow for enough exams.

Other common issues that may result in AME termination include: 1) issuing certificates inappropriately when the AME should have deferred or denied, 2) deferral or denial of a certificate when it was appropriate to issue, 3) repeated delays in transmission of the 8500-8, and 4) failure to provide a current address. Some other more rare reasons include performing examinations on relatives and repeatedly performing studies not required by the examination or providing extensive workups not warranted in order to make an aeromedical disposition.

Continued on page 5

AME ALERT

COLOR VISION TESTING

Today's aviation environment is becoming increasingly dependent upon color vision. Based on this reality, the Human Factors Research Division at the Civil Aerospace Medical Institute recently completed a study on color vision, including the comparison of currently used color vision tests. Although this study validated most of our currently approved color vision tests, two devices were found to be inadequate to test for color vision. These devices are the Titmus II and the Optec 5000. These devices are still adequate for their other vision testing functions but may no longer be used for color vision testing for FAA examinations.

Currently approved color vision tests include: the Dvorine Pseudoisochromatic Plate Test, the Ishihara 38-plate, Ishihara 24-plate, Ishihara 14-plate, Keystone Telebinocular, Keystone Orthoscope, OPTEC 2000, OPTEC 900, Richmond HRR 4th Edition, AOC HRR 2nd Edition, Anomaloscope Plate Test-5 (APT-5), Titmus, Titmus 2a, Titmus i400, the Waggoner PIPIC, the Waggoner HRR, the Cambridge Colour Test, the Colour Assessment and Diagnosis Test (CAD), the Oculus Anomaloskop, and the Cone Specific Contrast Test (CSCT).

AME Updates from page 4

Although these requirements do levy an increased vigilance on your part to maintain standards, they are consistent with increasing requirements throughout the U.S. medical system over the past few years. As such, we appreciate all you do to meet the standards year to year. You are truly a national treasure.

In the end, through hard work and diligence, most of us have met the new challenges exceptionally well. In fact, of the nearly 3,700 AMEs, only a few per year fail to sustain these standards.

If you have questions, please contact me at brian.pinkston@faa.gov or your Regional Flight Surgeon so we can help you avoid these pitfalls, if possible.

Please keep in touch, keep your address current, and ensure your employees are verified every 90 days in the Aerospace Medical Certification Subsystem if they are using it.

Dr. Pinkston manages the Aerospace Medical Education Division.



FAASTeam from page 1

Federal/Military/International AMEs. Three of these fatalities occurred in the Eastern Region alone during my tenure here. There are currently just over 3,000 AMEs nationally in the category we surveyed.

We want to make AMEs aware of available FAA pilot safety resources, particularly those of you who are pilots. It is our hope that you will access these resources as pilots and share them with the pilot community.

To learn more about the FAASTeam's nationwide services, check out their Web site: <http://www.faasafety.gov/about/mission.aspx>.

At the August 2010 Eastern Region AME Seminar held in Arlington, Va., we invited the FAASTeam to share their resources with AMEs. **Felice Brunner**, Communications and Exhibit Team Manager for the FAASTeam, set up a demonstration table, complete with informational brochures, and a computer with live links to fascinating data.



The FAASTeam mission:

To improve the Nation's aviation safety record by conveying safety principles and practices through training, outreach, and education.

Attending were 167 AMEs—and they loved it. In fact, many took advantage of the FAASTeam interactive demonstration and took brochures home to share with others.

We are very excited about our new safety collaboration with Flight Standards and the possibility of helping you and your pilots fly more safely!

After all, safety is our passion and the FAA is ready and willing to provide resources to keep our skies—and our AMEs—safe.

Dr. Lester is the Eastern Regional Flight Surgeon; Program Analyst Mindy Zalcan in the Region's Aerospace Medicine Division also contributed to this article.



Letter to the Editor *Visual Acuity Problem*

Dear Editor,

[This is a] partial follow up to a letter in Vol. 48, No. 3 [FASMB, Letters to the Editor, "Vision Standards," p. 5] concerning vision standards.

There is one area of the vision standard that still confuses me concerning a second class physical. What if a pilot applies for a second class but cannot meet the standard of 20/20 visual acuity even with correction? Or, if one eye meets the 20/20 standard [but] the other cannot for whatever reason? Given the fact that pilots can be certified with monocular vision, what options, if any, do Class two applicants have in this setting? Obviously, they do not pass the basic vision standards. But is there a SODA or other vehicle possible for them?

Thanks,
Brian Turrisi, MD
Washington, D.C.



Dear Dr. Turrisi,

If the airman does not meet vision standards, you cannot issue the medical certificate. You should send the airman to an eye specialist for an examination and have an FAA eye exam form (FAA Form 8500-7) completed. If an eye exam shows that this just requires a correction to an existing corrective lens prescription, then

the problem is solved. If the vision still does not correct to standards, perhaps there is an eye condition that the airman will require a waiver for, or perhaps the airman will not be able to be corrected to standards. In this case, you must defer, unfortunately, and we will have to issue permission for a medical flight test and Statement of Demonstrated Ability (SODA), assuming the applicant returns to you and doesn't send the form to us. If you get the FAA eye exam form completed, you can call your regional medical office or AMCD with those results. An FAA physician could give you permission to issue a medical certificate with the restriction "Valid for Student Pilot Purposes Only" to allow the airman time to practice before taking the medical flight test.

Warren S. Silberman, DO
Manager, Aerospace Medical Certification Division

Who's Who in Aerospace Medical Education

Current information for calls to the AMED

By Janet Wright

We are beginning a new year here in the Aerospace Medical Education Division (AMED), and as with all new beginnings, there are a few endings as well. This past year, we have a few new faces and are saying goodbye to some old friends who have retired. Dr. **Richard Jones**, MD, our division manager, retired in December 2009 and now travels only when he wants to. Longtime AMED employee **Barb Ross** also retired. We welcome a new manager, **Brian Pinkston**, MD, and a new office administrator, **Frances Parker**, to our group, as well as analyst **Gary Sprouse**.

The following lists all Division personnel, with their contact information and a brief description of their responsibilities.

Brian S. Pinkston, MD (brian.pinkston@faa.gov; (405) 954-6205) – Manager, Medical Education Division. Dr. Pinkston is also the Regional Flight Surgeon for the International, Military, and Federal AMEs.

Frances Parker (frances.parker@faa.gov; (405) 954-6205) – Office Administrator. Ms. Parker assists with all aspects of the education division and will direct you to the person most able to help resolve your concern.

Bobby Ridge (bobby.ridge@faa.gov; (405) 954-4829) – Senior AME Program Analyst. Ms. Ridge heads the Regional Program Analysts' team, making sure that all oversight requirements per congressional mandate are complete and accurate. Ms. Ridge also represents the AME designee program at the national level.

Jan Wright (janet.e.wright@faa.gov; (405) 954-4803) – Team Lead, AME Education Program. Ms. Wright manages all aspects of AME seminars, develops training programs, and is responsible for the Continuing Medical Education accreditation process.

Leah Olson (leah.olson@faa.gov; (405) 954-4832) – International/Federal/Military AME Program Analyst. Ms. Olson manages AME designations, terminations, and support for international, military, and federal AMEs.

Denise Patterson (denise.patterson@faa.gov; (405) 954-4830) – AME Training Program Analyst. Ms. Patterson supports the Basic AME seminars, CAPAME and MCSPT training, and military and organizational seminars.

Gary Sprouse (gary.sprouse@faa.gov; (405) 954-4831) – AME Training Program Analyst. Mr. Sprouse is responsible for the AME theme seminars and MAMERC, and he also manages forms and brochure distribution.

Deanie Davis (deanie.davis@faa.gov; (405) 954-4257) – AME Records Clerk. Ms. Davis manages the mountains of paperwork required for designees. She interacts with the Regions in making sure that all documentation is complete and accurate, and she maintains demographic information on each AME.

Susan Buriak (susan.e.buriak@faa.gov; (405) 954-4378) – Program Manager, Quality Assurance and Curriculum Development. Ms. Buriak manages quality assurance and data collection activities, curriculum development, and implementation of technology solutions.

Mike Wayda (mike.wayda@faa.gov; (405) 954-6208) – Writer/Editor. Mr. Wayda publishes the *Federal Air Surgeon's Medical Bulletin*, pilot safety brochures, and technical reports for the Civil Aerospace Medical Institute.

Rogers Shaw (rogers.v.shaw@faa.gov; (405) 954-6212) – Team Lead, Airman Education Program. Mr. Shaw leads a team of instructors who conduct aviation physiology and survival training. Team members include:

Larry Boshers (larry.boshers@faa.gov; (405) 954-7767)

J.R. Brown (junior.brown@faa.gov; (405) 954-6211)

Don Demuth (donald.demuth@faa.gov; (405) 954-6207)

Eric Simson (eric.simson@faa.gov; (405) 954-6198)

Roger Storey (roger.storey@faa.gov; (405) 954-6209)

Kathy Wade (kathy.wade@faa.gov; (405) 954-4398), Librarian, and **Roni Anderson** (roni.anderson@faa.gov; (405) 954-8231), Library Assistant, provide expert service in locating library resources pertaining to aerospace medicine and human factors topics.

Other Resources

AMCS Help Desk 9-amc-aam-certification@faa.gov; (405) 954-3238). Call the Help Desk if you are having problems logging into or using the Aerospace Medical Certification Subsystem. *Please do not call this number for help with medical certification questions.* This is for AMCS computer system questions only!

Medical Certification questions (405) 954-4821). Use this number when you need assistance with an airman medical certification issue. This is a heavily used number, so you may need to leave a message. Someone will return your call as quickly as possible. Alternatively, questions about the AME program, airman examinations, training, or AME designation can also be answered by *any* Regional Flight Surgeon's office. The list of telephone numbers may be found online at www.faa.gov/licenses_certificates/medical_certification/rfs/.



NEWEST AMED TEAM MEMBERS. (L-R) Dr. Brian Pinkston, Manager; Gary Sprouse, Program Analyst; and Frances Parker, Office Administrator.



From the Trenches
**2010 EAA AirVenture
Oshkosh Report**

Another 'outstanding show'

By Matthew F. Dumstorf, MD

The Experimental Aircraft Association's AirVenture 2010 was held in Oshkosh, Wis., from July 26–August 1. The Great Lakes Regional Office provided a presence for the entire week of the airshow with a customer service booth within the FAA's Aviation Safety Center.

Throughout the week, we assisted 800-plus airmen with inquiries about the status of their airman medical certificate applications, explained various FAA medical certification policies and procedures, gave some airmen "instant reviews" of their cases (to some, we even issued certificates on the spot, always a favorite service of the airmen!), and handed out numerous informational flyers about disease protocols, aviation physiology, CAMI operations, and other aviation medicine educational topics.

Those attending the airshow and working our booth for Aerospace Medicine included Federal Air Surgeon Dr. **Fred Tilton**, Aerospace Medical Certification Division (AMCD) Manager Dr. **Warren Silberman**, AMCD Staff Physician Dr. **Arnold Angelici**, Great Lakes (AGL) Regional Flight Surgeon Dr. **Nestor Kowalsky**, AGL Regional Deputy Flight Surgeon Dr. **Matthew Dumstorf**, AGL Flight Surgeon Dr. **Marvin Jackson**, AGL Airman Medical Certification Program Analysts **Joan Morgan** and **Maureen Stephens**, and AGL Airman Medical Certification Program Assistant **Cliff Heart**.



AIRMAN EDUCATION. Team members pause to show off their GYRO-2 spatial disorientation simulator to Secretary of Transportation Ray LaHood (center) and FAA Administrator Randy Babbitt (left) at Oshkosh. The GYRO-2 gave 285 airmen a realistic demonstration of spatial disorientation during the seven-day airshow.

Some highlights of the week included visits to our booth by U.S. Secretary of Transportation **Ray LaHood** and FAA Administrator **Randy Babbitt**...a visiting cardiology consultant Dr. **John Raniolo**, who provided much assistance for several days...Dr. Tilton gave a well-attended and informative presentation in the FAA Safety Center Forum...a spectacular air and fireworks show lit up the sky after nightfall on Saturday (a first for this event), and generally mild weather endured throughout the week, making for a comfortable environment for both working and enjoying the show.

On a personal note, this was my fourth AirVenture show that I have worked for the FAA as a flight surgeon within the Great Lakes Region. This year, for the first time, I chose to camp on the Experimental Aircraft Association's grounds in my travel trailer, rather than at a local hotel. I was overwhelmed by the amount of people that experience the show in this fashion. EAA's Camp Scholler literally becomes its own small town for the week, complete with all of the conveniences that one would need for a week-long stay, even a Wi-Fi service. I certainly plan to experience AirVenture again in future years in this fashion.

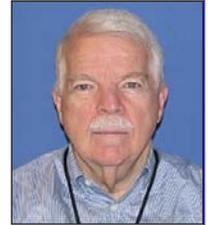
It was another outstanding show, and I departed Oshkosh with a bittersweet feeling. While disappointed that this year's show had come to an end, I was also already looking forward to next year. I hope to see as many of our readers as possible at this premier airshow event next year.

Dr. Dumstorf is the Acting Great Lakes Regional Flight Surgeon.



Dr. Kowalsky Retires

Dr. **Nestor Kowalsky**, the Great Lakes (AGL) Regional Flight Surgeon, retired at the end of August 2010 after seven years of service with the Federal Aviation Administration. He managed and led the office through a number of transition periods and significant events.



Two of the major programs within the office, the Airman Medical Certification Program and the Air Traffic Controller Health Program, increased their staff size by one program analyst during Dr. Kowalsky's time in the office. Another analyst was added to the staff with the startup of the Aviation Medical Examiner Surveillance Program.

Other significant events that occurred during Dr. Kowalsky's tenure include four separate air traffic controller candidate hiring exercises in calendar years 2008 and 2009, the 2010 closing of the Medical Field Office at the Aurora, Ill., Air Traffic Control Facility, and the transition of those medical services to local AME offices and the AGL Regional Medical Office. We hosted an AME seminar in Minneapolis, Minn., in 2008, and a Civil Aviation Medical Association meeting at the Mayo Clinic in Rochester that was sanctioned by the FAA as an AME Seminar.

Throughout his time in the Great Lakes Region, Dr. Kowalsky pursued one of his professional passions as he served as a resource for the Human Intervention Motivation Study program, which is dedicated to pilots with substance abuse or dependence problems.

Dr. Kowalsky has completed a remarkable career within Aerospace Medicine, and his presence and contributions to the FAA's Office of Aerospace Medicine will be missed. We wish him all the best in his retirement years.

—Contributed by Matthew Dumstorf, MD, Acting AGL Regional Flight Surgeon

Papillary Thyroid Cancer

Case Report, by Mary T. Brueggemeyer, MD

Papillary thyroid cancer is the most common differentiated thyroid cancer, characterized by slow growth, local recurrence, and low mortality. Adequate surgical treatment with postoperative radioiodine ablation and thyroid-stimulating hormone suppression is recommended for the best outcome. Aeromedical concerns focus on remission from disease, side effects, and complications of treatment and manifestations of hypo- and hyperthyroidism. Most aviators with this condition are able to obtain a Special Issuance. This article presents the case of an aviator with locally recurrent papillary thyroid cancer.

HISTORY

The airman is a 45-year-old third-class pilot with 405 hours of flying. In July 2005, he developed a febrile illness with facial and upper-arm neuropathy. He was diagnosed with ehrlichiosis complicated by Guillain-Barré syndrome (GBS). The GBS required treatment with Gabapentin and Tramadol, which led to denial of his medical certificate application. He recovered from the GBS and was able to be weaned from all medications. However, during the work-up for the febrile illness, a mass in the right thyroid lobe was identified. Biopsy revealed papillary carcinoma of the thyroid. He underwent total thyroidectomy in September 2005 that showed a 3.5 cm papillary cancer of the thyroid with 2/2 paratracheal nodes positive for tumor. A whole body radioiodine scan (RxWBS) showed no metastatic disease. He was classified as T3N1aM0, Stage I, based on his age of 45 years. He underwent 131-I ablation in November 2005. Preoperative thyroglobulin levels were elevated at 439 and reduced to 4.1 after ablation. He was started on thyroxine for replacement and thyroid-stimulating hormone (TSH) suppressive therapy. He received a special issuance in May 2007. In August 2007, he underwent a thyrogenic-stimulated PET scan that revealed persistent disease, and he underwent a repeat I-131 ablation in October 2007. His thyroglobulin rose to

149 and a stimulated PET scan showed disease in the right cervical lymph nodes. In November 2008, he underwent modified radical neck dissection for I-131 resistant disease that revealed 5/12 lymph nodes positive for tumor. He underwent postoperative external beam radiation therapy (EBRT) to the neck. His thyroglobulin levels dropped to 0.2 in July 2009, and a stimulated PET scan was negative. He is currently on Synthroid (levothyroxine) 150 mcg/day with low TSH levels.

AEROMEDICAL CONCERNS

Aeromedical concerns for malignancy can be divided into two categories: cancer with risk for metastasis and side effects, and complications of treatment. Papillary thyroid cancer is a slow-growing malignancy that is characterized by local recurrence, usually in the cervical lymph nodes. Distant metastasis at the time of diagnosis occurs in 2-10% of cases, with pulmonary (67%) and skeletal (25%) being the most common. Brain metastasis is rare. Metastatic disease can be detected with imaging and thyroglobulin levels, usually before it is symptomatic or any risk of incapacitation. Thus, the diagnosis of papillary thyroid cancer is generally favorable for the return to flying.

The side effects and potential complications of treatment pose more threat to the aviator. Total or near-total thyroidectomy is the initial treatment for papillary cancer of the thyroid, and

modified radical neck dissection or repeat neck exploration may be required in cases of recurrent disease resistant to radioactive iodine. The risks of surgery are recurrent laryngeal nerve injury and hypoparathyroidism with hypocalcemia; both are potentially chronic conditions that could impact the ability to fly safely. Permanent recurrent laryngeal nerve injury occurs in 1-1.5% of cases, and temporary nerve injury occurs in 2.5-5% of cases (3). Nerve injury can result in airway compromise, aspiration and pneumonia, and poor voice quality. Poor voice quality may impact safe radio communications. Permanent hypoparathyroidism with hypocalcemia occurs in 0.4 to 13% of cases and can result in paresthesias, tetany, bronchospasm, mental status changes, seizures, laryngospasm, and cardiac arrhythmias (3), all of which are not safe in the aviator.

Hypothyroidism and hyperthyroidism may also be of concern in the aviator. Aviators will be placed on thyroxine to treat the hypothyroid state after total thyroidectomy and to suppress TSH levels. Patients free of disease at low risk for recurrence may have the TSH reduced to the lower limit of normal (0.3 to 2 mU/L); those free of disease but at high risk of recurrence should have the levels reduced between 0.1 to 0.5 mU/L; and those with persistent disease should have the levels reduced below 0.1 mU/L (2). Suppression to very low levels of TSH creates a subclinical state of thyrotoxicosis that could exacerbate angina in patients with ischemic heart disease, cause atrial fibrillation, left ventricular hypertrophy, and diastolic dysfunction (2,4,5,6). Aviators on life-long suppressive therapy will require careful monitoring of their cardiac status for the development of these complications. Hypothyroidism will be induced when thyroxine is withdrawn prior to radioactive iodine imaging or treatment. Aviators should not fly during this time. The use of recombinant human thyrotropin (rhTSH) precludes

the need for thyroxine withdrawal and subsequent hypothyroidism (2).

Radioactive iodine treatment can acutely result in sialadenitis, neck edema, and nasolacrimal duct obstruction (7). Aviators should not fly while undergoing treatment. There is a low risk of secondary malignancy (2) that is dependent on the amount of exposure; this should not impact granting of a medical certificate in the short term. External beam radiation therapy, when needed, may have acute toxicity manifested by skin erythema, desquamation, and mucositis of the esophagus, larynx, and trachea. Late toxicity is rare and may involve skin telangiectasia and pigmentation, which also should not impact flying. Esophageal and tracheal stenosis is of more concern but occurs rarely (8).

ROLE OF THE AME

Upon identification of a history of papillary cancer of the thyroid, the aviation medical examiner should obtain a complete history concerning the stage of disease, treatment, and any complications. A careful examination of the head and neck should be performed in accordance with the *AME Guide* and history reported by the patient. The AME should pay particular attention to the quality of voice, deformity of the neck, and palpation of the neck for masses. The AME must also look for signs and symptoms of hypo- or hyperthyroidism and metastatic disease to the lymph nodes, bone, lungs, or brain. Supplemental documents include treating physician notes, operative reports, pathology reports, radiology reports, and laboratory values to include TSH, T4 and thyroglobulin levels. It is the responsibility of the airman to provide these documents to the Aerospace Medical Certification Division of the FAA.

The diagnosis of malignancy is disqualifying for all classes of medical certification (9). It is the responsibility of the airman to report on the FAA Form 8500-8 a history of malignancy, details of treatment, and any prior denial of

DISEASE SUMMARY

Papillary thyroid cancer is the most common form of differentiated thyroid cancer, representing 70-75% of thyroid cancers diagnosed in 2008. The incidence is higher in women by a factor of 2.5:1 and occurs mostly in the fourth to fifth decades of life. The incidence of papillary cancer has increased steadily over the past several decades, with the greatest increase in small (<1 cm) tumors that are identified incidentally during other diagnostic studies (1).

The primary method of diagnosis is by ultrasound-guided, fine-needle aspiration of the thyroid nodule. Initial treatment for papillary thyroid cancer is total or near-total thyroidectomy and central compartment lymph node dissection. A high percentage of patients will have cervical lymph node involvement (20-50%) (2). Better outcomes are associated with the most complete removal of thyroid tissue and involved lymph node tissue (2). Postoperative treatment consists of 131-I ablation and thyroxine suppression of thyrotropin (TSH), both associated with better outcomes. 131-I ablation is most beneficial for patients with larger (>1.5 cm) tumors, residual disease, nodal metastasis, and extra-thyroidal extension (2). External beam radiation therapy to the neck is reserved for larger tumors (T4) and residual microscopic disease or patients with residual or recurrent disease resistant to radioactive iodine (2, 3).

Initial follow-up consists of an RxWBS to identify uptake by metastatic disease outside of the thyroid bed and measurement of suppressed and stimulated thyroglobulin levels. The results of the scan, findings at the time of surgery, pathology, and thyroglobulin levels will define a tumor-free state and the risk for recurrence. The tools for surveillance are imaging and thyroglobulin levels. The most sensitive imaging is cervical ultrasonography, which should be done 6-12 months after surgery and then annually for 3-5 years (2). Other imaging may include CT of the neck and chest and repeat DxWBS for patients at intermediate or high risk, and FDG-PET scans for specific circumstances. Suppressed and stimulated thyroglobulin levels (and thyroglobulin antibody levels) should be done every 6-12 months for patients who have undergone total thyroidectomy and remnant ablation (2). Rising thyroglobulin levels are highly sensitive and specific for tumor recurrence and warrant further testing and treatment (3).

a medical certificate and forward the application to the Aerospace Medical Certification Division or Regional Flight Surgeon (10). The AME Guide does not outline a specific protocol for papillary thyroid cancer. In general, malignancy requires annual follow-up for five years.

AEROMEDICAL OUTCOME

The aviator successfully recovered from surgery and EBRT without any complications. His post-treatment thyroglobulin levels indicated no residual disease, and a PET scan was negative. He was stable on Synthroid, 150 mcg per day without side effects. His T4 was 1.31 and his TSH was low, at 0.06. He was granted a Special Issuance for his third-class medical certificate for one year. Prior to renewal, he must provide

reports of thyroglobulin, TSH and T4 levels, PET/CT scan of the neck and chest, and a narrative from the treating physician on interim history, follow-up plan, prognosis, medications, and side effects.

ABOUT THE AUTHOR

LtCol Mary T. Brueggemeyer, MD, was a resident in Aerospace Medicine at the USAF School of Aerospace Medicine and completed this article while rotating at the Civil Aerospace Medical Institute.

REFERENCES

1. Tuttle RM. Overview of papillary thyroid cancer. Up to Date. Available at <http://uptodate.com>. Last updated May 13, 2009. Accessed Nov. 13, 2009.

Continued on page 11

Alpha-1-Antitrypsin Deficiency

Case Report, by Kevin J. Brown, MD, MPH

Alpha-1-antitrypsin deficiency (A1ATD) is an inherited medical disorder predisposing to chronic obstructive lung disease, cirrhosis, and hepatocellular carcinoma. While not likely to result in sudden incapacitation, an understanding of A1ATD is significant to the aeromedical examiner as it contributes to pathologic conditions that can be incompatible with medical certification.

History. A 58-year-old male air ambulance pilot with 11,300 flight hours presents for second-class medical certification after recently being diagnosed with homozygous Alpha-1-antitrypsin deficiency (A1ATD). The airman had electively sought genetic testing because of three siblings with A1ATD and one sibling who had not been genetically tested but died from liver cancer. The patient is very active, exercises regularly, and noticed exertional dyspnea in the year prior to presentation. He reports he can walk briskly for about one-half mile before he needs to stop and rest. He denies chest pain, cough, hemoptysis, edema, or paroxysmal nocturnal dyspnea. He has no history of tobacco use, and has been self-medicating with a family member's albuterol inhaler three times per day, with temporary improvement in his exercise tolerance. A pulmonary function test showed severe respiratory impairment, with an FEV1 of 22% predicted. A chest and abdominal CT revealed panlobular emphysematous changes in both lungs, with a normal-appearing liver. Liver function tests were normal.

Aeromedical Issues. The most common aeromedical concerns in patients with A1ATD relate to pathologic pulmonary changes. Patients with COPD are at risk for decreased exercise tolerance, hypoxia, and decreased G-tolerance. Furthermore, these patients are predisposed to small airway disease, which can result in acceleration atelectasis. In addition, COPD is associated with bullous transformation and gas trapping, placing the airman at risk for pulmonary barotrauma

and pneumothorax. The liver manifestations of A1ATD occur less commonly, and the aeromedical relevance of chronic liver disease will need to be determined case by case.

Role of the Aviation Medical Examiner. The aviation medical examiner should focus attention on the status of functional and physiologic impairment in patients with A1ATD. In many cases, the degree of impairment will progress, and it is the AME's responsibility to determine when safety

of flight may be compromised. When these cases are discovered, the AME will need to defer the decision granting medical certification to the Aerospace Medical Certification Division. These airmen will require an Authorization for Special Issuance, and the required testing will depend on whether the airman has just the lung disease or both lung and liver disease. The FAA does not generally grant medical certification to airmen whose FVC or FeV1 are less than 50% of the predicted values. Values such as these will require stress testing with minute-by-minute pulse oximetry. Room air oxygen concentrations that go down with progressive exercise will likely lead to denial. Additionally, patients with pulmonary bullous disease, especially apical blebs, should be referred for review before certification is granted. Significant pulmonary bleb disease will also likely result in denial,

Continued →

ETIOLOGY OF ALPHA-1-ANTITRYPSIN DEFICIENCY

Alpha-1-antitrypsin deficiency is relatively common in populations of European ancestry, with an estimated prevalence of one case in every 3,000 persons in the United States.¹ A1ATD is an autosomal recessive disorder, in which mutations in the serine protease inhibitor alpha-1-antitrypsin (A1AT) prevents its export from where it is produced within the hepatocyte.² This results in an accumulation of A1AT within the hepatocyte, and a deficiency in circulating A1AT, which serves a primary physiologic purpose of protecting the fragile alveolar tissue from proteolytic damage.^{1,3}

This mechanism explains the primary pathologic manifestations commonly seen in the lungs and liver. Severe chronic obstructive pulmonary disease can occur in young patients, even in nonsmokers. Emphysema usually develops by the third to fourth decade of life in smokers, and the fifth to sixth decade of life in nonsmokers.³ Terminal respiratory insufficiency causes premature death in many patients.⁴ Liver pathology includes liver inflammation detected by elevated liver enzymes, liver fibrosis, cirrhosis, and hepatocellular carcinoma.⁴ More rarely, panniculitis, a spontaneous necrosis of the skin, can occur.³

Greatly under-recognized, diagnosis of A1ATD is frequently achieved via targeted detection in patients with a positive family history or in patients with unexplained premature COPD or liver disease.^{5,6} Treatment strategies include smoking cessation, preventive vaccination against hepatitis B, influenza, and Streptococcus pneumoniae, as well as aggressive treatment of COPD with bronchodilators, inhaled corticosteroids, supplemental oxygen, and pulmonary rehabilitation. Augmentation with human plasma-derived alpha-1-antitrypsin can be employed, but the results have been disappointing in terms of preventing disease progression. The most severe cases of COPD are considered for lung volume reduction surgery and lung transplantation. Patients with cirrhosis are considered for liver transplantation.⁷

as concern over spontaneous pneumothorax is high.

Outcome. Upon initial application, the airman was issued a denial for medical certification. However, he was notified that his application would be reconsidered if he provided the following: a narrative consult documenting optimization of his COPD management as evidenced by a pulmonary function test meeting FAA standards, an operational questionnaire (FAA Form 8500-20) detailing his flight mission and cabin altitude operational requirements, and an exercise stress test with pulse oximetry.

About the Author. CDR Kevin J. Brown, MD, MPH, FAAFP, is a U.S. Naval flight surgeon, board-certified in Family Medicine, and currently a resident in Aerospace Medicine at the Naval Aerospace Medical Institute in Pensacola, Florida. He authored this article based on case reviews while working with Dr. Warren Silberman at the Civil Aerospace Medical Institute.

References

1. Silverman EK, Sandhaus RA. Clinical practice. Alpha-1-antitrypsin deficiency. *N Engl J Med* Jun 25, 2009; 360(26):2749-57.
2. Fairbanks KD, Tavill AS. Liver disease in alpha 1-antitrypsin deficiency: A review. *Am J Gastroenterol* Aug 2008; 103(8):2136-41; quiz 2142.
3. Fregonese L, Stolk J. Hereditary alpha-1-antitrypsin deficiency and its clinical consequences. *Orphanet J Rare Dis* 2008; 3:16.
4. Kohnlein T, Welte T. Alpha-1 antitrypsin deficiency: Pathogenesis, clinical presentation, diagnosis, and treatment. *Am J Med* Jan 2008;121(1):3-9.
5. Aboussouan LS, Stoller JK. Detection of alpha-1 antitrypsin deficiency: A review. *Respir Med* Mar 2009;103(3):335-41.
6. Hogarth DK, Rachelefsky G. Screening and familial testing of patients for alpha 1-antitrypsin deficiency. *Chest* Apr 2008; 133(4):981-8.
7. Mulgrew AT, Taggart CC, McElvaney NG. Alpha-1-antitrypsin deficiency: Current concepts. *Lung* Jul-Aug 2007; 185(4):191-201.



Papillary from page 9

2. Cooper DS, Doherty GM, Haugen BR, et al. Revised American Thyroid Association management guidelines for patients with thyroid nodules and differentiated thyroid cancer. *Thyroid* 2009; 19(11):1167-1214. Available at www.liebertonline.com/doi/abs/10.1089/thy.2009.0110.
3. Lai SY, Mandel SJ, Weber RS. Management of thyroid neoplasms. In Cummings: Otolaryngology: Head and neck surgery, 4th Ed. Maryland Heights, MO: Mosby; 2005. Available at www.mdconsult.com/das/book/body/171166754-4/0/1263/1065.html?tocnode=49545749&fromURL=1065.html.
4. Fazio S, Biondi B, Carella C, et al. Diastolic dysfunction in patients on thyroid-stimulating hormone suppressive therapy with levothyroxine: Beneficial effect of beta-blockade. *J Clin Endocrinol Metab* 1995 Jul; 80(7):2222-6.
5. Biondi B, Fazio S, Carella C, et al. Cardiac effects of long term thyrotropin-suppressive therapy with levothyroxine. *Clin Endocrinol Metab* 1993; 77(2):334-8.
6. Sawin CT, Geller A, Wolf PA, et al. Low serum thyrotropin concentrations as a risk factor for atrial fibrillation in older persons. *NEJM* 1994; 10(331):1249-52.
7. Tuttle, RM. Radioiodine treatment of differentiated thyroid cancer. Up to Date. Available at <http://uptodate.com>. Accessed Nov. 13, 2009.
8. Brierly, JD. External radiotherapy in the treatment of thyroid cancer. Up to Date. Available at <http://uptodate.com>. Accessed Nov. 13, 2009.
9. Code of Federal Regulations. Title 14 Part 67 Medical Standards and Certification. Available at http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&tpl=/ecfrbrowse/Title14/14cfr67_main_02.tpl. Accessed Nov. 13, 2009.
10. Federal Aviation Administration. Application for Medical Certification Item 13. 2009 Guide for Aviation Medical Examiners. Available at www.faa.gov/about/office_org/headquarters_offices/avs/offices/aam/ame/guide/. Accessed Nov. 13, 2009.



New Theme Seminar Débuts at AsMA

Sleep apnea, cancer among high-priority conditions addressed

By Richard Carter, DO, MPH

Aviation medical examiners attending the AME seminar that was held in conjunction with the Aerospace Medical Association's annual conference (Phoenix, Ariz., May 10-13, 2010) received a new theme seminar that related specifically to medical certification.

Theme seminars emphasize such topics as neurology, psychiatry, and cardiology. The new Medical Certification theme featured specialty lecture topics, each accompanied by a complementary lecture on the same topic presented by an Aerospace Medical Certification Division (AMCD) medical certification officer.

The medical specialties included sleep apnea, cardiology, neurology, ophthalmology, otolaryngology, and alcohol/addiction. All the topics included medical certification discussions about how to certify an airman with one of these conditions. The topics selected for discussion were deemed the highest priority issues.

For example, with cancer, there are new changes in certification strategy because applicants with cancer are receiving new medications and treatment regimens. Applicants with leukemia, lymphoma, melanoma, or cancer of the colon, breast, prostate, and lung—can all be certified—and examiners need to be aware of the procedures to accommodate such applicants.

The following are a few case examples of the specific certification topics that were discussed at the seminar:

Sleep apnea. New at this conference was Certification Sleep Apnea, presented by Dr. **Mark Ivey**, a Federal Air Surgeon's consultant for sleep apnea and pulmonary conditions.

Consider the risk of sleep apnea in a 50-year-old airman with a history of:

- ▶ Borderline hypertension.
- ▶ Overweight (it takes both hands on the tongue depressor to see the back of his throat).

Continued on page 12

Aviation Medical Examiner Seminar Schedule

2010

November 19 – 21	Kansas City, Missouri	CAR (2)
2011		
January 21–23	Jacksonville, Fla.	NPN (2)
February 28–March 4	Oklahoma City, Okla.	Basic (1)
March 25–27	Providence, R.I.	OOE (2)
May 9–12	Anchorage, Alaska	AsMA (3)
June 13–17	Oklahoma City, Okla.	Basic (1)
August	To be determined	CAR (2)
October 6–8	Tucson, Ariz.	CAMA (4)
October 31–November 4	Oklahoma City, Okla.	Basic (1)
November	To be determined	NPN (2)

CODES

CAR Cardiology Theme

NPN Neurology/Neuro-Psychology/Psychiatry Theme

OOE Ophthalmology-Otolaryngology-Endocrinology 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) 954-4258 or -4830.
- (3) A 3½-day theme AME seminar held in conjunction with the Aerospace Medical Association (AsMA). This seminar is a new Medical Certification theme, with 9 aeromedical certification lectures presented by FAA medical review officers, in addition to other medical specialty topics. 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.
- (4) This seminar is being sponsored by the Civil Aviation Medical Association (CAMA) and is sanctioned by the FAA as fulfilling the FAA recertification training requirement. Registration will be through the CAMA Web site: www.civilavmed.com.

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

AsMA Theme from page 11

► Dr. Ivey offered some helpful office strategies and emphasized this is a problem that must be addressed because the risk to aviation safety from sleep-deprived pilots is a very serious concern. He provided guidance regarding the clinical interpretation of sleep tests (continuous positive airway pressure, CPAP, is effective and preferred for aeromedical purposes), treatment, and certification.

Colon cancer. Colon cancer that has spread through the bowel wall ONLY requires an initial and yearly MRI of the brain if the cancer has metastasized to at least one lymph node. If the tumor just goes into the muscularis or penetrates into the surrounding tissues of the bowel wall, there is no need for a brain scan.

Ménière's disease. The major factors to consider:

- Stable for at least 3 months.
- ENT evaluation documents remission.

► Audiology evaluation to determine hearing standards.

A medical certificate should not be issued for any class if there is a recurrence of vertigo.

Dr. **Robert Glatz**, a Federal Air Surgeon's ENT consultant, advised caution with Ménière's disease. It is possible that symptoms can present again, even after three months of being asymptomatic. Applicants should be closely monitored for at least a year because recurrence of vertigo is possible, for example, 8 months to a year later.

Driving Under the Influence (DUI) standards. Dr. Mills summarized the newest DUI standards. Before certifying, an AME must consider:

- If the first DUI was less than 5 years ago and the blood alcohol content (BAC) was less than 0.15, the AME may issue, with favorable reports (detailed history from the applicant regarding alcohol use

and circumstances, and court records such as the investigative reports with BAC and treatment records).

► If the BAC was 0.15 or greater or applicant refused police alcohol testing, the AME must defer. An evaluation will be required to include a history of the event and an examination to determine if the pilot has a possible substance abuse problem. (See the online *AME Guide*.)

Ms. **Janet Wright**, Team Lead of the Aerospace Medical Education Division's seminar staff, said, "We wanted to do something new for AsMA, and the AMEs who attended this conference have commented favorably, so we're planning a similar theme seminar for the next AsMA conference." The next AsMA meeting will be held in Anchorage, Alaska, May 8-12, 2011.



Dr. Carter is a Medical Review Officer in the Aerospace Medical Certification Division.