

# Flight Physician



A publication of the Civil Aviation Medical Association

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## Specialized Centers of Aeromedical Excellence Concept Evaluated by FAA Medical Leadership

The CAMA Board of Directors finalized and approved a proposal at its September meeting to forward to FAA aeromedical leadership asking for consideration of designating Centers of Specialized Aeromedical Excellence. The purpose of these centers would be to create an academic platform to evaluate complex aeromedical cases, expand the bandwidth of FAA physician reviewers, and allow for increased exposure to a variety of cases for future trainees in Aerospace Medicine and potentially for any other interested FAA designated medical examiner.

CAMA President Clayton Cowl received word from FAA Federal Air Surgeon James Fraser that the Centers proposal was initially viewed favorably, and that the physician team at FAA headquarters in Washington, D.C., would be reaching out to CAMA leadership to discuss next steps in the process of considering designating specific centers. Determining the ability of the Federal Air Surgeon's Office to designate such centers was to be investigated further within the FAA. Action planning may involve further face- to-face meetings with leadership of CAMA and perhaps other aerospace medical organizations.

"I believe we agreed that we would like to expand and explore our academic association with CAMA and [other academic centers]," stated Dr. Fraser in an email correspondence. "While there are logistical challenges to handling HIPPA-related issues in a grand rounds format available to all AMEs, we discussed several ways in which we could develop a closer academic collaboration."





Clayton T. Cowl, MD, MS  
CAMA President

## Time for End-of-the-Year Fine Tuning

As the year winds down, and we as FAA-designated flight physicians look at potential practice improvements in the coming year or participate in strategic planning sessions, consider adding a checklist of items to improve your individual and team performances serving pilots as their Aviation Medical Examiner (AME). Whether you are in solo practice or participate in a large team of medical providers, stepping back and scrutinizing how to best serve the aviators who present for evaluation should be part of a process of continuous quality improvement.

Here are some things to consider:

### **Are we providing the most efficient service to pilots?**

Efficiency and efficacy means different things to different people, but in general, the ability to make the process of applying for a medical certificate as easy as possible for the airman should be a goal of every practice. Use of the electronic medical application form, known as FAA MedXPress, is now required with the exception of certain AMEs who are performing examinations in international locations without access to on-line technology. Many practices are providing on-site kiosks for pilots to enter their medical information. These areas should be free of commotion and offer an environment that will allow the pilot to keep their information confidential to all except for whom are essential to completing the certification evaluation. When encountering a complex case, how are you assisting the airman? Does your practice simply defer the medical application and tell the pilot to obtain all supporting data and forward to the FAA when available – or do you assist the airman in collating data and explaining the aeromedical certification process to them? Or do you have a relationship with a tertiary aerospace medical practice where these pilots with complex medical conditions can be referred? How do you or your staff communicate with the pilot? Do you pre-schedule a recurrent follow up visit for the next flight physical ahead of time?

### **Check on FAA training currency.**

As aviation medical examiners, we are required to remain current on FAA updates. Prospective

AMEs are required to complete the Medical Certification Standards and Procedures Training (MCSPT) and the Clinical Aerospace Physiology Review for AMEs (CAPAME) prior to attending a Basic AME Seminar at the Civil Aerospace Medical Institute in Oklahoma City. While many of us think of recurrency training as taking a live FAA refresher course every three years (which has included the annual CAMA Educational and Scientific Meeting attendance, thanks to our collaboration with the FAA), AMEs may complete the Multimedia Aviation Medical Examiner Refresher Course (MAMERC) course to fulfill mandatory refresher training requirements **if you have attended an AME seminar within the last three years.**

Since AME refresher training is required every 36 months, MAMERC can be used to extend attendance of an AME seminar by 36 months. Attendance at an AME seminar is required every six years (72 months), regardless of when MAMERC was last completed. As another added benefit, you may complete MAMERC or CAPAME at any time for Continuing Medical Education (CME) credit, since CME and AME refresher training are separate matters. In addition, AMEs are expected to read and implement updates from the quarterly Federal Air Surgeon's Bulletin, and carefully review updates to the Guidebook for Aviation Medical Examiners released periodically on line, with more frequent updates posted in the past several years.

### **Implement FAA "language" into your practice.**

Just as pilots have specific acronyms and terms to describe specific aspects of the flight environment, so do we as AMEs. Terms such as "CACIs," "SODAs," and "AASIs" may be part of our daily language but may be confusing or daunting to most pilots. Define and share the terms with the aviators you examine – and importantly, with nurses and other allied health support staff working on your provider team. Your medical and administrative staffs are your outward facing brand to those who choose to come to your practice for their examination. Having all support staff familiar with the certification process and specific terms will minimize confusion and may help them to "own" and champion more of your aeromedical practice.

### **Review your plans for records storage.**

Although the FAA Medical Application Form 8500-8 is submitted electronically, most practices retain a record of the examination in their electronic health record, or store a paper copy for a minimum of three years. Now may be a good time to review your practice policies for record storage and how best to retrieve sequential pilot records over time.

### **Reassess billing and coding strategy, and look at fee structures.**

As administrators and practice managers resume the process of closing the books on calendar year 2016, many practices will begin a process of re-evaluating required time commitments to performing FAA medical certification examinations, particularly those requiring additional time for complex conditions requiring Special Issuance. Do you have special codes or fees for making one or more calls to the FAA on behalf of an airman? Will you perform aeromedical consultations as a separate activity from a full scale FAA flight physical when it is unclear what diagnostic testing will be required for a pilot with a specific medical condition?

### **How will the Pilot Bill of Rights II (Public Law 114-190) affect your practice?**

Many AMEs are aware of legislation passed on July 15, 2015 involving Section 2307 of the FAA Extension, Safety, and Security Act of 2016 that require an educational training course be completed by pilots electing to pursue the alternative medical certification pathway for airmen holding a private pilot certificate and for airmen with medical conditions, that they undergo a comprehensive examination signed by a licensed physician (who is not required to be an AME) with an attestation statement that the

pilot is safe to fly. Final rules for this legislation are expected to be released within the next few months. Since this document would be signed outside of the normal role as an FAA AME, it is thought that there would be no liability protections afforded those designated AMEs who elect to sign off on these medical checklists. Will you and/or your practice be willing to sign off on these attestation statements? Will you require pilots to undergo a full flight physical or go elsewhere? How many private pilots do you or your practice evaluate, and are you prepared for the decline in medical examination requests if most private pilots use the alternative certification pathway?

Regardless of the size of your practice, the proportion of your total patient volume made up of pilots, or your complexity of case load, it is important to step back and reflect on how to maintain the highest quality standards for each aviator we evaluate. Now is a great time of year to ensure your staff is educated, you are up-to-date on your examiner training (or make plans to refresh your currency in the coming year), and that process improvements are implemented.

*Clayton T. Cowl, MD, MS is CAMA President and serves as the Chairman of the Division of Preventive, Occupational & Aerospace Medicine at Mayo Clinic in Rochester, Minnesota. He is an FAA Senior Aviation Medical Examiner, a pulmonologist, and altitude physiology researcher.*

## **CAMA LUNCHEON / AEROSPACE MEDICAL ASSOCIATION ROOM TBA**

**MONDAY, MAY 1, 2017**

**SHERATON DOWNTOWN DENVER HOTEL  
DENVER, COLORADO**

### **KEYNOTE PRESENTATION**

**Russell B. Rayman, MD, MPH, DAvMed, Colonel (Ret)  
USAF, Arlington, VA**

12:00 PM to 01:30 PM

**“Operation New Life: Vietnam Rescue”**

The CAMA Sunday Program for 2017 has been put together brilliantly by Dr. Jack Hastings! Mark your calendars to attend this informative and thought-provoking event and invite others to attend. The programs are being submitted to AAFP for a CME rating. Please see the CAMA Luncheon Program on Page 3.

**CAMA SUNDAY / AEROSPACE MEDICAL ASSOCIATION  
ROOM TBA**

**SUNDAY, APRIL 30, 2017**

**SHERATON DOWNTOWN DENVER HOTEL  
DENVER, COLORADO**

**AIRCREW NEUROCOGNITIVE ASSESSMENT  
The Gold Standard: Laboratory or Simulator**

08:00 AM to 08:10 AM	<b>Introduction</b>
08:10 AM to 08:50 AM	<b>Neurocognitive Assessment: FAA Perspective</b> <i>Speakers: To be Announced</i> <i>Federal Aviation Administration</i> <i>Office of Aerospace Medicine</i> <i>United States</i>
08:50 AM to 09:30 AM	<b>Neurocognitive Assessment: UK Perspective</b> Dr. Michael D. O'Brien Consultant Neurologist  Dr. Stuart J. Mitchell Head Authority, Medical Section  Civil Aviation Authority United Kingdom
09:30 AM to 10:10 AM	<b>Neurocognitive Assessment: Neurologic Perspective</b> Jack D. Hastings, MD Neurology and Aerospace Medicine United States
10:10 AM to 10:25 AM	<b>Break</b>
10:25 AM to 11:05 AM	<b>Laboratory-Derived Neuropsychological Assessment</b> Max Trenerry, PhD, LP, ABPP, CN Neuropsychology, Mayo Clinic, Rochester, Minnesota United States
11:05 AM to 11:45 AM	<b>Neurocognitive Assessment: A View of Both Sides</b> Lee C. Jones Airline Transport Pilot, Captain FAA Aircrew Program Designated Examiner Check Airman, Aircraft and Simulator United States
11:45 AM to 12:15 PM	<b>Panel Discussion</b>
12:15 PM	<b>Adjourn</b>

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## Civil Aviation Medical Association

The editor of The Flight Physician welcomes submission of articles, letters to the Editor, news items, interesting aeromedical cases, and photographs for publication. Please email items to:

Sherry Sandoval  
civilavmed@aol.com



## Message from CAMA Executive Vice President David P. Millett, M D, MPH:

I was so very sorry to have to miss seeing everyone during the CAMA annual scientific meeting at the Mayo Clinic! Your good wishes for my health were very much appreciated! The upper respiratory infection has completely resolved, and hopefully, no one else was exposed.

The reviews and evaluations of the 2016 meeting were excellent, and we had very interesting speakers from the Mayo Clinic, covering some new subjects and medical specialties! We look forward to bringing back some of those speakers in future years.

The 2017 annual scientific meeting will take place at the Greensboro Sheraton Hotel in Greensboro, NC, September 14-16. Save the dates and mark your calendars now for this event! Registration will be open in late April or early May, 2017.

We are very excited to report that we have signed with the Captain Cook Hotel in Anchorage, Alaska, for our 2018 annual meeting. The dates are September 27-29.

We were glad to have the opportunity to meet and work with the FAA CAMI new Instructional Systems Specialist, Deann King, Ed.D. Deann has been assigned to the position previously held by Janet Wright. Janet was a mainstay of CAMA annual meetings and will be sorely missed by all of us! We wish her a very happy retirement! We look forward to working with Deann King for our future meetings and find that she is very helpful and supportive of CAMA educational activities. Congratulations on your new position, Dr. King!!

At the end of each year, a new set of CAMA Trustees is elected to the CAMA Board. Often, there are

individuals who volunteer to continue to contribute their time and efforts to the running of CAMA and its programs, and each year there are new individuals who volunteer to serve as Trustees and Officers.

The slate of CAMA Trustees with a term expiring at the end of 2019 are: Robert J. Gordon, DO, Richard S. Roth, MD, Sergio B Seoane, MD, Basil P. Spyropoulos, MD, and Sir Rodney E. L. Williams, MD. Harold N. Walgren, MD, JD, has been made an Ex-Officio Board Member, and we hope that he will continue to attend Board meetings and lend his considerable expertise to our organization!! Robert Haddon, MD, will continue as the VP of Education for 2017, and we look forward to another exceptional educational program in Greensboro!

All of the presentation slides from the annual scientific meeting have been made into PDF files and sent to the web master to be placed onto the CAMA web site at [www.civilavmed.org](http://www.civilavmed.org). In the meantime, if there is a particular presentation that you wish to have emailed to you, please let us know by calling or emailing the CAMA home office. Once the slides are on the web site, you may view and/or download any presentation by clicking on the tab entitled "Lectures" at the top of the web page.

If you have any questions or comments regarding the content of this publication, please email us at [civilavmed@aol.com](mailto:civilavmed@aol.com). We solicit articles, photos, research, and information from our readers and other CAMA professionals.



## Influenza Vaccination and the Elderly Host—Is Age Just A Number?

Richard S. Roth, MD, Infectious Disease Specialist, Savannah, GA, and Program Director of the Infectious Disease Training

Program, Memorial Health University Medical Center, Mercer University School of Medicine. Dr. Roth is a Senior AME and holds both ATP and private pilot ratings. He serves as a Trustee on the CAMA Board of Directors

US statistics of the general population, as well as the aviation community, confirm a continued growing consensus that the percentage that comprises the elderly cohort has been increasing steadily over the past two decades.

Uniformly, all of us wish to live to a fine old age; however, others argue that it's not how long you live, but how well you live while you are living.

The Air Safety Institute performed a decade long literature review to assist in answering questions regarding the aging pilot population with specific attention to the age 60 rule.

My father, now aged 91, still drives and lived in the home that I grew up in until earlier this year, when we made a decision to pursue an assisted living environment for both him and my mother. It is clear that, although his faculties are intact, there has been an age-associated decline of other aspects of his health.

The elderly host clearly has a diminished ability to respond to infection, as well as to mount a significant immunologic response to preventive vaccination.

The Center for Disease Control/CDC documents that the older population is disproportionately affected in terms of both death and hospitalization regarding influenza associated illness. Despite the widespread availability of seasonal flu vaccines, influenza continues to be responsible for significant morbidity and mortality in the United States. Influenza statistics confirm close to 3 million hospitalization days and 35 million outpatient visits as a direct medical impact of the flu each year. Last year alone, estimated medical costs secondary to influenza infection exceeded \$10 billion. Although it appeared last year was a relatively mild influenza season, over 20,000 people died from influenza or the secondary complication of this viral pulmonary pathogen. Although the people over 65 make up only 15% of the general population, influenza mortality is comprised of 90% from that population.

Researchers confirmed that age is definitely associated with objective deterioration of T cell subsets and cytokine production profiles in quantitative immunologic studies. Regarding antibody surveys, younger patients had a much more robust increase in their antibody levels after influenza vaccination than the elderly host. Thus, new vaccine recommendations, such as high-dose vaccines and a booster recommendation, are included in the newest vaccine protocols. Overwhelming evidence suggests that increased antigen presentation through the higher dose vaccine, and possibly the booster recommendation, leads to increased antibodies and subsequently, better protection.

Fluzone high-dose has been designed since 2011 specifically for adults age 65 or older and retains a strong recommendation as the vaccine of choice for the elderly host. One could also consider standard dose vaccination, but repeating a "booster dose," one month or so after that initial seasonal shot.

New vaccine licensures have arrived into our armamentarium, specifically Fludax and Flucelvax. Where the first has a potent adjuvant to increase the effectiveness of the antibody response of that particular product, the second is a modified cell culture-based, inactivated quadra valent formulation as a potentially stronger an acceptable alternative to other licensed vaccines.



Unfortunately, research has also proven that the duration of immunity after standard vaccination wanes in only a few months after the initial dose. Evidence from some earlier clinical trials indicated protection against influenza extended 6 to 8 months; however, other literature suggests that a potent immunologic response to the challenge of true infection may decline within two months after a routine single-dose vaccination in the early fall. The desire to improve immune response and vaccine effectiveness among the elderly continues to be a challenge, so this year the CDC has once again recommended the high-dose form of the influenza vaccine, which is a trivalent formulation containing 60 µg of antigen per dose compared to the 15 µg of

antigen in the standard dose formulation.

Large post-licensure population-based study emphasizes the safety of these inactivated influenza vaccines. There was no increase in clinically important medically attended events during the two-week window period of observation of over 200,000 individuals. Subsequent studies which reviewed mild side effect profiles determined that none of the events in this large study appeared to be serious or was associated with complication. Typical side effect profiles post vaccination lasted less than 48 hours and were typically defined as local vaccine reactions that were mild and rarely interfered with the recipient's ability to conduct usual daily activities. There was no greater incidence of post vaccination fever, malaise, myalgia or headache compared to placebo groups studied prospectively.

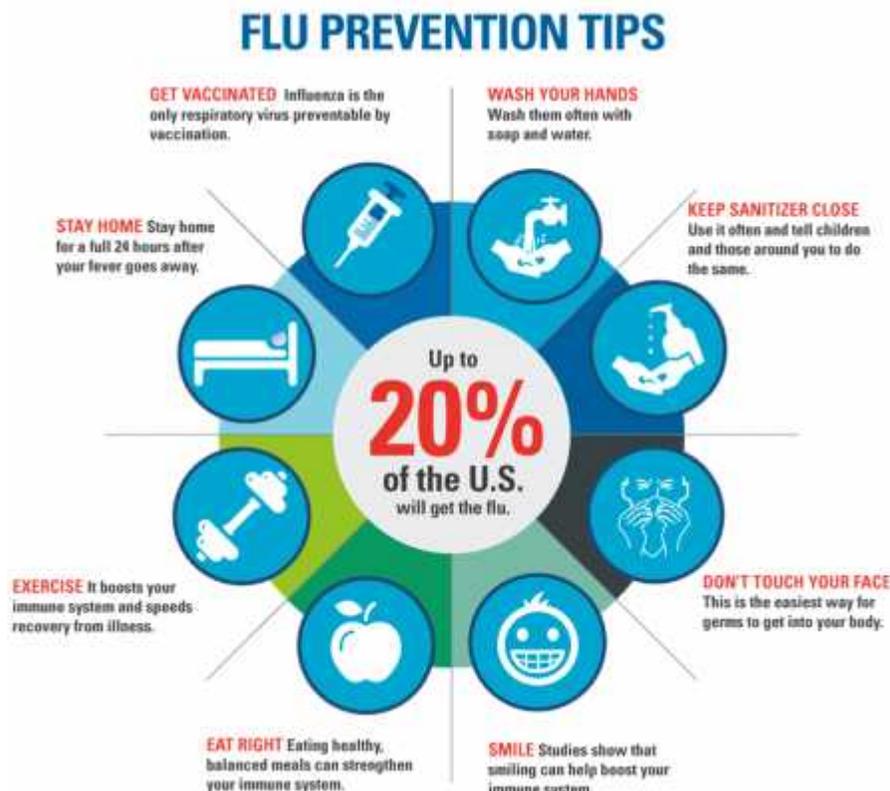
Thus, I would strongly recommend in the older pilot or any senior citizen in your practice, for that matter, to strongly consider Fluzone high-dose during this vaccination window that is open at the time of this writing, and also consider the use of Fluad as an alternative option in these patients.

Years ago, some vaccine product arrived at offices as early as July and, although it benefited with early delivery by being available for a greater number of individuals, time-associated antibody decline may have led to greater influenza impact later that season. Delaying vaccine protocols into the early fall continues to be recommended to allow a

greater immunologic umbrella to be provided to all hosts during the peak season, around the holidays, and well into the New Year. Vaccination protocols should continue throughout the season due to the duration of the influenza activity, which has occurred until February in March in previous years. Typically, we prefer all flu vaccination to occur before Thanksgiving. However, vaccination administered as late as December is likely to be beneficial in the majority of influenza seasons

Regarding storage of influenza vaccines in the office setting, approved manufacturer packaging information should be consulted. In general, the vaccine should be protected from light and stored at recommended temperatures/refrigerated near 45°F and should not be frozen. Any frozen product should be discarded, and multi-dose vials should be returned to recommended storage conditions between usage. All vaccines should be discarded after the expiration date on the label.

It is clear that, as the research and epidemiologic database evolves, the aging process will be different from pilot to pilot, independent of comparable age groups studied. Certain areas of commonality, such as cognition, physical fitness, and performance need to objectively detailed to a greater extent than the current literature outlines. We are quite fortunate to have a clear and current understanding of the immunologic responses in the elderly host, warranting significant emphasis on our older pilots to once again recommend an ounce of prevention





## Error Management: Lessons from Aviation

Leigh Lewis Speicher, MD, MPH, is board certified in Internal and Aerospace Medicine. She serves as a consultant within the Section of Executive and International Medicine. She is a licensed private pilot and a Senior Federal Aviation Administration (FAA) Aeromedical Examiner. She also has an interest in preventive medicine and women's health. Dr. Speicher is an instructor of Medicine at Mayo Clinic College of Medicine in Jacksonville, Florida. Dr. Speicher earned her BS degree at Eckerd College in St. Petersburg, Florida. She then obtained her medical degree from the University of Miami School of Medicine in Miami, Florida. She completed a general surgery internship at the National Navy Medical Center in Bethesda, Maryland. She studied internal and aerospace medicine in her residency program at the University of Texas Medical Branch in Galveston, Texas, where she also completed a Master's of Public Health degree. Dr. Speicher is a north Florida native who has served as a flight surgeon at Naval Air Station Jacksonville. She worked in the medical appeals department for the FAA prior to joining Mayo in 2012. She enjoys spending time with family, traveling, exercising, and scuba diving.

I had the pleasure of presenting this talk during our recent annual CAMA meeting. While most talks focus on a specific disease or specialty, error spans all of our practices. I thought focusing on error would be interesting to compare and contrast my two worlds: aviation and medicine. It seems there's an article or news story nearly daily discussing medical error, often framing the data in terms of the number of jetliners that would have to crash so often to account for the staggering numbers. Several recent studies are estimating the number of deaths in hospitals due to medical error to be several multitudes higher than those put out by the Institute of Medicine: To Err is Human report in 1999. If these estimates are correct, medical error is now the 3<sup>rd</sup> leading cause of death in the United States. Besides the sheer loss of life, this represents huge cost both financially and in loss of trust in the medical community. The aviation industry, on the other hand, has demonstrated decades of improved safety statistics.

Aviation and medicine have many similarities, but there are important differences as well. Parallels include a complex, dynamic, and high-risk environment that is intolerant of error. There's often time pressure while interfacing with technology. Personality traits such as overconfidence, invulnerability, impulsivity, and anti-authority can be found in pilots and physicians. However, planes and people are two very different platforms to work in. Errors

can also be separate in space and time. For example, instead of a crash site that results from an immediately preceding error, a person may not display symptoms of a cancer for decades after being treated with too high a dose of radiation. Risk of litigation also influences many of the decisions we make in medicine. While aviation is not immune, litigation is not usually one of the deciding factors in how a pilot flies a plane or deals with weather.

With the knowledge that 85% of accidents can be attributed to pilot error, the aviation community became an early adopter of focusing on human factors and the systems in which they work. The human element is the most flexible, adaptable, and valuable part of aviation and medicine. It is, however, also the most vulnerable. Understanding human factors or how we interact with the environment, technology, and other people was vital in developing a culture of safety. This culture allowed development of cognitive aids (checklists), ways to detect error producing situations (simulation), and design of error resistant systems (crew resource management). As opposed to a systems approach, medicine has been stuck in a blame-based culture termed the person approach. In this approach, error is due to some deficiency or character flaw in the individual, exemplified in the idea that "bad things happen to bad people." In a systems approach, errors are thought to be due to systemic factors. Human variability is accepted and mitigated. Similarly, error management seeks to limit the incidence of error and design systems that can tolerate and contain the effects of error. Shifting to a systems approach would allow medicine to develop safe practices and safe systems in which healthcare could be designed to be safer at all levels.

Focusing on how we think as individuals can be a helpful exercise. Cognitive error is an error in the thinking process. This is not deliberate or a lack of



knowledge, but more of a subconscious process that leads to error. For example, a heuristic is a mental shortcut that allows a person to make a decision more quickly by ignoring part of the information. This could be vital in an emergent situation and a positive attribute in a seasoned professional, but relying on heuristics can be

error prone as well. Bias in medicine can also influence how and when we make certain decisions. In the Swiss Cheese Model, our thinking process can cause the holes in the cheese to line up through a chain of events causing a trajectory for error. We can develop cognitive aids which act as forcing

functions to engineer out the holes in the layers of cheese. These aids help to mitigate the effects of human variability caused from stress, fatigue, or preconceived notions about a patient or process. Just as checklists are now widely utilized in both industries, other similar tools may already be a part of your medical practice. Examples include alarms, automatic shut downs, non-compatible tubing so different anesthesia gases aren't confused, marking a patient prior to surgery, surgical time-outs, and barcode scanning prior to administration of a medication.

Managing how individuals work in teams has also been a successful practice. Just as this is a power disparity between the pilot and co-pilot, there are many different levels in medical teams. Cockpit or crew resource management (CRM) was developed in the 1970s after a series of accidents that may have been prevented with the input of other team players. CRM is a group effort to maintain situational awareness. Each member of the team is encouraged to have a questioning attitude and emphasis on communication. Flight briefings can be adapted to medical team huddles. Simulation can also be used to practice CRM as a team. As we become more comfortable discussing and learning from our errors, medicine too can truly develop a culture of safety.

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Reason, J. Human error: models and management. BMJ 2000; 320: 768-70.

Singh H, Peterson LA. Thomas EJ. Understanding diagnostic errors in medicine: a lesson from aviation. Qual Saf Health Care 2006; 15: 159-164.

Stiegler MP, Ruskin KJ. Decision-making and safety in anesthesiology. Current Opinion 2012; 25:724-729.

To Err Is Human: Building a Safer Health System. Institute of Medicine, November 1999.

### September 2016 CAMA Board of Directors Meeting



**The CAMA Board of Directors meets at least twice a year to discuss pertinent issues and policy positions, and to map the course of CAMA activities. The dedication of the doctors who serve on the CAMA Board is much appreciated! Board members donate their time and are not compensated for their participation.**



**Casa Palmera is a** free standing residential treatment center that provides 12-step, evidenced based treatment combined with an integrated traditional/holistic component to individuals and families needing treatment for the disease of addiction, eating disorders, and trauma/mood disorders. We offer a continuum of care that includes residential treatment, partial hospitalization with and without boarding, intensive outpatient program and continuing care. Our staff includes qualified professionals that include physicians, registered nurses, licensed vocational nurses, mental health workers, social workers, licensed master's level clinicians, PhD and clinical psychologists, dietician and nutritionist, recreational therapist, acupuncture therapist, massage therapist, spiritual therapists, and substance abuse counselors.

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## **Burnout Syndrome of Doctors and Other Medical Professionals**

Dr. Basil Spyropoulos, MD, is a psychiatrist with specialties in Community Mental Health, Telepsychiatry, and Aerospace Psychiatry. He is the Medical Director of Telemedicine at Rogers Memorial Hospital, Madison, WI. He is responsible for the overview of quality and efficiency of technological services for provision of telepsychiatric care, as well as performing orientation of new clinicians to telepsychiatry services. Dr. Spyropoulos is a graduate of the Southern Illinois University School of Medicine. He is fluent in Greek, and has volunteered with Hellenicare, a non-profit organization dedicated to providing medical assistance to the poor of the Black Sea region. He is a Trustee on the CAMA Board of Directors.

Physicians are not immune to the stress and strain of life. In the past few years, the medical and popular press have been reporting increasingly often on the under-recognized, and arguably increasingly prevalent, issue of physician burnout. Burnout is a syndrome which affects up to one-half of the entire US medical workforce at any one time. It has an insidious onset and can be caused by a variety of factors.

The term "burnout" was likely coined in the early 1970's. Social psychologist Herbert Freudenberger appears to have written the first scholarly article on "Occupational Burnout" in 1974. He described it as a type of psychological stress, typically found in human service professionals, characterized by emotional exhaustion, lack of enthusiasm and motivation and feelings of ineffectiveness. The stress from which burnout results tends to be chronic and is usually associated with emotionally taxing work and high expectations of the worker. Burnout is a cumulative process which tends to occur over a prolonged period. Treatment hinges upon identifying and addressing the causative factors and can be very effective. However, once burnout has occurred, the sufferer may experience it more easily in the future.

At present, there are three generally recognized hallmarks of burnout, and these resemble Freudenberger's description: Emotional Exhaustion, Depersonalization, and a Low Level of Perceived Accomplishment.

) Emotional Exhaustion refers to a state of emotional depression resulting from work factors

and can be manifested by such symptoms as low energy, lessened enthusiasm for work, and inability to "recharge one's batteries" after work or on weekends.

) Depersonalization (also referred to as Cynicism) is manifested by withdrawal from personal interactions or the dehumanization of those involved in one's work.

) Low perceived accomplishment or Low Self-Efficacy refers to feelings of futility with respect to one's work or feeling of low personal accomplishment, regardless of the opinions/reassurances of others.

As with some of the more common mental illnesses, the onset of burnout tends to occur slowly over time, and it tends to be present for a prolonged period before it is recognized, if ever. The "Real-World" consequences of burnout are varied and range from primarily impacting the sufferer, without an initial overt impact on others, to having a negative impact upon a clinician's patients, loved-ones and co-workers. The manifestations tend to initially affect only the clinician, but do quite often expand to the point that other people are significantly impacted. Burned-out clinicians are more likely to develop maladaptive behaviors such as withdrawal/isolation from their work and social environments, substance abuse, and compulsivity syndromes. They also are more prone to developing frank psychiatric illness and being involved in medical litigation.

Physicians in the United States appear to have higher rates of burnout than those in other countries. Statistics vary, depending upon the source, but alarmingly suggest that the prevalence of burnout is increasing rapidly. The Mayo Clinic's Tate Shanafelt, MD, has published a great deal on burnout and in physician surveys conducted repeatedly over several years found an increase in reported rates from 45% in 2011 to 54% in 2014. Medscape.com has also been collecting data for several years and has reported somewhat lower, but significant rates of 40% in 2013 and 46% in 2016. Keep in mind that these data are generated from participating physicians' self-reports on a Likert-like scale. [SEE FIGURE 1 on next page]. As the tendency for many physicians is to minimize or not report their own stressors, pain and suffering, it is possible the rates are higher still.

(Continued—See Figures 1 and 2 on Page 11)

FIG 1

What Percentage of Physicians Are Burned-Out?

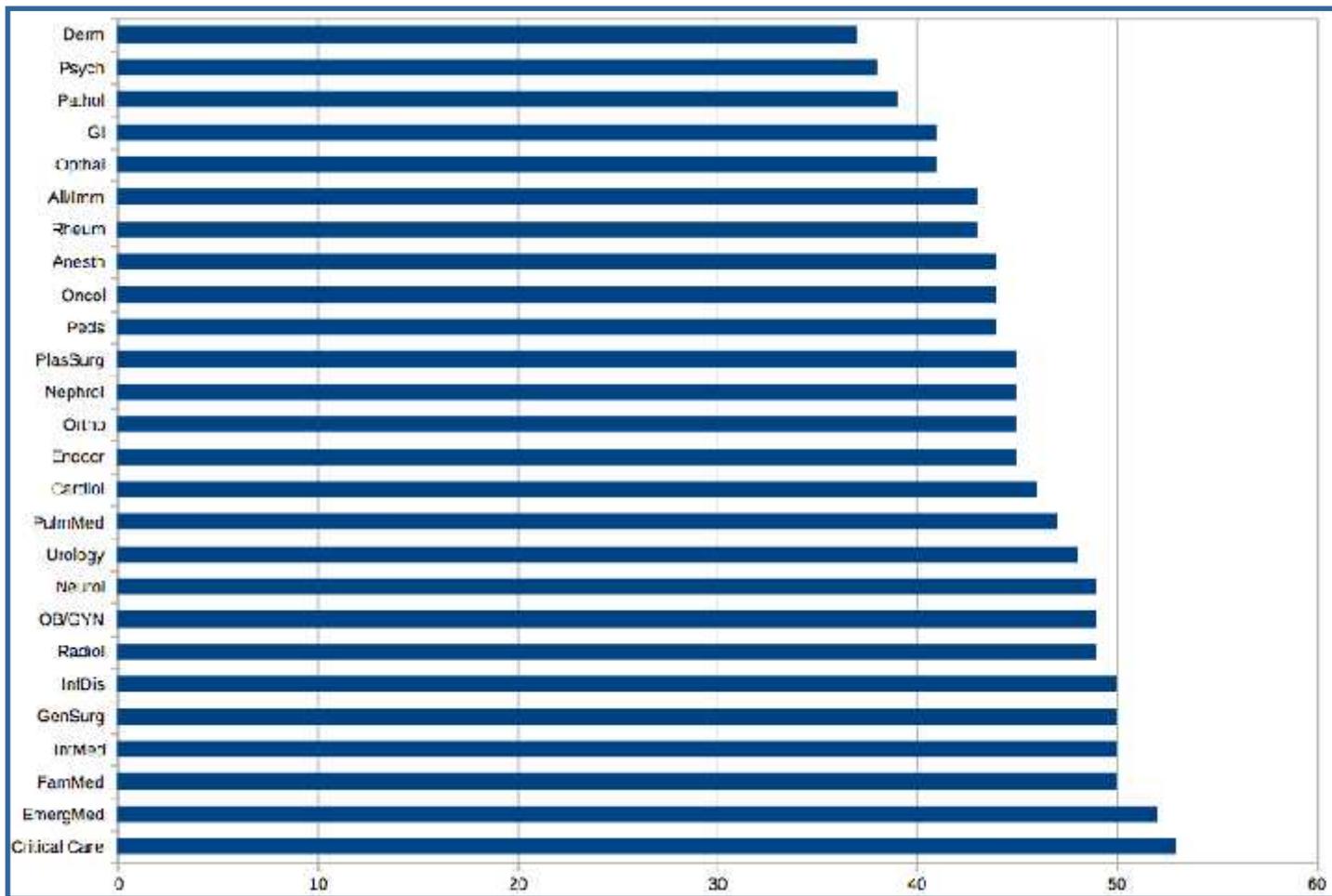
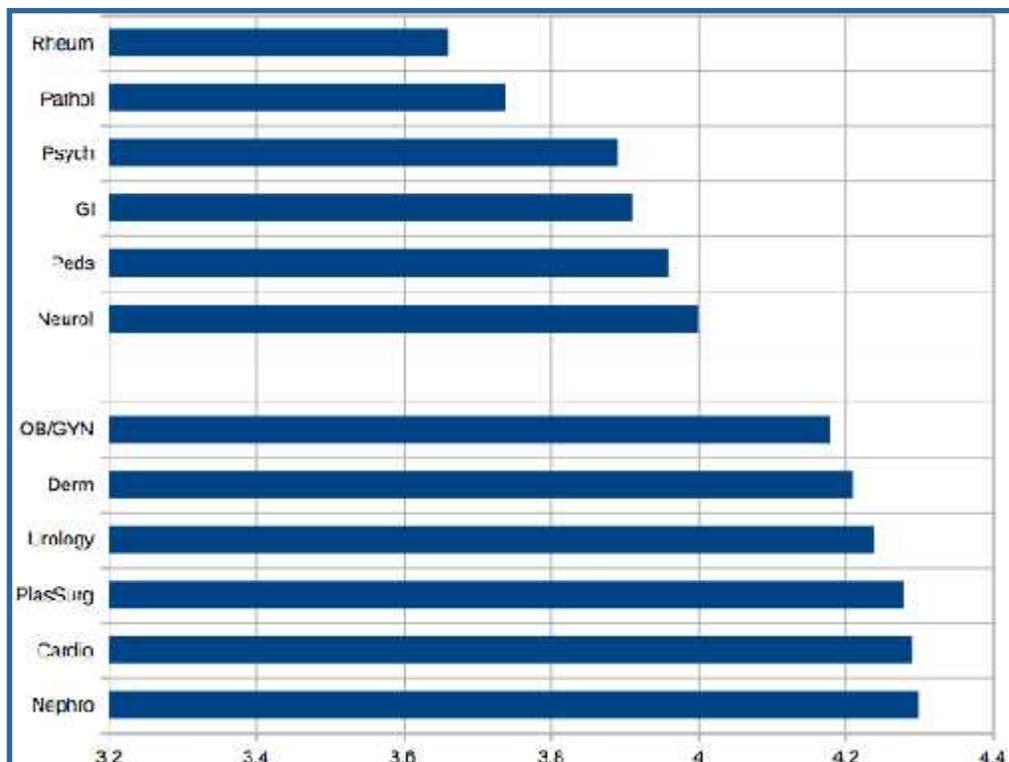


FIG 2

How Severe Is Physicians' Burnout?



## Physician Lifestyle Report-2015, Medscape.com

The Medscape reports compare the incidence and severity rates among various common medical specialties. The highest rates (up to 55%) are reported by specialists in critical care, urology and emergency medicine, followed closely by internists, family practitioners and pediatricians. Median scores are reported by oncologists, nephrologists, orthopedists, neurologists, and infectious disease specialists. The lowest rates are reported by endocrinologists, ophthalmologists and psychiatrists. One might speculate that the rates for this lowest-impacted group are related to the office-based nature of many of these practices, but it should be quite sobering that the group reporting the lowest incidence of burnout still had a rate of 40%. This fact, combined with the increasing rates over just a few years, is not encouraging.

The Medscape study also examined potential causes of physician burnout cited by surveyed physicians. Among the more common complaints were: excessive bureaucratic tasks, excessive work hours, increasing computerization, income not high enough, and feeling like “a cog in a wheel”.

Also, according to the ongoing Medscape study, female physicians experience burnout at a rate almost 20% higher than male colleagues (55% vs 46% overall). The course of burnout also seems to differ between the genders, with females tending to manifest the 3 stages in the previously described order (exhaustion – depersonalization/cynicism – reduced sense of accomplishment), whereas males tend to experience the Depersonalization/Cynicism stage first, followed by emotional exhaustion and a reduced sense of accomplishment.

It is tempting to think of burnout as a syndrome affecting primarily older physicians, when in fact the rates of burnout and depression in trainees are significant in medical students, residents/fellows and early career physicians and higher than the general population.

With respect to affected individuals it is vitally important to address not only the symptoms and causes of burnout as soon as possible after they are identified, but also that any barriers to treatment be addressed. It should be no surprise to the reader that physicians not only experience but also erect many barriers to their personal health care. Generally, we avoid treatment for physical or mental health issues. With respect to mental health, we usually seek outside help only during a personal or professional crisis. Physicians often fear exposure and possible repercussions or judgment from others. As high achievers with generally a strong sense of

responsibility, physicians are also likely to feel guilty about “letting the team down” or not “being there” for their colleagues and patients.

Physicians also are quite adept at using intellectual defense mechanisms. Examples might include: Denial (“patients get sick, not me”), Minimization (“it can’t be that bad, I can still do my job”), Rationalization (“once I take a vacation, it will be fine”). Somewhat more complex and less obvious defenses can include: Reaction Formation (giving others all the attention we would like to get / overcompensating for our negative feelings, guilt, anger, feeling that our personal needs are being neglected), and Displacement/Sublimation. In this last example, dissatisfaction in work and personal life can lead to a physician working even harder than usual because physicians are used to getting results from sustained high effort. This can either temporarily boost one’s self-worth or distract the mind from upsetting issues over which we feel we have little or no control. (It is also socially acceptable to work harder, even though the old adage, “Hard work never killed anybody” is far from the truth.)

If you find yourself in a position to help a struggling physician seek appropriate help, you must respond quickly. Most physicians have already waited too long before seeking help. Be supportive and understanding and always be empathetic. Respect the sufferer’s confidence in you and ensure confidentiality, though it is important to be aware of your jurisdiction’s reporting requirements. For instance, Wisconsin (one of the States in which I practice) mandates that physicians report colleagues whose clinical abilities appear impaired by mental or physical ailments.

If you are the one providing clinical care for a burned-out or otherwise struggling physician, you should keep in mind certain guidelines and cautions. Doctors are typically not trained to confront other physicians and are generally taught to respect another physician’s autonomy. At the beginning of care, you should set and maintain appropriate boundaries throughout your clinical relationship with your physician patient. Don’t share excessive personal information and avoid emotional enmeshment in your patient’s plight. Always act like a clinician and treat your physician patient the way you would any other intelligent patient. Ask direct questions and make thorough clinical decisions while appropriately preserving the patient’s autonomy. Attending physicians and their physician patients can unwittingly engage in competition with one another, and this can quickly lead to friction in the therapeutic relationship. Furthermore, sometimes the treating physician may feel intimidated and might assume the patient knows more than he/she really does about

mental health or other medical care. If your patient requires hospitalization at any point, you should do your best to ensure the course of treatment is completed adequately. Keep in mind that physicians are often reluctant to adopt the sick role and follow clinical advice. 10-25% will leave the hospital prematurely. During outpatient treatment, physician patients may discontinue medications prematurely and be less than optimally compliant with follow-up treatment.

#### Addressing Burnout by Fostering Resilience:

Resilience, in psychological terms, is a concept that has been gaining significant traction in the past decade. As an adaptive trait, it is being studied intently for its applicability to patient care.

The American Psychological Association defines resilience thusly: "Resilience is the process of adapting well in the face of adversity, trauma, tragedy, threats or significant sources of stress — such as family and relationship problems, serious health problems or workplace and financial stressors. It means 'bouncing back' from difficult experiences."

Resilience is a trait which we all have to some degree. It is not to be found only in the relatively few "super-stars" among us, and it does not imply lack of difficulty or distress in daily life. Resilience can and should be cultivated by all persons during their life's journey. A core trait of resilient persons is self-awareness. One should be well-acquainted with his/her core values, strengths, interests or preferences and passions as well as with any significant personal weaknesses or limitations. A resilient physician understands and periodically re-evaluates what type of work is satisfying and meaningful (e.g. provides adequate intellectual stimulation and challenge, sense of service, outlet for creativity, etc.). It is critical to know one's core values as these inform life and career choices. An adequate knowledge of oneself and one's values helps create a sense of purpose in life. This sense of purpose provides meaning and an internal sense of control. Awareness of this is invaluable in the search for/design of a self-compatible practice setting.

A resilient physician also has a sense of connectedness to an adequate personal and professional network of relationships which help support the attainment of personal and professional goals and also serve as an important buffer against stress. The maintenance of these networks is an active process, and all healthy relationships require active attention, even though at the best of times they may appear self-sustaining.

Active attention to one's needs also benefits the physician's approach to continuous learning and advancement of non-clinical skills (e.g. keeping up with pertinent technology, work strategies, financial management skills, interaction with the managed care milieu). Many physicians are trapped by the "old rules" they learned in a prior era and find themselves unable to reconcile the old with the new.

I've saved for last what is perhaps the most important factor in developing and maintaining psychological and emotional resilience: Life Balance. A content, non-burned out physician is more likely to have well-developed personal relationships as well as good work relationships. This physician also values a healthy amount of solitude and leisure pursuits and takes regular vacations. It is also important to regularly remove one's intellectual "hat" and contemplate one's life, life goals and the surrounding world. When it comes to spirituality, believe it or not, at least 70% of physicians (even psychiatrists) reports having discrete spiritual or religious beliefs. We may not discuss them much in the workplace, but they do affect the way we make choices and live our lives. When I take a patient's social history, I always inventory whether the patient has (or doesn't have) any connection with religion or spirituality so that my recommendations can be more compatible with the patient's world-view. We as physicians should do the same when we address the big issues in our own lives. Even persons with no concept of a "deity", "beneficent universe", or "higher power" can cultivate an attitude-of-gratitude and practice spending more time thinking about the good things and good fortune in their lives and less time ruminating about what is painful.

I will close with a review of potential strategies to prevent and address already established burnout in your or a colleague's life.

The old saying, "An ounce of prevention is worth a pound of cure", applies to burnout as it does to so many other medical conditions. People who have experienced burnout once are more likely than their peers to experience it multiple times. As much as you can, tailor your practice to your body's needs, rather than trying to convince yourself that you really can do fine on 2 hours of sleep every 3<sup>rd</sup> or 4<sup>th</sup> night, or that your medically trained body doesn't need the same attention to nutrition and exercise that we recommend to our patients. Work a tolerable number of hours. Try to focus at least 10% of your practice on clinical or research issues that you are most passionate about.

If your or your group's morale is low, or if your family, friends or co-workers express concerns about your behavior, your schedule or the way you look, try to at

least contemplate their concerns and give them more than lip-service.

The development of somatic symptoms (headache, GI problems, concentration difficulties, insomnia, worsened temper), while non-specific, may be an indication of excessive or prolonged stress. The effects of stress develop insidiously and are easily overlooked and can clearly contribute to the development of burnout, depression/anxiety or both.

Be aware of potentially dangerous personality traits and intellectual behaviors such as perfectionism, selflessness, passivity/avoidance, and externalizing blame or guilt yourself.

Set realistic goals for yourself and periodically review and reconsider your priorities, values and work goals. Don't be stoic, but discuss your concerns and plans with friends and loved ones. Exercise in a sustainable way and take enough vacations. Keep in mind the words of Leticia de Mattos-Arruda, MD, "there is no such thing as work/life balance; there are work/life choices." No one can "have it all."

Once full-fledged burnout has occurred and has been identified, it is critical to identify contributing factors and address the most important causes, and any

impact on patient care, first. Don't be fooled into thinking "it will get better when....", because it probably won't. Rule out the presence of a co-morbid depressive disorder. Treating just the depressed mood with only psychotropics might (perhaps) help the depression for a while, but it won't help the burnout and will ultimately be a failed strategy leading to more resistant symptoms. Don't drink alcohol excessively or otherwise self-medicate. Get help with patient coverage when possible. Do take your needs very seriously and don't try to be something you don't need to be. Recognize that you have valid limits, needs, hopes and dreams just like any role model you've ever looked up to (but who probably didn't show you many of their "weaknesses"). Finally, if your thoughtful and methodical approach to making things better doesn't work fairly quickly, seek the advice of someone you trust to help you, professional or otherwise.

In a future article: "The impact on pilots of workplace stress". There is ample human factors research on the effect of stress on the proficiency of pilots, but relatively little on the prolonged effects of being a pilot on the pilot. I hope to provide a review of the effects of workplace stress on the long-term well-being of pilots.

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## AME Question Column

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Warren S. Silberman, DO, MPH  
President-Elect, CAMA

**NOTE:** Please submit any AME-related questions you wish answered to [civilavmed@aol.com](mailto:civilavmed@aol.com) for Dr. Silberman. Please indicate in your emailed question your city and state or city and country, and state whether or not you wish to have your real name used in the column. Dr. Silberman will answer your question in his column and may also contact you directly via email to provide a timely personal answer.

If my fellow members were unable to make the Mayo Clinic Rochester, MN, Annual Meeting you missed a great one. Drs. Cowl and Bob Haddon from Mayo's Preventive Medicine/Aerospace Medicine Department put on a fantastic seminar!

An important process for all AME's to get used to is that the FAA Office of Aerospace Medicine is placing more and more responsibilities on its AMEs. (This should not be a great surprise to you all, unless you have been in a coma for the past 15 years!) You all need to get used to using the FAA.gov website. There will be more and more information and certification aids on this site. You can find out what to do about a good portion of aeromedical conditions by going to this site. In reality, you should be using this site rather regularly, when your airman has a **Condition AME Can Issue (=CACI)** condition. ([http://www.faa.gov/about/office\\_org/headquarters\\_offices/avs/offices/aam/ame/guide/certification\\_ws/](http://www.faa.gov/about/office_org/headquarters_offices/avs/offices/aam/ame/guide/certification_ws/))

They want you to navigate to the Guide for Aviation Medical Examiners site and from there use the *Aerospace Medical Dispositions* link, *CACI Certification Worksheets* link, or *Disease Protocols* link. From there, you can find what they want you to do about most aeromedical conditions.

I want you to try something. Let's go with something easy this time! How about if you had a deaf pilot come in for an initial FAA medical examination? What do you do? Let's see. Go to FAA.gov, click on the link for *medical certification*. Under the second section entitled Aviation Medical Examiners you will see the link for the *Guide for Aviation Medical Examiners*. Click on that link and you will be taken to a screen where you see Aeromedical Decision Considerations. Under that heading you see the link *Aerospace Medical Dispositions*. Click on that link and next you see **Decision Considerations – Aerospace Medical Dispositions; Item(s)**. There are all the links for the items on page 2 of the 8500-8. Now click on #49. *Hearing*—[http://www.faa.gov/about/office\\_org/headquarters\\_offices/avs/offices/aam/ame/guide/app\\_process/exam\\_tech/item49/amd/](http://www.faa.gov/about/office_org/headquarters_offices/avs/offices/aam/ame/guide/app_process/exam_tech/item49/amd/) Here is the URL address you will be taken to, and what do you see: *Bilateral Deafness*. See [Items 25-30](#). If other-

*wise qualified, when the student pilot's instructor confirms the student's eligibility for a private pilot checkride, the applicant should submit a written request to the AMCD for an authorization for a MFT. This test will be given by an FAA inspector in conjunction with the checkride. If the applicant successfully completes the test, the FAA will issue a third-class medical certificate and SODA. Pilot activities will be restricted to areas in which radio communication is not required. There is what you would do for a deaf airman!*

In the next publication, I am going to test you to see if you can find the answers to some aeromedical conditions.

Now to answer a question from one of our members: I was asked about what would an AME do about professional liability insurance (or Malpractice Insurance) if he is retired now and is performing examinations and is also a HIMS AME—that is all he is doing. Look, I am not going to preach what you should do, but I will tell you my personal thoughts. I know AMEs out there who go “naked” (without any insurance). I am sorry, I am personally too paranoid. Even though you should be overly truthful to the airmen you evaluate. You may be wrong with your opinion. If you tell them they “should” gain medical certification and they get denied. Or perhaps even worse, you miss something on the examination and they come after you. I had professional liability insurance. What we do as AMEs and AME advocates is not actually care for airmen. We don't prescribe medications. We don't do procedures. We practice what I call “administrative medicine”. Trying to find an insurance person who “got” what I did was the main problem. They all quoted what an internal medicine specialist should pay (I am also an Internist.) Even after I wrote my own statement that explained in detail what I did and what I didn't do, they still quoted what I thought was an outlandish amount of money (\$7,500 to \$14,000 US per year)! After many attempts, I finally located someone who “got it!” The first year I was out, I paid about \$3,000 US, and this year I paid approximately \$3,400 US. Still it was much less than I was initially quoted.

## Robert A. "Bob" Hoover Obituary



Bob Hoover with the F-100D Super Sabre, an aircraft that he tested for North American Aviation. Credit Boeing, All Rights Reserved



Robert Anderson "Bob" Hoover, a pilot who escaped Nazi captivity in a stolen plane, tested supersonic aircraft with his friend Chuck Yeager, barnstormed the world as a breathtaking stunt performer and became, by wide consensus, an American aviation legend, died on Tuesday in Los Angeles. He was 94.

Even General Yeager, perhaps the most famous test pilot of his generation, was humbled by Mr. Hoover, describing him in the foreword to Mr. Hoover's 1996 autobiography, "Forever Flying," as "the greatest pilot I ever saw."

The World War II hero Jimmy Doolittle, an aviation pioneer of an earlier generation, called Mr. Hoover "the greatest stick-and-rudder man that ever lived."

Tall and lanky, Mr. Hoover forged a long career studded with aeronautical achievements and [feats](#) of derring-do. The subtitle of his memoir, written with Mark Shaw, suggests as much: "Fifty Years of High-Flying Adventures, From Barnstorming in Prop Planes to Dogfighting Germans to Testing Supersonic Jets."

At a World War II air base in the Mediterranean, he wrote, he terrified senior pilots who had been lordling it over him by flying a P-40 fighter under a bridge while they were standing on it. At an international aerobatic competition in Moscow in 1966, he put on a thrilling, though unauthorized, display flying upside down and executing spectacular loops in a Yakovlev-18. By his account, the stunt upset his Soviet hosts, and he escaped KGB custody afterward only because of the intervention of a mildly inebriated Yuri Gagarin, the first man in space. The two had struck up a friendship.

Indeed, Mr. Hoover could trace the history of aviation, to the dawn of the space age, by the men he came to know: Orville Wright and Charles Lindbergh, General Doolittle and World War I flying ace



Chuck Yeager, left, and Bob Hoover in 1997 at Edwards Air Force Base in California. Credit Reuters

Eddie Rickenbacker, and the astronauts Walter Schirra and Neil Armstrong, as well as General Yeager and Colonel Gagarin.

Mr. Hoover's [trademark maneuver](#) on the show circuit was a death-defying plunge with both engines cut off; he would use the hurtling momentum to pull the plane up into a loop at the last possible moment. But [his stunts](#) were not foolhardy. Each involved painstaking preparation and rational calculation of risk. "A great many former friends of mine are no longer with us simply because they cut their margins too close," he once said.

Ron Kaplan, of the National Aviation Hall of Fame in Dayton, Ohio, where Mr. Hoover was enshrined in 1988, said of Mr. Hoover, "You do not survive the life he lived without discipline and caution."

Hoover's favorite plane in the 1950s and '60s was "Old Yeller," a P-51 Mustang fighter painted bright yellow. Mr. Hoover sometimes shunned flight suits to perform in a business suit (less trouble for the undertaker in case of an accident, he once said) and a trademark Panama straw hat.

He once invited a crew from the ABC program "That's Incredible!" to film him in action, pouring a glass of iced tea with one hand while he rolled his plane 360 degrees with the other.

Robert Anderson Hoover was born on Jan. 24, 1922, in Nashville, TN. His father, Leroy, worked for a paper company while his mother, Bessie, kept house. Bob started to fly as a teenager, "working 16 hours in a grocery store to earn 15 minutes of flight time," as he told an audience of young admirers.

He soon taught himself the loops and hand rolls of aerobatics, enlisted in the Tennessee National Guard and received orders to Army Pilot Training School. With the onset of World War II, he was sent to England as a flight instructor for the Royal Air Force. The Army Air Forces later [assigned him to Casablanca](#), Morocco, where he tested newly assembled and repaired planes and ferried them to the front. Valued as an operations officer, he was nevertheless hungry to fight and, through

persistence, persuaded his commanders to grant him combat duty. "I can hit a target upside down or right side up," he said he told a general.

As a pilot with the [52nd Fighter Group](#), based in Corsica, Mr. Hoover, a lieutenant, flew 58 successful missions before his Spitfire fighter was shot down by the Luftwaffe in February, 1944. He spent 16 months in Stalag Luft I, a prisoner of war camp in Germany reserved for Allied pilots.

Mr. Hoover and a friend escaped from the camp in the chaotic final days of the war, according to his memoir. Commandeering an aircraft from a deserted Nazi base, he flew it to freedom in the newly liberated Netherlands, only to be chased by pitchfork-wielding Dutch farmers, enraged by the plane's German markings.



Bob Hoover was enshrined in the National Aviation Hall of Fame in 1988. Credit Ron Kaplan/National Aviation Hall of Fame

He remained in the military after the war as a test pilot based at Wright Field in Ohio (now part of Wright-Patterson Air Force Base). There, with jet-propulsion planes replacing propeller aircraft, he took on the dangerous duty of working out kinks in work-horses like the F-80 and P-51 fighters. Mr. Yeager was also a test pilot there, and in the fall of 1945 they became friends after getting into a spontaneous mock dogfight that ended in a draw. They were soon performing in air shows around the country.

Both men were recruited to train together at Muroc Field (later named Edwards Air Force Base) in California to fly the Bell Aircraft X-1, the rocket plane that broke the sound barrier in October 1947 over the Mojave Desert. Mr. Hoover might well have gotten the call to pilot the plane if his rambunctious streak had not undone him, Mr. Kaplan said. Earlier that year, he had buzzed a civilian airport in Springfield, Ohio, in an experimental military jet as a favor to a friend; the friend wanted his relatives in the area to think that he was flying the aircraft.

Commanders discovered the episode, and Mr. Hoover was relegated to flying the "chase" plane during the X-1 test flights, making observations and taking photographs, while Mr. Yeager made history.

After leaving the Air Force (the successor to the Army Air Forces), Mr. Hoover became a test pilot for General Motors and then North American Aviation, a Los Angeles-based military contractor that later merged with Rockwell International. He stayed with

the company through the 1980s. But as the pace of jet innovation slowed, he became a roving ambassador and showman, flying North American planes at air shows around the world and taking part in a documentary film, "[Flying the Feathered Edge: The Bob Hoover Project](#)."

After leaving the aerospace business, Hoover became an hallmark of the air show and race circuit. He flew in more than 2,500 civilian and military air shows in the U.S. and around the world, according to the Smithsonian, thrilling those on the ground with his trademark routine: Shutting off one or both of the engines on his North American Rockwell Shrike Commander 500S, while performing loops and dives.

Mr. Hoover flew well into his 80s, but not before clashing with the authorities when he was 72, in 1994, when medical examiners from the Federal Aviation Administration declared him unfit to fly, saying that his "cognitive abilities" had diminished.

Mr. Hoover quickly recertified himself [in Australia](#) and began a legal battle back home, led by the defense lawyer F. Lee Bailey, who had befriended Mr. Hoover through a mutual love for flying helicopters. Mr. Hoover emerged victorious 18 months later, and his United States license was restored. His campaign found support among fans who wrote thousands of letters. At the Oshkosh Fly-In and Air Show in Wisconsin, posters were displayed everywhere saying, "Let Bob Fly."

A precise aviator, Hoover famously was able to pour a glass of iced tea in the middle of a barrel roll. Hoover's famous green and white stunt plane sits prominently under the wing of the Concorde supersonic airliner at the National Air and Space Museum Annex in Chantilly, Va.

Mr. Hoover was one of the most honored pilots in American history. His military awards alone include the Distinguished Flying Cross, the Soldier's Medal of Valor, the Air Medal with Clusters, the Purple Heart and the French Croix de Guerre. In 2007 he received the National Air and Space Museum Trophy, the museum's highest honor.

Mr. Hoover's wife, Colleen, died recently. They had lived for many years in the Los Angeles area. Survivors include a son, a daughter and several grandchildren. There are a number of obituaries and videos of Bob Hoover available on the Internet, and Wikipedia lists his accomplishments and projects in detail.

**(The items in blue are links to articles and videos. It may be necessary to click "Control" and the link at the same time to activate the links.)**



## I Do Declare – PBR II Physician Certification Change

Ms. Kathleen Yodice has been representing aviation legal interests for almost 30 years, beginning her career as an FAA prosecutor and regulatory lawyer, before moving into private practice defending air carriers, commercial operators, repair stations, pilots, and mechanics against FAA enforcement actions and assisting entities and individuals in aviation compliance matters, medical certification concerns, and aviation-related business and transactional issues.

Ms. Yodice received her law degree from the University of Maryland School of Law and a Bachelor of Arts Degree from Frostburg State University, where she concentrated her studies on psychology and mathematics. She is admitted to practice in Maryland and the District of Columbia, as well as the U.S. Courts of Appeals and the U.S. Supreme Court. She is an active member of the Maryland and D.C. Bar Associations, the Lawyer Pilots Bar Association, and the International Air & Transportation Safety Bar Association. Ms. Yodice is a Past President of the Lawyer-Pilots Bar Association and currently sits on their Board, and she served on AOPA's Board of Aviation Medical Advisors. She was appointed to, and continues to serve on, the Editorial Board for the ABA Forum on Air and Space Law, and she is a former long-time panel member in the Transportation Research Board's Airport Cooperative Research Program.

Ms. Yodice is an instrument rated private pilot. She learned to fly in the family's 1946 Piper J-3 Cub, and she co-owns a 1968 Piper Cherokee 180 with her brother.



As we've all no doubt heard by now, Congress passed legislation this past summer that directs the FAA to adopt rules to allow pilots to operate aircraft without having to hold a current medical certificate issued by the FAA. Many refer to it as "Third Class Medical Reform". Proponents argue that it is a positive step toward bolstering the General Aviation industry and finally eliminating unnecessary and costly bureaucratic red tape; others have described it as compromising a tried and true safety system. It literally took an act of Congress to achieve this landmark change that has been the subject of debate, letter writing, petitions, meetings, draft rulemaking, and more for many, many years. Sure, a form of this has been in existence for years for balloon and glider pilots, and a broadened application was achieved with Sport Pilot. But, this change goes much further, yet some would still say not far enough. At this point, the deliberation is done, and we're left to see how the changes play out.

The legislation is fairly specific, but a lot will still need to be sorted out in the rulemaking process, which will need to be completed by summer 2017. An area of the legislation that will likely not be subjected to much change in the rulemaking process will be the certification that physicians must make when examining a pilot who may then fly under this new medical classification group. Let's examine the difference between what AME's say following a third class medical application examination, and what a doctor (maybe an AME, but not necessarily an AME) will say after the examination required by the new law.

To be an AME, a doctor must receive a designation from the FAA and thereby be authorized to conduct examination of individuals in a manner that allows that AME to complete the "Report of Medical Examination" on the medical application. There is a rather lengthy list of medical checks that need to be done and documented. After conducting the required examination, the AME must make a statement as to whether a medical certificate was issued, no certificate issued, or certificate had been denied. And, then the AME must make a "Medical Examiner's Declaration" by signing the form saying,

*"I hereby certify that I have personally reviewed the medical history and personally examined the applicant named on this medical examination report. This report with any attachment embodies my findings completely and correctly."*

(Continued on Page 19)



Such a declaration is evidence of the facts declared, i.e., that the AME was the one who reviewed the individual's medical history (Question 18 on the application), and the AME was the one who conducted the examination and is providing the examine information to the FAA.

safely operate an aircraft. A lot of questions regarding training and experience to perform these exams, the extent of the associated responsibilities that come from signing the bottom line, the availability of malpractice insurance coverage, and the potential liability issues, at a minimum, all remain unanswered at this time. I expect that the physicians will take care to fully appreciate the import of their examinations and their signatures in either circumstance. It's a change, pure and simple.

For the most part, the list of items contained on the FAA's medical application form is nearly identical to the checklist that is contained in the legislation that outlines the "comprehensive medical examination" to be conducted by any State-licensed physician. The physician is to check each item and address "as medically appropriate" every medical condition and any medication listed, including determining whether any medical tests are warranted and discussing the potential of any prescription or non-prescription medication to interfere with the safe operation of an aircraft or motor vehicle. Then, the physician must affirmatively state,

*"I certify that I discussed all items on this checklist with the individual during my examination, discussed any medications the individual is taking that could interfere with their ability to safely operate an aircraft or motor vehicle, and performed an examination that included all of the items on this checklist. I certify that I am not aware of any medical condition that, as presently treated, could interfere with the individual's ability to safely operate an aircraft."*

A certification is the formal assertion of some fact, i.e., that the physician performed the examination and discussed any conditions and medications with the individual, and further, that the physician does not know of a medical reason the individual could not safely operate an aircraft.

It appears that the role in each circumstance differs significantly for the physician. I expect that the physicians will take care to fully appreciate the import of their examinations and their signatures in either circumstance. It's a change, pure and simple.

It appears that the role in each circumstance differs significantly for the physician. As an AME, the physician is acting as a designee of the government, acting on behalf of the FAA, and any information gathered is shared with the FAA for them to make the ultimate medical qualifications decision. It appears that the physician performing the examination under the new legislation, whether holding an AME designation or not, will be rendering his or her own conclusion of medical qualifications to

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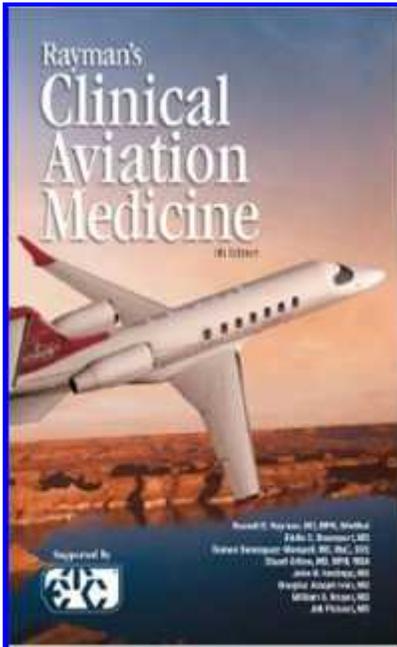
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CAMA now has a Facebook page! In order to provide the best options for communication with our members and other interested parties, we have established a Facebook page. If you are already on Facebook, you may find our page by entering "Civil Aviation Medical Association" into the search box. We will post current events, photos, and other pertinent information about our organization. You are invited to ask questions or to post comments or photos on our page (inappropriate remarks/photos or advertisements will be removed). The page is monitored several times daily, and we will strive to answer your questions promptly. Please contact the CAMA home office if you have any questions, suggestions, or comments about the Facebook page.



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**BLAST FROM THE PAST**  
From the Fall 1988 Edition of "The Flight Physician"

## **FORTY YEARS OF CAMA, THE PAST, THE PRESENT AND THE FUTURE?**

by *Forrest M. Bird, M.D., PhD., ScD.*      *Sandpoint, Idaho*



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**About the Author:**

*On September 19, 1987, Dr. Forrest M. Bird was the recipient of CAMA's Award of Merit and Excellence in recognition of his many achievements in the worlds of business enterprise, medicine, biomedical technology, inventive pioneering, and for his production in the two vital areas of aeromedical and biomedical technology. His systems for neonatal ventilation tremendously enhanced survival among depressed cardiopulmonary patients.*

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The founding fathers of the Civil Aviation Medical Association proclaimed, "The Future of America Rests on its AIR MAN POWER". Membership was to be drawn from Physicians who were interested in Aviation with a primary direction toward existing CAA Medical Examiners. Beyond the Medical Community any contributory Air Minded Individuals, Association or Corporation could petition for membership. In the earliest formative years there were thirteen involved states which set the stage for a true National Organization, coordinated from a Washington, D.C. office. With national expansion, international status soon followed.

The true test for a CAMA candidate was his or her belief in a strong America as well as a dedication toward an expanding, effective Aeronautical Community. Membership classifications were established to provide for Board Members, Principal Members, General Members as well as Honorary Members. Sponsors and Patrons included Individuals or Corporate entities desirous of supporting the goals of CAMA.

During the fourth Meeting of the Trustees in Chicago, on January 28-29, 1956, sixteen primary Objectives were set forth, as five year goals for implementation. They were:

**1.** To assist in the Development of American Aviation and aeronautical manpower to the greatest extent for national security and world peace.

**2.** To aid in the attainment of the highest practical health and safety standards for all airmen, to secure the greatest possible prolongation of pilot and airman life.

**3.** To establish and maintain the best corps of training, experienced, understanding, conscientious aviation medical examiners possible.

**4.** To aid the development of post-graduate aviation training courses, aviation scholarships, and research centers.

**5.** To aid and support the American Board of Aviation Medicine.

**6.** To sponsor the establishment of the office of the Civil Air Surgeon, and industrial responsibilities.

**7.** To cooperate with all allied aviation medical organizations.

**8.** To aid in the enactment of Civilian Pilot Training Program III.

**9.** To aid the CAA in the attainment of the Aviation Incentive Movement.

**10.** To sponsor the establishment of an Institute of Civil Aviation Medicine.

**11.** To cooperate with all facets of civilian and commercial aviation where possible and practical.

## BLAST FROM THE PAST (CONTINUED)

12. To support hometown airport operators to the greatest possible extent.
13. To integrate aviation programs with service clubs, community organizations, Civil Air Patrol, Chamber of Commerce wherever possible.
14. To aid in the establishment of a national clearing house for all air minded groups, associations, companies, or clubs.
15. To keep CAMA members and the public abreast of developments in the field of civilian aviation, and particularly, aviation medicine.
16. To preserve and foster the spirit of fellowship among the airminded citizens of the nation.

During my perusal of the history and the men who were the founding Fathers and the Motivators behind the first decade of CAMA I detected an evolution based upon the generic logic of the times. For those of us who started our aeronautical experiences in the mid thirties before transitioning into World War II, unique wartime experiences served to provide us with proven methodology toward advancing Civilian Aviation (at each level) out of Military Introduction. Many individuals were desirous of maintaining the envisioned glory of the past (with texts like "Doctors in the Sky"), as stimulants, while introducing effective para military concepts into Civilian Aviation, in such a manner that personal needs were satisfied, in term of, practical applications as well as personal gratification.

References to the Aero Medical Association as, "the parent organization" may have expressed the opinion of many charter members back in the 1950s; however, the present Aerospace Medical Association is a massive organization of Aerospace Manufacturers supporting conventions, by "presenting to the Military" with increasingly sophisticated exhibits. While the Aerospace Medical association is an excellent group in Scientific Terms, their present direction is far afield from that of CAMA.

As early as 1947, the Airlines were searching for additional "turf" by developing their own class I Medical Examiners, as well as competing for the whole pie in terms of satisfying all their perceived needs for cargo and passenger transport. For the first time, General Aviation felt a threat for dominance, by the subsidized Airline Industry.

The emergence of the Civil Aviation Medical Association was not an attempt to compete with any existing Military or Civil Medical group with interests within the Aeronautical Medical Community. It had a direction all of its own, built primarily around the two thirds of the CAA Medical Examiners who did not have an influencing voice. In March of 1955 at a meeting in Washington, D.C., the potential power of CAMA, as viewed by "political Washington" was demonstrated by the attendance of Sen. Warren Magnuson Esq. (Mr. Boeing of

Washington State) and other equally potent legislators who recognized the requirements for new positive action within the Aeronautical Community.

Members of CAMA were influential in bringing about a new Civilian Pilot Training program after the erosion of the G.I. Bill. In 1956 CAMA supported the efforts of Carl Hinshaw (Congressman from Calif.) in the development of an expanded Civilian Pilot Training Program. This provided a much needed stimulus, toward interesting young people in Civilian Aviation.

The major advantage of CAMA as a spokesman, on controversial issues, was the lack of a bonding influence with those who radicalized any specific cause within Aviation Circles. CAMA was, and truly remains, "its own man".

During the first two decades of CAMA, education of the public played a major role in earning recognition. While the fifties and the sixties were golden years in the expansion of Air Carrier Operations as well as General Aviation, because of the expanding Powerplant Technologies along with Airframe Expansions, education remained the prime motivator. Empty Airline Seats and unsold Aircraft in Hangers, do not expand an industry. Forced by "supply to create demand" all segments of aviation moved into selling the public on aviation. With literally Billions of Dollars to sell aviation, the Airframe Manufacturers and the Airlines supported lecturers to Service Clubs, Schools and almost any organization, upon request. CAMA members should feel justifiably proud of their contribution during the "vital years" of need, when it was difficult for a Service Club or a School to obtain qualified speakers or interface effectively with dedicated aviation interests. With the Aircraft Industry providing superbly packaged public presentation in terms of selling their products, the previous role of CAMA as educators was encroached upon.

At this point in time CAMA may be at a crossroads, WHERE DO WE GO FROM HERE? WHAT SHOULD OUR PRIMARY OBJECTIVES BECOME?

While the past and the present aspects of any text are relatively easy to correlate, if one is provided with adequate documentation, the future direction can provoke considerable thought. As individuals in a potentially dynamic organization we are bound by subjective as well as objective direction. CAMA must seek out a defining role of interface with Society, through unique methodology, directed toward an effective service to our fellow man as well as ourselves. Times have changed, with many of the initiating objectives of CAMA now in the hands of well financed, dynamic, governmental as well as commercial organizations. We must ask ourselves, how well is the Aviation Community, have those who assumed the educational role in Aviation continued to support "home town interest", or have they become agents of self interests?

CAMA continues to do very well in keeping the Physician interested in Airman Medical Certification

## BLAST FROM THE PAST (CONTINUED)

current in his respective roles. The major current void is having a dynamic favorable interface with Society. Unfortunately, the average Airman earning a living through his or her flight certification lives in mortal fear of "Busting a Physical"; therefore, the AME is someone only visited because he or she is legislated to do so. The AME should not be visioned as an Enforcement Officer, but as a friend of the Pilot. The amount of trust we have in one another, is expressed by our government, who now requires the Class I Examiner to deliver an EKG by wire. Without trust, a society is doomed to mediocrity.

During recent years the mood of the press has become increasingly "hostile toward some members of the Aviation Community", while much of this has been prompted out of "ulterior motivation" by those "jockeying for position" the Public Continues to be scared by "half truths". With the Airframe Manufacturers currently in a major state of depression, because of inflational pressures, mal-judgment and legal interventions, the cost of the Avionics Package in a light training aircraft presently is priced higher than the total value of a similar aircraft of two decades ago. With skyrocketing costs, flight training has become severely handicapped. In many ways we are presently much worse off, than at any time since World War II, relative to bringing new people into our Aviation Community. The Airlines are battling for position through "price concession" rather than education. Essentially, the entire Commercial Aircraft Community is riding upon the inertia created by

those who did provide the stimulus toward public education. Is "grass roots" Aviation in the United States going to continue to decay toward the level of many of the worlds Socialistic Countries?

CAMA presently has a dynamic progressive individual at the helm, are we going to support him with our personal involvement or are we going to let him become frustrated as we have others? First we must ask ourselves, what can we do to strengthen the effective and productive aspects of Aviation in general. While CAMA is not a pilots' organization per se, (apparently somewhere in the vicinity of 20% of the members are active pilots) it does possess a tremendous pool of knowledge relative to what "Aviation is all about". Shall we not discuss what our future direction should be, in terms of expanding public recognition and political clout? There is much more to the maintenance of recognition than a press release of concurrence, relative to the direction of others. Why not provide sources of novel direction, which can serve to stimulate the public? If each member of CAMA sought out some idea; within our economic means, to serve our fellow man who is touched by Aviation in one way or another (which encompasses all of us), we could soon have a number of viable rallying points. Without current goals requiring thought and ambition, an organization is without a "fighting spirit". CAMA has the potential, to provide many basic services to mankind, while uniquely satisfying each individual member's preferences in terms of pride of accomplishment.

Dr. Forrest M Bird passed away August 2, 2015, and his beloved wife Dr. Pamela Riddle Bird, joined him in the next dimension on October 8, 2015. (See the full memorial articles for each in the September 2015 and November 2015 editions of "The Flight Physician" for additional information.) Both were friends and supporters of CAMA and are very much missed.

The vision Dr. Bird had for the future of CAMA in 1988 and his perception of CAMA's history are still pertinent to the organization today. CAMA has remained a progressive organization dedicated to the education and support of the AMEs and the aeromedical community in general and a leader in promoting communication among the various government and aviation-related organizations. We are very proud to have been associated with Doctors Forrest and Pamela Bird, and to have had the privilege to present the Forrest and Pamela Bird Recognition Award to deserving individuals each year through 2015 during the Honors Night Banquet of the Annual Scientific Meeting. Since the Birds are no longer with us, the future of the Bird Recognition Award will be determined by the CAMA Board of Directors in the future.

Past recipients of the Bird Recognition Award can be viewed on the CAMA web site at [www.civilavmed.org](http://www.civilavmed.org). Click the tab "About CAMA" and click the link entitled "Awards" for a description of each award and its recipients.

# Civil Aviation Medical Association

Sustaining, Corporate, and Life Members

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

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## New Members

CAMA is very pleased to announce a number of new members to our organization since our last publication. We welcome the following physicians and organizations into CAMA, and we look forward to working with each of them over the coming years.

William A. Collignon, MD  
203 Avalon Avenue, Suite 100  
Muscle Shoals, AL 35661  
Senior AME, Pilot, General Surgery

Herminio Cuervo, MD, MPH  
1601 Williamsburg Square  
Lakeland, FL 33803  
AME, Neurology/Aerospace Medicine

Marque Malan, ATP  
Aeromedical & Human Performance Specialist  
Airline Pilots' Association  
535 Herndon Parkway  
Herndon, VA 20170  
Pilot, Aeromedical & Human Performance

Soli D. Miningou, MD  
01 BP 4730  
Ouagadougou, Burkina Faso, Africa  
Senior AME, Pilot, General Practice

Dean M. Olson, MD, MS  
309 Dellwood Avenue  
Oakwood, OH 45419  
AME, Aviation Medicine/Family Medicine  
Director, Aerospace Medicine Residency Program  
Wright State University

Ira Rampil, MD  
236 Candler Way  
Williamson, GA 30292  
Senior AME, Pilot, Anesthesiology/  
Aerospace Medicine

Kathleen G. Todd, MD  
Box 1829  
Valdez, AK 99686  
AME, Family Medicine

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