REGISTRATION FOR THE 2021 CAMA ANNUAL SCIENTIFIC MEETING IS OPEN!!

We are now taking registrations to attend the 2021 CAMA Annual Scientific Meeting, being held at the Embassy Suites—Brooks, in San Antonio, Texas, September 23-25th. The registration form, Beverage Ticket order form (see explanation below), and hotel room reservation link may be accessed with convenient pay online capability on the “Annual Meeting” page of the CAMA web site at www.civilavmed.org. A copy of the registration form is also on page 22 of this publication. You are encouraged to complete and submit the form and reserve your space at your earliest convenience, as space is somewhat limited for some of the activities and participation is on a first-come-first-served basis.

As there are several medical schools in the San Antonio area, this year CAMA will offer a selection of special student packages for those medical students who wish to audit the educational presentations. No CME will be offered with these packages.

This is a wonderful opportunity for CAMA and the FAA to introduce medical students to the Aerospace Medicine specialty and to the role of the Aviation Medical Examiner (AME) and to encourage medical students to consider Aerospace Medicine as a career.

If you are a medical student or know of a medical student in the San Antonio area, please share this information. A Student Membership/Registration document is on page 23 for your convenience and is now available on the Annual Meeting page of the CAMA web site (www.civilavmed.org).

We anticipate much interest in this educational conference, as it is one of the few in-person meetings held in 2021, as well as taking place in historic and picturesque San Antonio, Texas, where many flight physicians and RAMs received their training in aviation/aerospace medicine. The meeting program has been approved for FAA AME recertification purposes (upon completion of the FAA test criteria) and has been submitted for rating of Continuing Medical Education Credits (CME).

The meeting program and educational curriculum is posted to pages 25-28 of this edition, and can also be accessed on the Annual Meeting page of the CAMA web site. You will also find on that page a link with which to make hotel reservations at the host hotel, the Embassy Suites—Brooks.
Regular meeting registration includes three breakfasts, three lunches, a field trip tour of the Alamo, along with a catered dinner at the Alamo Pavilion, and an Honors Night Banquet on Friday evening. Participants will receive a certificate of CME upon completion of the meeting, and FAA representatives will be in attendance to administer the FAA AME Refresher Course test module.

As an added bonus, the educational sessions will be recorded by Podiumcast and will be made available online to registered meeting participants as part of the registration benefits. You will be able to view the presentation slides and hear the lecture of each of the meeting subjects whenever you wish to refresh your memory on a given subject.

There will be a “ticket” beverage bar available at the Alamo dinner. You MUST purchase your beverage/drink tickets in advance. Tickets will NOT be sold on site. This may be accomplished by either using the online registration and payment link on the CAMA web site “Annual Meeting” page, or by using the forms on pages 22 and 23 of this publication. The caterer will serve beer, one red wine, one white wine, and sangria in exchange for each ticket. Tickets may be purchased for $6.00 each in whatever quantity you wish, in advance only. Your purchased tickets will be provided to you when you pick up your meeting packet and ID badge at the CAMA table in the hotel lobby Wednesday evening, September 22nd, or at the CAMA table outside of the meeting room Thursday morning, September 23rd. Sherry Sandoval will have additional tickets for purchase through lunch on Thursday.

CAMA Refund Policy

As of 01/01/2018, the cancellation/refund policy with regard to Annual Scientific Meeting registration fees and guest fees is as follows:

1) If a refund is requested due to cancellation of attendance prior to the catering guarantee date (normally three weeks prior to the first day of the meeting – it varies by hotel, caterer, and location), 10% of the total registration fee amount, or $50.00, whichever is greater, will be withheld to cover bank and service processing fees.

2) If a refund is requested due to a cancellation of attendance after the catering guarantee date, the cost of the meals will be withheld from the refund, plus 10% of the total registration fee to cover bank and service processing fees.

3) Dire or unusual circumstances which require cancellation/refund (attendee and/or guest fees) after the guarantee date will be determined on a case by case basis (death in the immediate family, accidents, emergency surgery, etc.), but the 10% fee will be applicable in all cases.

4) The cutoff date for the guarantees will be shown on the registration form for each year, so that there will be no misunderstandings.

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Attention CAMA members!!! All systems are GO, for a spectacular in person CAMA Scientific Meeting in San Antonio, Texas, Thursday through Saturday, 23 to 25 September 2021. The first (and probably only) 2021 in person FAA AME refresher training course will be offered in conjunction with historic keynote presentations at the Embassy Suites – Brooks, located on the previous grounds of the USAF School of Aerospace Medicine (USAFSAM) at old Brooks AFB, TX, in 1985. In 1986, he became board certified in Aerospace Medicine and in 1999, board certified in Occupational Medicine. Dr Saboe retired as a Colonel from the U.S. Air Force in 2003 and has continued to be employed as an U.S. Air Force Civil Service Flight Surgeon, as well as being active in his AME private practice (Saboe Aviation Medicine).

Dr. Saboe received his BA (Biology & Chemistry) from Luther College, Decorah, IA, in 1975, his DO from Des Moines University, College of Osteopathic Medicine and Surgery, Des Moines, IA, in 1978, and served a 1-year internship at Normandy Osteopathic Hospitals, St Louis, MO. He completed an U.S. Air Force Aerospace Medicine residency program, earning an MPH from Johns Hopkins University, Bloomberg School of Public Health in 1984, and then completing a residency in Aerospace Medicine at the U.S. Air Force School of Aerospace Medicine, Brooks AFB, TX, in 1985. In 1986, he became board certified in Aerospace Medicine and in 1999, board certified in Occupational Medicine. Dr Saboe retired as a Colonel from the U.S. Air Force in 2003 and has continued to be employed as an U.S. Air Force Civil Service Flight Surgeon, as well as being active in his AME private practice (Saboe Aviation Medicine).

Dr. Saboe is a current Diplomate of the ABPM and AOBPM in Aerospace Medicine/Preventive Medicine. He is a Fellow of the Aerospace Human Factors Association, the Aerospace Medical Association, the American College of Occupational and Environmental Medicine, the American College of Preventive Medicine, the American Osteopathic College of Occupational and Preventive Medicine, and the Civil Aviation Medical Association. He is a past recipient of the CAMA President’s Commendation and the Audie & Bernice Davis Awards.

CAMA President’s Message

Attention CAMA members!!! All systems are GO, for a spectacular in person CAMA Scientific Meeting in San Antonio, Texas, Thursday through Saturday, 23 to 25 September 2021. The first (and probably only) 2021 in person FAA AME refresher training course will be offered in conjunction with historic keynote presentations at the Embassy Suites – Brooks, located on the previous grounds of the USAF School of Aerospace Medicine (USAFSAM) at old Brooks AFB, TX, in 1985. In 1986, he became board certified in Aerospace Medicine and in 1999, board certified in Occupational Medicine. Dr Saboe retired as a Colonel from the U.S. Air Force in 2003 and has continued to be employed as an U.S. Air Force Civil Service Flight Surgeon, as well as being active in his AME private practice (Saboe Aviation Medicine).

We have all suffered grievously -- socially, economically, and professionally this past year over the impact of the COVID-19 pandemic. Many of you or your families were personally afflicted with health consequences of COVID-19, and some tragically succumbed to its potentially deadly pathophysiological effects. Within the same year. Let me repeat that, within the same year COVID-19 vaccines (Yes—Vaccines, plural) became available from vaccine manufacturers in quantities necessary to begin vaccinating populations. Wow, that has never happened before! Currently from CDC and WHO data, in the USA about 46% of the total population have received their first vaccination dose and 32% have received their second dose. In Texas about 40% have received their first vaccination dose and 28% have received their second dose. Global vaccination lags significantly with only a little over 8% having received their first dose and 4% having received their second dose. The countries with low to non-existent vaccination programs occurring are in line with their preexisting poor socioeconomic conditions. Very unfortunate, and not a surprise. Amazing technological advances continue to be made, but geopolitical climate and socioeconomic variability always presents its own reality to interventions. My predictions are as we in the USA progress this year in our recovery from the COVID-19 pandemic, continental air travel will resume and

(Continued on Page 4)
On the morning of 28 April 2021, two legends in the Aerospace Medicine community passed from this life but will always be remembered, Thomas J. Tredici, MD, Aerospace Ophthalmology, and John D. “Jack” Hastings, MD, Aerospace Neurology. They were both individually world-renowned experts in their medical disciplines, mentors, and personal friends. My heart-felt sympathy and condolences to their families and innumerable friends. Rest in peace Tom and Jack, we thank you for all that you accomplished, for all the professionals that you trained, and for all the pilots and astronauts that you helped. Their obituaries are following in this edition of the Flight Physician with the amazing accomplishments of these great men. Jack had been a Past President of CAMA in 1997 to 1999 and remained on the Executive Board as an Emeritus member. His experience, guidance, advice, and participation in the CAMA mission and in CAMA activities were invaluable.

Four weeks prior to our CAMA meeting, the Aerospace Medical Association (AsMA) will be meeting in Denver CO, 29 Aug to 2 Sep 2021. CAMA will again host CAMA Sunday, 8:30 AM to 12:30 PM, 29 Aug, with presentations from Drs. Cheryl Lowry and Brian Pinkston regarding Extreme/Wilderness Medicine, and from Dr. Douglas Ivan regarding topics in presbyopia and other aging pilots’ visual problems. CME credit is anticipated. A CAMA luncheon on Monday, 30 Aug, is also scheduled that will include a presentation on Pilot Spatial Disorientation by William Ercoline, PhD.

As highlighted at the beginning of this section, FAA AME refresher training credit will be given for attending the FAA’s core presentations during the CAMA Scientific Meeting in San Antonio and passing the after-course FAA written test.

Scheduled keynote presentations during the CAMA Scientific Meeting will be given by Thomas M. McNish, MD, MPH; James R. Hickman, Jr., MD, MPH; Story Musgrave, MD; and Thomas J. Tredici, MD. As mentioned, Dr. Tredici passed away on the morning of 28 Apr 2021. I had last spoken with Dr. Tredici on the phone for two hours on 15 Apr 2021, and he said he was “ready and willing to help,” by speaking at our CAMA Honors Night Banquet. As he was now 98-1/2 years old, he planned to prepare a 30- to 35-minute presentation to discuss contributions the Ophthalmology Branch, USAF School of Aerospace Medicine (USAFSAM), had made to Visual Science and National Defense from 1960 to 2010. Dr. Tredici immediately prepared his slides and was practicing his presentation at home, intending to record his presentation via a Zoom video session now in case his health did not permit an in-person presentation in September. With Dr. Tredici’s passing away, Douglas J. Ivan, MD, Colonel, USAF, MC, CFS (Ret), an aerospace ophthalmologist who was a close personal friend and colleague of Dr. Tredici will use Dr. Tredici’s presentation slides and presentation notes to give the presentation posthumously in his honor.

Last year, Thomas M. McNish, MD, MPH, was awarded the 2020 Forrest and Pamela Bird Award, however, a CAMA Scientific Meeting was not held. Dr. McNish was requested to provide the Keynote presentation that will open the 2021 CAMA Scientific Meeting on Thursday morning, 23 Sep, titled “Aviation Safety.”

CAMA’s need is now to become involved and expand our professional reach into civilian space medicine. Story Musgrave, MD, NASA Astronaut (Ret), will give a Keynote presentation Friday noon, 24 Sep, titled “Excellence, Exploration, and Evolution.” In the beginning of powered flight and the discovered need during WWI for a medical specialty concerned with flight, the flight surgeon appeared in 1918. Today, a little more than 100 years later, another frontier is being opened into space through civilian commerce, in parallel with nationalized and military programs. A name change may be in the planning for CAMA and maybe for a medical specialty to be known as the astro surgeon.

On Thursday afternoon, 23 Sep, a presentation will be given by Charles R. Fisher, MD, MPH, former Commander of USAFSAM at Brooks City-Base, 2008 to 2011. Dr. Fisher will provide an overview of the Brooks AFB/USAFSAM history, prior to boarding buses for a bus tour of old Brooks AFB. The base tour will be followed by a short bus ride to downtown San Antonio for a tour and dinner at the historic Texas shrine, The Alamo. On Friday evening will be an eventful Honors Night with dinner served, Keynote presentations by Drs. Tredici and Hickman, and CAMA Awards presented.

A tour of the onsite USAF human centrifuge and hyper/hypobaric chambers, historically toured by President Kennedy in 1963, will be available on Saturday afternoon, following the meeting with William R. Ercoline, MS, PhD.
An airman’s post on a social media site was recently brought to my attention. In that missive, the airman complained about what he had to go through to get a special authorization in 2007 (yes, 13.5 years ago) which he never renewed. He stated in his post that he would rather not fly than go through that process again. So, he didn’t. Sometime after 1 May 2017, he returned to flying under BasicMed. He now believes he deserves an apology from the FAA (but he is not holding his breath). The sad part of this post is he grounded himself for nine years when he had options including pilot advocates, AMEs, and Light Sport.

In my career with the FAA, mostly as a Regional Flight Surgeon, I have communicated with thousands of airmen – sometimes in person at Sun ‘n Fun, Oshkosh, or other aviation events, sometimes on the phone, and sometimes via email. And I listened. I understand it can be particularly challenging to get the initial special authorization, especially if you have never done it before. Depending on the condition, or set of conditions, subsequent renewals can be equally difficult (although, typically it gets easier).

You as AMEs and pilot advocates can help these airmen.

- First, help the airman get smart about the requirements. The FAA’s Guide for Aviation Medical Examiners is on-line at https://www.faa.gov/about/office_org/headquarters_offices/avs/offices/aam/ame/guide/ and is full of good information to discuss with the airman and his/her treating providers.
- Second, if the airman is going to submit directly to the FAA remind him or her to review their own medical documentation to make sure there is nothing else in materials we might ask questions about (or they forgot to mention in previous applications) because we really do read what is submitted. If you are submitting on the airman’s behalf, please read the documents.
- Third, make sure every page is legible, contains at least the airman’s name and a date, and any letters from providers are actually signed (clinical notes from the airman’s chart do not require signatures).
- Fourth, ensure that each item requested by the FAA is in the package.
- Fifth, make sure the contact details for you and the airman are correct in our system and on your paperwork. (I can’t begin to tell you how many times I could have solved an issue with a phone call where the listed number was incorrect, forcing me to send a letter.)
- Finally, should you need a limited extension, contact the Airman Medical Certification Division or your Regional Flight Surgeon’s office.
- One other note, keep a copy of everything you send. Mail, and even FedEx packages, can go astray or be mis-delivered.

A lot has changed in the Office of Aerospace Medicine in the last decade for the better -- expansion of AASIs, CACIs, approval of new medications to name a few. And, we aren’t done.

What about the airman I started this column with? I looked him up. True enough, he was initially (and appropriately) deferred by his AME under the policy in place in 2007. However, he was granted an AME Assisted Special Issuance (AASI). All he was required to do was provide a lab value and a clinical summary from his doctor. Then the AME could have issued on the spot if he otherwise met the standards. Further, he would have been released from the AASI in 2012 if nothing changed. The condition became one of the Conditions an AME Can Issue (CACI) in 2013 without FAA review. The really unfortunate part of this whole event is he never appears to have reached out for assistance or critically read the actual special issuance letter.

In closing, thank you all in advance for what you do! Our National Air Space is safer because of you.

Fly Safe!
Microlearning for Aviation Medical Examiners


The COVID-19 public health emergency has driven extraordinary global efforts to develop an effective and safe vaccine.

The vaccines produced by Pfizer and BioNTech, Moderna, and the Janssen Single-Dose COVID-19 vaccine manufactured by Johnson & Johnson, have been made available to the American public under an Emergency Use Authorization (EUA) by the Food and Drug Administration (FDA).

After careful review of available data regarding safety profiles, the FAA Office of Aerospace Medicine (AAM) adopts the following policy as both safe and operationally responsive to this unique situation:

Holders of FAA-issued Airman Medical Certificates or Medical Clearances may receive the Pfizer-BioNTech, Moderna, or Johnson & Johnson COVID-19 vaccine; however, a 48-hour no fly/no safety related duty interval must be observed after each dose.

Individuals holding an Airman Medical Certificate or Medical Clearance should be reminded that they are prohibited from performing flight crewmember duties or air traffic control duties if they do not meet medical certification requirements, including those related to adverse events from medications that render them unable to perform such duties.

AAM will monitor the patient response to each vaccine and may adjust this policy as necessary to ensure aviation safety. Additional vaccines will each be evaluated as EUAs are issued.

The AME Minute is presented by FAA Aviation Safety's Aerospace Medical Education Division of the Civil Aerospace Medical Institute, in association with FAA Media Solutions. To provide feedback, please email ame-distance-training@faa.gov

See Page 34 of this publication to use links to the AME Minute dating from November 2020 to the present time.

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Open Monday through Friday 8:30 a.m. - 6:00 p.m. ET
John Daniel “Jack” Hastings, 80, slipped the surly bonds of earth and died peacefully of natural causes on Wednesday, April 28th in Jacksonville, Florida. Jack was a beloved husband, father, and grandfather as well as a friend to all. In addition to his lifelong commitment to helping others, Jack quietly embodied the virtues of sincerity and humility, and perhaps most significantly, grace and humor.

Jack took great care of his family. He had close and meaningful relationships with each of his four children. He adored his grandchildren. He met his former wife, Dr. Barbara Fries, in medical school in 1961, they married in 1965, and shared a neurology practice for 30 years. They enjoyed a lifelong friendship and spent many dear times together during his recent illness. He deeply valued friends and colleagues, whom he had all over the world. He loved and cherished his rescue dogs, and they him.

Jack was remarkably accomplished, yet humble and devoted to service. To those close to him, Jack was both serious and mischievous, thoughtful while incisively funny, respectful while irreverent, accepting while challenging, and above all, always kind and compassionate. He loved to laugh. He was exceptionally down-to-earth and unassuming even with all his educational and professional accomplishments, and all the respect and renown he earned. Jack was a respected leader but never stopped learning and growing.

Jack was an incredibly hard worker and was still planning his "retirement". He served his country with distinction in Vietnam and had a profound love and respect for the veteran community. His fierce love of aviation led him to help thousands of aviators navigate the difficult requirements to be medically certified to fly. He is responsible for helping to save countless careers of pilots who otherwise might have never flown again. He was an unparalleled pilot advocate when it came to medical matters. Many pilots would say he gave them their wings back.

Jack touched many lives and communities, and his work will live on. What follows is a partial list of his accomplishments and distinctions, recently published by the Aerospace Medical Association (ASMA):

"The award was established to honor Louis H. Bauer, M.D., founder of the Aerospace Medical Association. It is given annually for the most significant contribution in aerospace medicine. It is sponsored by the Mayo Clinic.

In his youth, Jack served as an usher for Andy Frain Ushers in Chicago and loved to tell stories of selling tickets to the Cubs and White Sox games, back to back, when he worked a double shift. He’d take the “El” from one stadium to the other all in one day. He and his friend, now brother-in-law, Mike Frain used to head to the Billy Goat Tavern after the Blackhawks games, where Billy Sianis’s famous goat, Murphy, would wander the tavern, accepting beers from customers. He was a lifelong fan of the Notre Dame Fighting Irish football team, and was proud to have gone to the 1985 Superbowl in New Orleans with his son Chris to see the Chicago Bears take home the trophy.

Jack had a distinguished 50-year career as a physician both in neurology and aerospace medicine. He was himself a pilot, and held an enduring love of aviation. He logged thousands of hours of flight time, many in service of underserved communities and his aeromedical work. He passed his love of aviation on to his son Michael, who is currently an accomplished pilot.

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"The award was established to honor Louis H. Bauer, M.D., founder of the Aerospace Medical Association. It is given annually for the most significant contribution in aerospace medicine. It is sponsored by the Mayo Clinic.
John D. Hastings, M.D., was the recipient of the 2016 Louis H. Bauer Founders Award for his dedication to aerospace medicine. Recognized internationally as the undisputed leader in aviation neurology, Dr. Hastings was a Fellow and Past President of the Aerospace Medical Association and has been a leader in many other professional organizations. Dr. Hastings’ significant contributions to aerospace medicine have been sustained over a more than 30-year period. Throughout his career, he served numerous governmental regulatory authorities, participated in innumerable aerospace medicine scientific meetings, and authored numerous book chapters and journal articles. He was an icon within the international aerospace medicine community. Specifically, being board certified in neurology and aerospace medicine, he served as a senior neurology consultant to the Federal Air Surgeon since 1992, having written over 3,000 opinions regarding pilot aeromedical dispositions. Many airmen’s careers have been salvaged by his recommendations.

In addition to his consultation to the Federal Aviation Administration (FAA), many pilots sought his consultations privately. Dr. Hastings was a lecturer for the FAA for 32 years, giving presentations to aviation medical examiners (AMEs) initial and recurrent certification. Furthermore, he developed theme seminars on neurology, psychiatry, and neuropsychology. He also served as an Adjunct Clinical Assistant Professor for the aerospace medicine residency at the University of Texas Medical Branch, Galveston. He has been a Clinical Assistant Professor in Neurology at Oklahoma University College of Medicine in Tulsa since 1979. From 2013-2016, he was also Clinical Associate Professor at the Department of Community Health, Wright State University Boonschoft School of Medicine, Dayton, OH. In addition to clinical aviation medicine and teaching, Dr. Hastings authored the neurology chapters in “Clinical Aviation Medicine,” 4th and 5th editions, and for the most recent editions of “Fundamentals of Aerospace Medicine.” Furthermore, he co-authored the neurology chapter in the International Civil Aviation Organization (ICAO) Civil Aviation Manual, Standards and Recommended Procedures. Dr. Hastings earned his M.D. degree at St. Louis University School of Medicine, St. Louis, MO, in 1965. He served an internship at Los Angeles County General Hospital in California from 1965-1966, and then a residency in Neurology at the Mayo School of Graduate Medical Education in Rochester, MN, from 1966-1969. Later in his career attended MPH Core Courses for Aerospace Medicine Certification at the Medical College of Wisconsin Graduate School of Biomedical Sciences in Milwaukee, WI, from 1996-1997. From 1969 until 1971, he served in the U.S. Army at the 95th Evacuation Hospital in Danang, South Vietnam. After completing his military service, Dr. Hastings went into private practice first at Diagnostic Neurology Ltd., in Park Ridge, IL, and later with Neurology PLLC, Tulsa, OK, and then Neurologic Medicine PLLC in Tulsa. He was the Medical Director of Synaptic Resources, LLC, in Tulsa, and owner of Aerospace Neurology, LLC. He performed professional supervision for intraoperative neurophysiologic monitoring for Neurologic Services of Oklahoma, LLC, in Tulsa, Hill Country Monitoring in Austin, TX, Neurology Services of Florida in Jacksonville, as well as for Southwest Neurodiagnostic Services, LLC, and Hill Country Monitoring, LLC, in Mississippi. Dr. Hastings’ awards include the Bronze Star from the U.S. Army, Airman of the Year from the Flying Physicians Association, the Forrest Bird and Harris Awards from the Civil Aviation Medical Association, the President’s Award from the Experimental Aircraft Association, and the John A. Tamisiea and Theodore Lyster Awards from the Aerospace Medical Association. He was a member of the American Academy of Neurology, the American Medical Association, the American Society of Neurophysiologic Monitoring, the International Academy of Aviation and Space Medicine, and the Airline Medical Directors Association.”

Jack is survived by daughter Lara Hastings, with husband Mikhail Umorin and granddaughter Alexandra “Sasha” Mikhailovna Hastings-Umorina of Dallas, Texas; Pamela Hastings with grandson Nicholas Augustus Hastings-Sheff of Chicago, Illinois; Michael Hastings with grandson Mitchell James Hastings of Tulsa, Oklahoma; Christopher Hastings with wife Stephanie Owen of Chicago, Illinois; and his former wife, dear friend and mother of his children Dr. Barbara.
Fries of Chicago, Illinois. He is also survived by his sister Patricia Frain, with husband Michael of Sarasota, Florida; his niece and nephew Kelly Frain and Michael Frain, Jr., and their children; and sister Carol Hastings of Tulsa, Oklahoma. He was devoted to his rescue dogs, Hershey and Annie.

Jack will be remembered by his family in eternal peace, love, and gratitude. In lieu of flowers, Jack would have appreciated donations to his chosen cause, The Red Cloud Indian School in Pine Ridge, South Dakota. [https://www.redcloudschool.org/](https://www.redcloudschool.org/)

A private celebration of Jack’s life will be held at 2 pm on Wednesday, May 5, 2021 at St. Johns Family Funeral Home is St. Augustine. Those who would like to attend the service remotely can view the service live streamed at [https://iframe.dacast.com/b/156599/c/549019](https://iframe.dacast.com/b/156599/c/549019)

Other memorials will be planned by the family and details will be shared at a later date.

Jack’s favorite poem:

“Oh! I have slipped the surly bonds of Earth
And danced the skies on laughter-silvered wings;
Sunward I’ve climbed, and joined the tumbling mirth
Of sun-split clouds, – and done a hundred things
You have not dreamed of – wheeled and soared
and swung
High in the sunlit silence. Hov’ring there,
I’ve chased the shouting wind along, and flung
My eager craft through footless halls of air…
Up, up the long, delirious burning blue
I’ve topped the wind-swept heights with easy grace
Where never lark, or ever eagle flew –
And, while with silent, lifting mind I’ve trod
The high untranslated sanctity of space,
Put out my hand, and touched the face of God.”
– John Gillespie Magee, Jr.
Col. Thomas J. Tredici will be remembered for his military service, monumental professional contributions, and sustained dedication to public service to the citizens of the United States. As a military medical officer and scientist, he is regarded as one of the most influential Ophthalmologists in Aerospace Medicine of our time. His greatest legacy in Aerospace Medicine is the thousands of physicians, staff, and aircraft personnel he taught, trained, mentored, and befriended throughout his 70 year military career. He was the founding commissioner for The Joint Commission of the Allied Health Professionals in Ophthalmology, the USAF Representative on the National Research Council, and a committee member for NATO-AGARD (Advisory Group for Aerospace Research and Development).

Col. Thomas J. Tredici was born to Marino Tredici and Maria Pizzanelli on August 27th, 1922 in Monessen, Pennsylvania. He enlisted in the United States Air Force in 1942 at age 19 and was selected for pilot training. He piloted a B-17 Superfortress Bomber and its crew of 10 for the 8th Army Air Force (457th BG 8th AF) out of Gatton, England in support of the Allied Forces in Europe during World War II.

After World War II, Thomas Tredici received his college degree, Magna Cum Laude (Phi Beta Kappa) from Washington and Jefferson University in 1949. He received his medical degree from the University of Pittsburgh in 1956, followed by active duty at Scott AFB, Illinois, and Clark AFB, Philippines, as Chief of Ophthalmology. After a Fellowship in Ophthalmic Pathology (1962-64) at the Armed Forces Institute of Pathology in the Walter Reed Army Medical Center, he was assigned to the USAF School of Aerospace Medicine in San Antonio, Texas as a staff ophthalmologist and researcher. He additionally received training as a Flight Surgeon. In 1965 he served as an eye surgeon in the Vietnam War (1965 -66).

Upon his return from the Vietnam War, he became Chief of the Aerospace Ophthalmology Branch at the USAF School of Aerospace Medicine, Brooks AFB, Texas from 1966-87. In 1987, Col. Tredici retired at age 65 from the military after 2 recalls to active duty by the Secretary of the Air Force, with 39 years of active military service. At the time of his retirement, Col. Tredici had the distinction of being the last USAF pilot still on active duty to have flown during WWII.

Following his retirement, Col. Tredici continued his work as a Senior Scientist, Principal Lecturer, and Clinical Function Chief of the Aerospace Ophthalmology Branch at the USAF School of Aerospace Medicine while in the Civil Service until 2011, having served the USAF for 70 years.

He continued his position as Clinical Professor in the Department of Ophthalmology at the University of Texas Health Science Center in San Antonio. He continued working as a USAF Emeritus Scientist and Consultant until his passing on April 28th, 2021.

His understanding of Air Force operations provided a firm foundation for his career as an Aerospace Ophthalmologist and allowed him to apply ophthalmic science to military needs. Dr. Tredici's Curriculum Vitae listed hundreds of published research papers and 286 different presentations among his contributions to the Ophthalmology Branch USAF School of Aerospace Medicine in Vision Science and National Defense. During his tenure as Chief, he and his staff were responsible for many breakthroughs in vision science. Research with NASA led to the development of the gold visor face shield worn by American Astronauts to protect against ultraviolet/infrared light induced eye injury. The development of the first Laser Laboratory in the
Department of Defense, an Electrophysiologic Laboratory, the military’s first Night Vision Laboratory, and a Windscreen Evaluation Laboratory were all established under his watch. Col. Tredici was the principle lecturer in ophthalmology for training the USAF Flight Surgeons, residents in Aerospace Medicine, and the Allied Medical Officers in Ophthalmology. As a clinician and research scientist, he was instrumental in establishing an Eye Consultation Service which identified vision standards and policies, assisting in the return of hundreds of air crew back to active duty. These standards included glaucoma management, refractive surgery, contact lens use, and intraocular lenses in aviators. Col. Tredici has been honored with 17 Military Awards and Decorations, including the Theodore C. Lyster Award from the Aerospace Medical Association, the Louis H. Bauer Founders Award, the Academy of Ophthalmology Senior Honor Award, the AMSUS (Association of Military Surgeons of the United States) Lifetime Achievement Award, and the Legion of Merit.

Col. Tredici was also a loving family man. He was married on December 26th, 1949 to Margaret DeSantis of Monessen, Pennsylvania, who preceded him in death. He is survived by his three children, Dr. Tomas Tredici (Carol), Mia Neiman (Paul) and Dr. Lucia Tredici (Jim), his grandchildren John (Jessica), Peter, Andrew, Lindsay (Jonathan), and Laura Rose (Joseph), as well as great grandchildren Sydney and Jack. He had many hobbies which he pursued, such as his love of vintage cars, fixing old homes, following Astro's baseball and meeting up with friends. He was a master storyteller and had a great sense of humor. Most of all, he was a patriot and loved America.

In lieu of flowers, please consider a memorial donation to one of his favorite charities:

1) Dr. Thomas J. Tredici, MD Endowment for Ophthalmology Resident Education at the University of Texas HSC at San Antonio. (Dr. William Henrich, MD) 210-567-7000

2) Thomas J. and Margaret D. Tredici Award, Aerospace Medical Association (Dr. Jeffrey C. Sventek, MD) 703-739-2240

3) The Daedalian’s Scholarship Fund, Flight #2, Stinson’s Flight, P.O. Box #151, JBSA, Randolph, Texas, 78148 (Attn: Col. Bill Ercoline)

You are invited to sign the Guestbook at www.sunsetfuneralhomesa.com. No public services are scheduled at this time.

To read the memorial to Dr. Tredici on the Aerospace Medical Association web site, click: AsMA | Aerospace Medical Association

Colonel Thomas J. Tredici (left) explains the mechanics of the AN/PVS-5A night vision goggles to Major Miller. The goggles are being tested by the US Air Force School of Aerospace Medicine’s Clinical Services Division for possible use in combat.

Scene Camera Operator: SSGT Maurice Hamilton
Dr. Tom Tredici, known for helping design the gold visor Apollo astronauts used to protect their eyes while walking on the moon, died Wednesday in San Antonio at 98.

The last scientist to work at Brooks City Base after the Air Force moved the base’s missions to Ohio, Tredici maintained an office near the installation’s fabled centrifuge that had trained NASA astronauts, writing a history of the Air Force School of Aerospace Medicine, where he had worked 40 years.

He began that project after retiring at 90.

An ophthalmologist, Tredici was one of the standout researchers working in Building 100 at Brooks AFB whose work helped astronauts survive the hostile environment of low-earth orbit and, eventually, the moon.

“It was about as good as it gets on the planet,” he said of the science conducted at Brooks in an interview in 2019. “It was like another world.”

Tredici’s career began when he aced a test right out of high school to become an Army pilot and began training in 1942. As the skipper of a B-17G Fortress II, he joined the 8th Air Force’s 457th Bomb Group in 1944, flying out of Great Britain.

The bomber flew as high as 35,000 feet without pressurization during 18 missions until June 1945. The most common injuries to his crew of 10 were frostbite and ocular trauma if the aircraft came under fire.

He was not quite 21.

“I think I was able to fly before I could vote,” he said.

On ExpressNews.com: At 97, scientist is last of the old breed at San Antonio’s former Brooks AFB

Thanks to his exposure to flight surgeons, Tredici entered medical school at the University of Pittsburgh after earning his bachelor’s degree magna cum laude in 1949. His decision to specialize in ophthalmology later led to him becoming an instructor in the U.S. Air Force School of Aerospace Medicine at Brooks.
The base on San Antonio’s South Side was a center of Air Force research on the effects of high altitude on pilots. Its studies led to crucial elements of the Gemini and Apollo spacecraft systems.

Tredici helped develop goggles used by aviators, the first hard contact lens, a new treatment for glaucoma and the gold visor that allowed astronauts to gaze out on moonscapes.

A wartime commendation given to Dr. Tom Tredici is among his papers seen in his office in Building 170 at Brooks City Base in this December 2019 photo.

Rudy Purificato, senior historian for the Air Education and Training Command, said the visor used on lunar missions was produced with “data gleaned from Air Force nuclear flash blindness tests during the 1950s.”

As important as those developments were, Tredici also was deeply proud of research that transformed the Air Force for pilots. He created an eye consulting service that saw roughly 800 to 1,000 Air Force pilots and air crew who had to fly every year.

They came to Brooks for tests for a battery of heart, eye and psychological issues, and it was a big deal. Brooks was their last chance, the court of last resort. Fail, and they were grounded as pilots. The service’s rigorous vision tests gave only two out of every three pilots the chance to continue their Air Force careers.

Tredici helped change the rules to let pilots fly with corrective lenses and surgery, a development in the mid-1970s that allowed the Air Force to train aviators who otherwise would never have been allowed near a cockpit.

His status as a former bomber pilot gave him credibility with his patients.

“If my group and I hadn’t changed the laws of who could fly an airplane, we would really have a massive (pilot) shortage now,” he said in the 2019 interview. “You know, until 1976 nobody who was nearsighted or had astigmatism could become a military pilot.

“Now just think of trying to search through the whole country looking for people who can (fly). You have to be able to read 20-20 or just go home. I knew that because I had been a pilot, and nobody wore glasses in World War II that were in control of the aircraft.”

Purificato, the AETC historian, said Tredici not only had an encyclopedic memory as a repository of ophthalmology studies and research, but was a life-long baseball fan who developed a theory on how night games hurt batting averages.

His love for the sport began in 1935 when his father took him to his first professional baseball game at Forbes Field in Pittsburgh — the last game played by a 40-year-old Babe Ruth. At 12, Tredici saw Ruth hit three home runs and a single that day.

The first Major League night game had taken place the day before, and eventually led Tredici to suspect playing under lights had “a profound and detrimental impact on batters’ vision, theoretically leading to the precipitous decline in higher batting averages among some of the era’s elite hitters after lights were first installed at Crosley Field in Cincinnati,” said Purificato, who worked with Tredici on the idea several years ago.

“He demonstrated to me that some of the lead hitters, like Rogers Hornsby, their batting averages declined after the lights were installed. The lights weren’t that great back then,” he said.

Tredici’s biography said he served as chief of ophthalmology at the School of Aerospace Medicine and retired from the Air Force in 1987 as the last World War II pilot on active duty worldwide. He then worked as the school’s senior scientist until his retirement in 2011, closing out a 70-year Air Force career.

But he never quite left. Even two years ago, Tredici was still coming to his office at Brooks, which was no longer an Air Force base but was the place he’d come to love.

“Once you got inside of the fence, you got to do what you wanted to do, you weren’t interfered with,” he said. “And the truth is we got a lot of stuff done, a lot of papers written and solved a lot of problems.”

13 Flight Physician May 2021
In an email sent Thursday, retired Air Force Col. Charles R. Fisher described Tredici as a “friend, colleague and mentor” who was known “as a brilliant ophthalmologist who more or less defined the term and specialty ‘aerospace ophthalmology.’”

His greatest legacy, Fisher said, was in the “tens of thousands of physicians and clinical staff that he taught, trained or mentored over his incredible career.

“Personally, I will always remember his office ... piled with literally hundreds of articles and papers in file piles, shelves, stacks, mountains ... and almost all ones he had written, co-authored or refereed,” Fisher said. “His was a hallowed place on the hallowed grounds of Brooks where he had worked since the doors opened. When we finally closed the doors on our school at Brooks, Dr. Tredici still had work to do.”

simgc@express-news.net

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Editor’s Note—Please see Dr. Fisher’s notes about Dr. Tredici and Dr. Tredici’s Obituary also in this edition. Dr. Tredici had already prepared the PowerPoint presentation slides for his keynote speech at the CAMA Honors Night Banquet, Friday September 24, 2021. Dr. Douglas Ivan will give Dr. Tredici’s keynote presentation in his stead.

Thomas J. Tredici, MD, Aerospace Ophthalmologist, Colonel, USAF, MC (Ret) will receive the Bird Award posthumously, to be accepted by his daughter, Dr. Lucia Tredici.


Colonel Thomas J. Tredici, MD (b.1923) had a long and interesting career in the military even before he became an ophthalmologist. It began in 1942 when Tredici enlisted in the Army for pilot training- before the Air Force was established within the Armed Services in 1947, the Army trained cadets for flight. Tredici was tested and selected to be trained as a bomber pilot and eventually was assigned to a B-17G Fortress II aircraft with a crew of 10.

In 1944 Tredici was deployed to Great Britain with the 751st squadron of the 457th Bomb Group of the 1st Bomb Division of the 8th Air Force. Thomas Tredici and his crew regularly flew between 30,000 and 35,000 feet without pressurization. Col. Tredici recalls that the most common injuries were frostbite and ocular trauma if the aircraft came under fire. In total Tredici flew 18 combat missions over Germany between November 1944 and June 1945.

Influenced by his interactions with flight surgeons, Tredici earned his bachelor’s degree in 1949 and immediately entered medical school at the University of Pittsburgh. His specialization in ophthalmology allowed him to become an instructor at the USAF School of Aerospace Medicine. In 1987 Col. Tredici became the last WWII pilot to retire from active duty in the Air Force, but continued to work as a Senior Scientist with the Aerospace Ophthalmology Branch until 2011.

https://makelivesbetter.uthscsa.edu/tredici

Following World War II, Dr. Tredici received his B.A., Magna Cum Laude, Phi Beta Kappa from Washington and Jefferson University in 1949. He received his medical degree from the University of Pittsburgh in 1952 and then performed an internship at Brook Army Medical Center in 1956. He completed an ophthalmology residency at the University of Pittsburgh in 1956 prior to returning to active duty at Scott AFB, Illinois, and later serving at Clark AFB, Philippines.

For the first 6 months of the Vietnam Conflict, Dr. Tredici served as the Chief of Ophthalmology at the USAF School of Aerospace Medicine, Brooks AFB, San Antonio, Texas. Dr. Tredici retired from the military in 1987 and was the last WWII pilot on active duty worldwide. Following his retirement, Dr. Tredici continued to work as a Senior Scientist at the USAF School of Aerospace Medicine until 2011, having served the USAF for 70 years.

As of 2009, Dr. Tredici’s curriculum vitae listed 267 publication and 286 presentations. He was a founding commissioner for the Joint Commission for Allied Health Professionals in Ophthalmology. His research is what led to the gold face shield worn by American Astronauts to protect ultraviolet light-induced eye injuries. Among his numerous accolades, Dr. Tredici was honored with the inaugural Lifetime Achievement award by the Department of Ophthalmology at the University of Texas Health Science Center at San Antonio in 2015. Dr. Tredici is regarded as one of the most influential Ophthalmologists in Aerospace Medicine in this century.
Mark Thoman, MD, enlisted in the U. S. Marine Corps after graduation from high school in Independence, MO in 1954. He attended college, medical school and internship at the University of Missouri in Columbia, MO. He took a pediatric residency at Raymond Blank Children’s Hospital in Des Moines, IA.

In 1965, after completing his residency, he fulfilled his two-year selective service obligation as a United States Public Health Service (USPHS) Commissioned Officer. His first year he was a pediatric consultant at the Poison Control Branch in Washington, DC and the second year as Chief of Pediatrics at the USPHS’s Indian Health Service Hospital in Shiprock, NM. Upon discharge he joined the pediatric department of a Bismarck, ND clinic and in 1969 moved to Des Moines, IA, starting a solo pediatric practice until 2000. While in ND and IA he was medical director of the state’s Poison Centers.

In 1968 a group of pediatricians and directors of various state poison centers, formed the American Academy of Clinical Toxicology (AACT). In 1975, Dr. Thoman was part of an AACT committee created to administer the first board examination to candidates seeking to certify as medial toxicologists. This is now a recognized subspecialty by the ABMS. From 1976 until 1986 Dr. Thoman was editor of AACTion, the organization’s official publication, and served as its president from 1982 until 1984.

1988 he joined the U. S. Navy Reserve as a flight surgeon retiring in 1996 at the rank of Captain. Dr. Thoman was a Sr AME in 1977, the same year he joined CAMA, and currently holds commercial, instrument SMEL ratings. He has been a member of the Flying Physician Association (FPA) since 1972 and for the past ten years he has been editor of their publications.

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**PHYTOTHERAPEUTICS VS PHYTOTOXICITY**

*(AKA: OUTSIDE THE BOX)*

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As physicians, as well as pilots, we have times when we must think outside the box.

For example, while working on my CFI rating, my flight instructor and I were in the run-up area of the runway getting ready for a short field over an obstacle take off. The plane’s manual states x-notches of flaps, full power with a recommended rotation speed of… but my instructor gave me an “out of the box” suggestion. He said, “Do NOT extend the flaps”, “Go full throttle eliminating the drag of the flaps, then just before takeoff jerk the flaps in the required take-off configuration.” Following his instructions, the plane grabbed the sky at rotation; we went well over the published obstacle (trees) at the other end of the runway. In retrospect this wasn’t an orthodox decision, but I have used it on rare occasions since then and I’m still here to write about it.

As a physician, more specifically as a Senior AME, thinking outside the box can be quite useful at times. Here’s a case in point. A young ATP was in my office for his next Class I exam right after he was hired as a first officer for a major airline. I asked if he had any concerns; he stated he had no health issues but expressed concern over the company's regs that required all pilots be 6’4” or less. He said he was 6’5” and wondered if this will put his new position in jeopardy. I asked him what he had on the schedule for the day. The young man responded that he was on the ORD to DCA flight, returning around 4pm later that day. I told him to come back to my office on his way home from the airport at which time we’ll “finish” his exam. He did return later and his measured height was 6’3½”. We sent his information in to the FAA. Problem solved!

Next, and a somewhat more awkward scenario, was a corporate pilot in for a Class II exam. In the relatively small exam room during the physical portion of the exam I noticed the odor of alcohol. As a member of the FAA’s faculty for the AME seminars on drugs and alcohol, I know only too well, the rules for issuing, referring or rejecting signing off on the flight physical if a pilot presents with ANY indication of alcohol intake during the exam. I did not discuss my suspicions of liquor with him during that time but when I returned to the room to discuss his lab
and asked “When was the last time you had an alcoholic beverage?” He probably assumed the UA was the reason I had asked and he awkwardly answered, “You know, Doc, last night we had a birthday party for my wife and we had several friends over. Her favorite drink is a screwdriver so we made a small pitcher of OJ and Vodka for her and anyone else who might want some of the same. This morning, as I was fixing breakfast, I saw the pitcher, poured it out forgetting it had liquor.” I told him I could not issue his certificate (*1) but was obligated to refer his exam to the regional flight surgeon for review. He left a very disappointed and grounded aviator.

Another outside the box consideration for an AME that is not on the FAA Form 8500-8, the main subject for this piece, is the pilots consumption of herbs and herbal products. Listed below are the most used herbs but does not include herbal-drug interactions.

Herbs, vitamins and other supplements may have potential benefits but, conversely, may have negative or unexpected results. Certain herbs agents, taken by a pilot, can have a significant effect on the flight examination, such as alterations in BP and heart rate. Another important consideration is the potential of false positives for DOT and FAA drug test results.

IF a pilot is considering consuming ANY herbal product, he or she should consider the following:

- Research, from reliable peer-reviewed sources, the actual effects of the product (Editor's Note: Showing my bias as a member of the Scientific Review Panel of the National Library of Medicine. I recommend Medline or MedlinePlus)(*2)

- Consider getting a blood level of the vitamin and/or mineral in question prior to ingesting more of the same. Ideally, of course, it's best to get all these vitamins and minerals by ingesting a balanced daily diet.

- Avoid excessive doses since some may cause significant toxicity.

The following table, with added pictures taken from the internet, is a summarized version of the commonly ingested herbs and supplements generally available. (*3)

### Medicinal Herbs and Supplements
- **Chamomile—Flower**
  Considered a cure-all. Commonly used as a sedative, for wound healing and as an anti-inflammatory agent, but few studies have evaluated its effectiveness. Consumed as a tea or applied as a compress. It is considered safe by the FDA. It contains coumarin, so patients who take warfarin or other anticoagulants should be closely monitored by their doctor.

- **Echinacea—Leaf, Stalk, Root**
  Commonly used to prevent colds and for wound healing; more than 25 published studies have evaluated echinacea’s effectiveness, but none was conclusive; some indications that echinacea can lessen the effects of a cold, but not prevent it. Some evidence that long-term use can suppress the body’s immune system. Also it should not be used with drugs that can cause liver problems.

- **Feverfew—Leaf**
  Commonly used to prevent migraines and treat arthritis; evidence indicates that some preparations can prevent migraines. Side effects include ulcers and gastrointestinal irritation; patients who suddenly stop taking feverfew for migraines have experienced rebound headaches. Should not be used with nonsteroidal anti-inflammatory drugs because those drugs may alter feverfew’s effectiveness. Should not be used with warfarin and other anticoagulants.

- **Garlic—Cloves, Root**
  Used for lowering cholesterol and blood pressure; evidence is inconclusive that garlic actually accomplishes this; research is currently exploring garlic’s possible role in preventing...
cancer. Garlic is considered safe by the FDA. It should not be used with warfarin because garlic affects clotting.

- Ginger – Root

Used to ease nausea and motion sickness; data suggest that ginger does work. It's considered safe by the FDA, but it shouldn't be used with warfarin because it affects clotting.

- Gingko—Leaf

Used to prevent dementia and other brain disorders; studies have supported its effectiveness, although exactly how gingko works isn't understood; only extract from leaves should be used; seeds are toxic. Should not be used with nonsteroidal anti-inflammatory drugs, anticoagulants, anticonvulsant drugs or tricyclic antidepressants.

- Ginseng – Root

Used as a tonic and aphrodisiac, even as a cure-all; evidence inconclusive about effectiveness, in part because of difficulty in defining “vitality” and “quality of life”; large variation in quality of ginseng sold. Side effects are high blood pressure and tachycardia. Its considered safe by the FDA, but shouldn't be used with warfarin, heparin, nonsteroidal anti-inflammatory drugs, estrogens or corticosteroids, or digoxin. Patients with diabetes should not use ginseng.

- Goldenseal – Root, Rhizome

Used to treat diarrhea and as an antiseptic, for eye and skin irritations; unproven treatment for colds; studies have shown effectiveness for diarrhea, but its not recommended because of the toxicity of components in goldenseal, and because of the plants endangered species status.

- Melatonin – pineal gland hormone

Melatonin has been used effectively to regulate sleep and may prevent Alzheimer's disease. It is approved by the FAA on a case by case basis.

- Milk Thistle – fruit

This comes from the common dandelion. Used to treat liver disorders, including cirrhosis; study results are inconclusive, but apparently works in animals.

- St. John's Wort – flower, leaf

Used as an antidepressant; a three-year trial is now underway to evaluate the herb's safety and effectiveness compared with other antidepressants, but preliminary studies showed that it was quite effective in treating depression; further research is needed to determine the best dose. Side effect is sensitivity to light, but only noted in people taking large doses of the herb.

- Saw Palmetto – Fruit

Used to treat benign prostatic hypertrophy (BPH) and other urogenital problems; studies have confirmed the effectiveness of the herb in treating BPH. Side effects are gastrointestinal upset and headache, both mild.

- Valerian – root

Used as a sleeping potion and to reduce anxiety; several studies have confirmed its effectiveness as a sleep aid; in the United States, valerian is used as a flavoring for root beer and other foods. Should not be taken with other sedatives.

(Continued on Page 18)
So what does this mean for those of us who are pilots, physicians and pilot examiners? There is a paucity of data on this subject but, from the Federal Air Surgeon's Bulletin some time ago, in the Spring of 1998,(*4) we have the following study:

Purpose: This study was an effort to identify the botanical preparations of potential risk to the aviator and aviation safety, and to ascertain whether aviators are using dietary supplements despite extensive educational efforts discouraging over-the-counter medication use. Herbal preparations may be used by nearly 20% of the adult population. Although the aviator population may be presumed to use them as well, the actual degree of use among aviators is unknown. Use of such substances as health promotion or therapeutic agents may provide health benefits, but may also carry risk. Military and civilian aviators are not currently required to disclose such use, nor are examiners obligated to inquire or counsel aviators about them. This paper examines the trends in post-mortem toxicological samples suggesting botanical preparation use, and develops a rational method for determining suitability for use by the aviator.

Method: The toxicological test results from 3177 mishap pilots performed at the Civil Aeromedical Institute from 1989-1997 were examined for the presence of substances suggesting botanical preparation use. The prevalence of positive test results for ephedrine among mishap pilots was compared with the prevalence of tests positive for chemically and biologically similar non-botanical substances among mishap pilots. A review of existing literature was also performed to identify substances posing possible risk to the aviator health or aviation safety.

Results: Ephedrine was found to be the only substance routinely screened on toxicological specimens that was suitable for association with botanical substance utilization.

The percent of specimens positive for ephedrine increased three- to four-fold while the percent of specimens positive for similar non-botanical substances decreased overall. The literature revealed sufficient evidence that a number of open market botanical agents are capable of causing incapacitation by cardiovascular or neuropsychiatric mechanisms, yet are legally permitted for use by aviators.

Conclusion: Aviators are using botanical products with increasing frequency, and many of those substances may pose significant risk of incapacitation, altered sensorium, or adverse health effects. The flight surgeon must be diligent in eliciting a history of use and assisting aviators to minimize personal risk and risks to flight safety. A rational approach to assessing risk is presented.

In summary, as pilots, as well as pilot examiners, we must think outside the box from time to time, when it comes to evaluating the use or consumption of herbal and vitamin supplements. It can be phytotherapeutic or phytotoxic.

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*1 Aerospace Medical Dispositions, Item 47, Psychiatric, “Alcohol on the breath at the time of a routine physical examiner should arouse a high degree of suspicion.”

*2 Link: nlm.nih.gov MEDLINE and MEDLINEPLUS

*3 Archives of Family Medicine, Archives of Internal Medicine Copyright 2001, Health Ink & Vitality Communications

*4 The Federal Air Surgeon's Bulletin, Spring, 1998

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Aithre Illyrian: Smart Pulse Oximeter

The Illyrian pulse oximeter measures SpO2 under the earlobe or on the forehead. Intrusive, but full-time monitoring is worth it for some.

by Larry Anglisano

In the Innovations building at last year’s AirVenture, Idaho-based Aithre was showing what we think are the most innovative pilot-focused biometric devices we’ve seen. Aithre is an attention getter because surprisingly, there’s been a slow progression of gadgets for minding pilot and passenger health in the cabin.

For measuring blood-oxygen saturation, or SpO2, some finger pulse oximeters have Bluetooth and tablet app integration, and Garmin’s D2 Titanium aviator’s watch has a sensor for reading SpO2 and heart rate on the wrist, with some limitations.

And now Aithre takes an entirely different approach to full-time SpO2 monitoring via an under-headset earlobe sensor with the Illyrian smart oximeter. Here’s a field report.

DEVELOPED BY ATHLETES
Aithre was founded by Vans RV-10 builder, patent attorney and endurance athlete Jim Ruttler, who also studied neurobiology, and almost died from running out of oxygen in his RV while cruising the flight levels. “In my airplane I have so many advanced avionics including synthetic vision, I can precisely measure parameters down to the exhaust temperature in a cylinder and I have multiple ways to look at fuel flow, but on that one passenger-carrying trip I couldn’t effectively monitor the O2 supply and everyone’s blood-oxygen levels,” Ruttler said. And it was that trip that sparked the idea to build a company focused on products that will. One is the Illyrian smart oximeter.

Priced at $169 and now distributed by Sporty’s, Aircraft Spruce and Pilot Mall, to name a few, the Illyrian is a departure from the familiar finger pulse-ox devices, which require cabin occupants to monitor on their own. Ruttler makes a good point that this is fine as long as they aren’t hypoxic. With the Illyrian you’re always connected to the Aithre Connect iOS-based interactive smartphone app. More on that in a minute.

STICK IT UNDER THE EAR
The Illyrian system’s main hardware consists of the SpO2 sensor, designed to sit under the earlobe or on the forehead using a supplied sport headband. It has a built-in BLE (Bluetooth Low Energy) wireless transmitter, and the Bluetooth antenna sits in a small junction box on the bottom of the sensor’s cable, keeping the transmitting antenna away from the head. The sensor automatically pairs and streams the measured data to the smartphone without any user action. This style of pulse oximeter is obviously boldly different than the familiar finger pulse ox device most of us use in the cabin. Never used one? Here’s brief review of SpO2 measuring.

With any pulse oximeter, a sensor shines a visible red and an infrared beam of light (through the finger or toe, to name two bodily locations) to detect the changes in color of the arterial blood. Once the device computes, it displays the measured blood oxygen saturation level on a display. In terms of aviating in an unpressurized cabin, clinicians make a good point that if you fly
The Illyrian sensor tucks under the lower portion of a headset earcup as shown in our bench test shot. That’s the pulse oximetry data page on the Aithre Connect smartphone app, lower left. We got SpO2 and pulse readings that were mostly consistent with the Masimo MightySat finger pulse oximeter, lower right.

The system is the supplied portable USB power bank. It has a power button, five battery life indicators and a handy flashlight function. It’s charged via Micro-USB input.

We fought with the power bank’s mode button the entire evaluation. While the bank stays on all the time and has good endurance, we found it difficult to simply turn the device off when trying to conserve power when it’s not in use. The problem is that the switch also turns the flashlight on or off, and at times that’s all we could get it to do without repeated button presses. It’s a bit quirky. The Bluetooth connection was flawless.

The company advises in the user’s manual that you need to use this specific power bank because since the measuring sensor draws so little power, some smart power banks will automatically shut off as they sense there’s nothing connected. While we didn’t try one, a panel USB port might be another choice for powering the sensor, but only if it’s in close proximity to the user. There’s roughly 38 inches of cable length to work with, from the base of the sensor to the base of the USB connector on the other end. On the other hand, the portable power bank will help streamline the sensor to the body—maybe stuff it in a shirt pocket to keep the sensor’s cable from dangling loose on the body. Last, included is a coil cable wrap for keeping the sensor’s interface cable tidy and intertwined with the headset’s downcable. The interface is about as good as any wired one can be, which isn’t great.

USING IT

We tried the device with a Bose A20 headset, and also tried the sensor on the forehead with the sport headband. You’ll need to experiment. Aithre says that different individuals will find the best readings in different places of the body, and that the best performance is achieved under the earlobe or on the forehead—an area that worked well for us, but it requires wearing the headband to keep the sensor in place and directly on the skin’s surface. It’s awkward, for obvious reasons, and also because the darned power cord has to be looped behind the ear. Add an oxygen cannula, shoulder restraint, headset, sunglasses and maybe a ballcap to the mix ... you get the point.

The majority of users will likely tuck the sensor pad under the headset earcup. But you have to get it right and it’s worth mentioning that the sensor does not read on the earlobe, but underneath it. Moreover, Aithre says that women...
and children often get inconsistent readings in this location, something we couldn’t substantiate in our evaluation. But what we did find, male or female, is that this location isn’t ideal if there is excessive head movement or even movement associated with typical cabin conversation.

We like that the Aithre Connect app notes the sampling quality of the SpO2 and blood pressure readings below the displayed values. That means if you get a reading that doesn’t quite look right, you can dismiss it as a bum sample—and then adjust the sensor. But in our trials it worked well more than it didn’t. When the head was still and the sensor was placed in what we call the “sweet spot” under the earlobe, we consistently saw a “high” sampling quality. We compared the Illyrian’s measurements with the Masimo MightySat multifunction finger pulse oximeter—an accurate and high-quality device we’ve learned to rely on for flying and endurance sports training.

We also threw Garmin’s D2 Delta Titanium aviator’s watch in the mix. It has a wrist-based SpO2 and heart rate sensor built into the watch’s chassis. What we’ve learned to like about it is its basic data display in the Garmin Pilot smartphone app, but we’ve also learned to accept its measuring limitations. The heart rate data lags, and the SpO2 measuring is finicky at best (but accurate when it gets a clean sample).

SIMPLE, USEFUL APP
Where plenty of cockpit apps have grown multiple layers deep, the Aithre Connect app is refreshingly shallow and straightforward. Its main purpose is full-time monitoring of your biometrics, and you start by turning the Apple Watch app, and you start by turning the Apple Siri/popup notifications on in the app. For alerting, the default warnings trigger when the SpO2 drops below 92 percent and then again below 85 percent—which is indeed hypoxic. But you can also specify custom SpO2 warning levels within the Settings tab of the app.

But the app falls short in that the warnings are provided only once, “so as to avoid them being a nuisance,” the manual says. We think this should be user-controlled, and Aithre is working on it. The app has an easy to decipher time-trend (up to 12 hours) graph for SpO2 and heart rate that’s overlaid against pressure altitude. The app is also interactive, offering regular hypoxia risk testing with custom interval quizzes.

The Aithre Connect iOS app includes a companion WatchOS app that tags along with the free download. It’s installed automatically on the Apple Watch, and the iOS device downloads the Connect app. In turn, the WatchOS app will display the SpO2 and blood pressure automatically when the Illyrian is paired with the main iOS device. For many that will be more convenient than keeping the Aithre Connect app open all the time, although the app does work in the background. We’d like to see future interfaces with popular third-party apps for simplicity.

ROOM TO GROW
Aithre’s Jim Rutller feels strongly that passengers are often neglected when it comes to being monitored for hypoxia. As a result, the Aithre Connect app can simultaneously connect with up to six Illyrian oximeters, and at press time the company was offering a 50 percent discount for a second oximeter.

Additionally, the Illyrian can display biometric data on the Garmin G3X Touch, Dyon SkyView and the Advanced Flight Systems experimental avionics suites through the Aithre Shield EX 3.0. This device is integral to the company’s carbon monoxide and oxygen tank pressure measuring systems, which also display on the Aithre Connect app. We’ll look at these devices and their interfaces in a separate field report.

Minor warts aside, we think the Illyrian device is a good value for $169, and a solid utility for high-flying pilots who are serious about full-time hypoxia monitoring and alerting. Visit www.aithreaviation.com.
CIVIL AVIATION MEDICAL ASSOCIATION
ANNUAL SCIENTIFIC MEETING, SEPTEMBER 23-25, 2021
EMBASSY SUITES BROOKS, SAN ANTONIO, TEXAS 72535

ATTENDEE NAME & TITLE*: AME NUMBER:
*(MD, DO, MBCH, PhD, MS, etc.) SPECIALTY:

ARE YOU BRINGING A SPOUSE OR OTHER GUEST(S) WHO WILL BE EATING MEALS WITH YOU, AND/OR GOING ON THE FIELD TRIP WITH YOU? YES: ☐ NO: ☐

SPOUSE/GUEST NAME AND TITLE* IF APPLICABLE:
NOTE: There is a $545.00 registration fee for each participating guest to cover eight meals and the field trip. (Tickets to the field trip and/or banquet are NOT sold separately.)

ATTENDEE ADDRESS:
(please use the address you wish to be used in the participant roster that will be given to all in attendance)

CITY: STATE/PROVINCE:
ZIP: COUNTRY: PHONE:
EMAIL (REQUIRED): CELL PHONE:

DO YOU OR YOUR GUEST HAVE ANY SPECIAL DIETARY NEEDS? YES: ☐ NO: ☐ PLEASE DESCRIBE: (Vegan, Vegetarian, Gluten Intolerant, etc.) and indicate which individual.

REGISTRATION FEE MAY BE PAID BY CHECK (U.S. DOLLARS) OR CREDIT CARD
CREDIT CARD TYPE: VISA: ☐ MASTERCARD: ☐ AMERICAN EXPRESS: ☐
CREDIT CARD NUMBER: SECURITY CODE (CVV): ZIP CODE OF CARD BILLING ADDRESS:
EXPIRATION DATE: SIGNATURE:

AUTHORIZED CHARGE AMOUNT (U.S. DOLLARS):

CHECK ENCLOSED (U.S. DOLLARS):

CHECK AMOUNT:

PERSONS REGISTERING TO ATTEND THE CAMA ANNUAL SCIENTIFIC MEETING - PLEASE MAKE YOUR HOTEL RESERVATIONS ONLINE BY USING THE FOLLOWING LINK (use “control” + click to activate link):

THIS IS A SPECIAL LINK EXCLUSIVELY FOR CAMA MEETING ATTENDEES TO USE TO RECEIVE THE CAMA ROOM RATE OF $132.00, PLUS APPLICABLE FEES AND TAXES. ALL RESERVATIONS MUST BE MADE BY SEPTEMBER 1, 2021, TO RECEIVE THE CAMA RATE AND FOR AVAILABILITY. ROOMS AFTER THAT DATE ON AVAILABILITY BASIS ONLY.

CAMA MEMBER REGISTERED ON OR BEFORE SEPTEMBER 1, 2021 ..........................$ 885.00 U. S. DOLLARS
CAMA MEMBER REGISTERED AFTER SEPTEMBER 1, 2021 ..........................$ 935.00 U. S. DOLLARS
SPOUSE/GUEST OF ATTENDEE ........................................................................$ 545.00 U. S. DOLLARS

*NON-MEMBER REGISTERED ON OR BEFORE SEPTEMBER 1, 2021 ..........................$1060.00 U. S. DOLLARS
*NON-MEMBER REGISTERED AFTER SEPTEMBER 1, 2021 ..........................$1110.00 U. S. DOLLARS

NOTE: Registration and guest fees include 8 meals – Buffet breakfast and lunch on Thursday, Friday, and Saturday, a field trip to the Alamo with a catered dinner on Thursday night, and the Honors Night Banquet on Friday night. No activities are scheduled for Saturday evening.

*NON-MEMBERS - IF YOU WISH TO REGISTER AT THE LOWER MEMBER RATE, YOU MAY BECOME A MEMBER OF CAMA BY REQUESTING A 2021 MEMBERSHIP FORM OR BY COMPLETING THE FORM ONLINE AT OUR WEB SITE www.civilavmed.org ON THE MEMBERS LOUNGE PAGE. THE FORMS CAN BE SUBMITTED SIMULTANEOUSLY.

SUBMIT REGISTRATION FORMS ONLINE VIA OUR WEB SITE, OR BY EMAIL, FAX, OR REGULAR MAIL TO:
CIVIL AVIATION MEDICAL ASSOCIATION
P. O. BOX 823177, DALLAS, TX 75382
PHONE: 770-487-0100
FAX: 770-487-0080
EMAIL: civilavmed@aol.com

All registrations will be acknowledged by email - an email address is required. If you do not receive a confirmation email that your registration has been received, please contact CAMA. We do not share email addresses with any other groups or individuals. YOU MAY ALSO REGISTER AND PAY ONLINE AT www.civilavmed.org on the ANNUAL MEETING PAGE.

THIS MEETING IS APPROVED FOR FAA-AME PERIODIC TRAINING. CME HAS BEEN APPLIED FOR.
CIVIL AVIATION MEDICAL ASSOCIATION
ALAMO FIELD TRIP 09/23/21
BEVERAGE TICKET ORDER

ATTENDEE NAME & TITLE*

DO YOU OR YOUR SPOUSE OR OTHER GUEST(S) WHO WILL BE JOINING YOU ON THE FIELD TRIP WISH TO CONSUME ALCOHOLIC BEVERAGE(S) BEFORE OR DURING DINNER AT THE ALAMO?

YES: □

As the Texas Alamo is a Texas State Monument, the caterer may provide only beer, wine, and sangria during the dinner event. (Regular non-alcoholic beverages will be provided with the meal at no additional charge.) Tickets must be purchased IN ADVANCE from CAMA, who will pay the caterer for the number of tickets sold prior to the event. Tickets may NOT be purchased once the field trip is in progress.

The caterer will have beer, chardonnay, cabernet, and sangria available in exchange for pre-purchased drink tickets. Each ticket costs $6.00 and upon presentation to the bar tender will entitle the attendee to one beverage of his/her choice. Alcoholic beverages may not be purchased or dispensed without a beverage ticket.

How many beverage tickets do you wish to purchase?  Number of Tickets:
Number of Tickets purchased X $6.00 each = Total Amount of Purchase = $

BEVERAGE TICKET PURCHASE FEES MAY BE PAID ONLINE, BY CHECK OR BY CREDIT CARD – THE AMOUNT WILL BE ADDED TO YOUR REGISTRATION FEE. YOU MAY REGISTER AND PURCHASE BEVERAGE TICKETS IN ONE TRANSACTION AT WWW.CIVILAVMED.ORG ON THE ANNUAL MEETING PAGE. YOUR TICKETS WILL BE GIVEN TO YOU WHEN YOU CHECK IN AT THE CAMA DESK FOR THE MEETING AT THE HOTEL.

CREDIT CARD TYPE:  VISA: □  MASTER CARD: □  AMERICAN EXPRESS: □

CREDIT CARD NUMBER:
SECURITY CODE (CVV)
ZIP CODE OF CARD BILLING ADDRESS

EXPIRATION DATE:  SIGNATURE:

AUTHORIZED CHARGE AMOUNT (U. S. DOLLARS) - TO BE ADDED TO YOUR MEETING REGISTRATION AMOUNT:

CHECK ENCLOSED  CHECK AMOUNT:

PLEASE SUBMIT BEVERAGE TICKET PURCHASE REQUESTS WITH YOUR REGISTRATION FORM ONLINE VIA OUR WEB SITE, OR BY EMAIL, FAX, OR REGULAR MAIL TO:

CIVIL AVIATION MEDICAL ASSOCIATION
P. O. BOX 823177, DALLAS, TX  75382
PHONE: 770-487-0100
FAX:  770-487-0080
EMAIL: civilavmed@aol.com

YOU MAY REGISTER AND PAY ONLINE AT WWW.CIVILAVMED.ORG ON THE ANNUAL MEETING PAGE BOTH FOR THE MEETING AND FOR DRINK TICKET PURCHASES.
CIVIL AVIATION MEDICAL ASSOCIATION
ANNUAL SCIENTIFIC MEETING, SEPTEMBER 23-25, 2021
EMBASSY SUITES BROOKS, SAN ANTONIO, TEXAS 72535
MEDICAL STUDENT, INTERN, RESIDENT SPECIAL REGISTRATION PACKAGES

ATTENDEE NAME & TITLE*: STUDENT STATUS**:
*(MD, DO, MBCH, PhD, MS, etc.) SPECIALTY: **(Medical Student, Intern, Resident, etc.)
NAME OF STUDY INSTITUTE OR MEDICAL FACILITY

ATTENDEE ADDRESS:

(Please use the address you wish to be used in the participant roster that will be given to all in attendance)
CITY: STATE/PROVINCE:
ZIP: COUNTRY: CELL PHONE:
EMAIL (REQUIRED):OTHER PHONE:

DO YOU HAVE ANY SPECIAL DIETARY NEEDS? YES: ☐ NO: ☐ PLEASE DESCRIBE: (Vegan, Vegetarian, Gluten intolerant, Allergies, etc.)

REGISTRATION FEE MAY BE PAID BY CHECK (U.S. DOLLARS), CREDIT CARD, OR VIA ONLINE AT WWW.CIVILAVMED.ORG ON THE ANNUAL MEETING PAGE

CREDIT CARD TYPE: VISA: ☐ SECURITY CODE (CVV): ☐ MASTER CARD: ☐ ZIP CODE OF CARD BILLING ADDRESS: AMERICAN EXPRESS: ☐

EXPIRATION DATE: SIGNATURE:

AUTHORIZED CHARGE AMOUNT (U.S. DOLLARS): $
IF CHECK ENCLOSED (U.S. DOLLARS): Check #: CHECK AMOUNT:

To encourage Aerospace Medicine Specialty career awareness and participation, local area Medical Students, Interns, and Residents are offered the following special pricing packages to audit the educational program (no Continuing Medical Education [CME] credits). To participate in this educational opportunity, you must become a Student Member of CAMA. Below are the reduced rate promotional meeting packages for Medical Students.

Special Medical Student Meeting Packages – All Packages Include a One-Year Student Membership in CAMA:

#1 Full Three Days of Conference with Daily Breakfast and Lunch Included (No Field Trip or Honors Banquet)—$305.00
#2 Full Three Days of Conference, Meals, Field Trip, and Honors Banquet Included—-$595.00
#3 One Day of Conference, breakfast and lunch included (No Field Trip or Honors Banquet), Daily Rate—-$135.00
Each Additional Day Under Option #3—-$ 85.00

Please circle level of participation, specify day(s) of one day rate, if applicable.
Day(s) of Attendance ___________________________
TOTAL PAYMENT $

IF YOU HAVE QUESTIONS, CONCERNS, OR SPECIAL CIRCUMSTANCES PLEASE CALL SHERRY SANDOVAL, EXECUTIVE VP AT 770-4987-0100 OR EMAIL civilavmed@aol.com.

SUBMIT REGISTRATION FORMS BY EMAIL, FAX, OR REGULAR MAIL TO:
CIVIL AVIATION MEDICAL ASSOCIATION
P. O. BOX 823177, DALLAS, TX 75382
PHONE: 770-487-0100
FAX: 770-487-0080
EMAIL: civilavmed@aol.com

All registrations will be acknowledged by email - an email address is required. If you do not receive a confirmation email that your registration has been received, please contact CAMA. We do not share email addresses with any other groups or individuals.
CIVIL AVIATION MEDICAL ASSOCIATION

ANNUAL SCIENTIFIC MEETING

Embassy Suites Brooks
76 S. New Braunfels Avenue
San Antonio, TX 78535
Telephone: 210-534-1000

September 23-25, 2021
## THE CIVIL AVIATION MEDICAL ASSOCIATION ANNUAL SCIENTIFIC MEETING

**September 23-25, 2021**

“Medical Certification and Human Factors in Aerospace Performance and Safety”

### WEDNESDAY, SEPTEMBER 22, 2021

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>03:00 PM to 06:00 PM</td>
<td>CAMA Board Meeting</td>
<td>The State Room</td>
</tr>
<tr>
<td>07:00 PM to 09:00 PM</td>
<td>Meeting Registration</td>
<td>Embassy Suites Brooks Lobby</td>
</tr>
</tbody>
</table>

### THURSDAY, SEPTEMBER 23, 2021

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>07:00 AM to 08:00 AM</td>
<td>Breakfast Buffet</td>
<td>Espada Room</td>
</tr>
<tr>
<td>08:00 AM to 08:30 AM</td>
<td>Welcome and Introductions</td>
<td>Concepcion/San Jose/San Juan</td>
</tr>
</tbody>
</table>

**Welcome from CAMA**

Gerald W. Saboe, DO, MPH
President, CAMA
Sherry Sandoval
Executive VP, CAMA
Schedule & Field Trip Info

**Welcome from FAA/CAMI**

Deann King, Ed.D, Instructional Systems Specialist, FAA Aerospace Medical Education Division, Oklahoma City, OK

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:30 AM to 09:30 AM</td>
<td>Keynote Presentation: “Aviation Safety”</td>
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</tr>
<tr>
<td></td>
<td>Thomas M. McNish, MD, MPH</td>
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<tr>
<td></td>
<td>Colonel, USAF, MC, CFS (Ret)</td>
<td></td>
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<tr>
<td></td>
<td>Chairman, Board of Directors, Biodynamic Research Corporation</td>
<td></td>
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<tr>
<td></td>
<td>San Antonio, TX</td>
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</tr>
<tr>
<td>09:30 AM to 10:30 AM</td>
<td>AME Program Overview and Performance</td>
<td></td>
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<tr>
<td></td>
<td>Stephen Veronneau, MD, MS</td>
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<tr>
<td></td>
<td>Regional Flight Surgeon, Northwest Mountain Region</td>
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<tr>
<td></td>
<td>Seattle, WA</td>
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</tr>
<tr>
<td>10:30 AM to 10:45 AM</td>
<td>Morning Break</td>
<td></td>
</tr>
<tr>
<td>10:45 AM to 11:45 AM</td>
<td>Aeromedical Assessment Updates from the Federal Air Surgeon’s Office</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Susan Northrup, MD, MPH</td>
<td></td>
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<tr>
<td></td>
<td>Federal Air Surgeon, Washington, DC</td>
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</tr>
<tr>
<td>11:45 AM to 12:45 PM</td>
<td>Luncheon Buffet</td>
<td>Espada Room</td>
</tr>
<tr>
<td>12:45 PM to 01:45 PM</td>
<td>“Certification issues – CACI Conditions and Working with the Online Guide for AMEs”</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Courtney D. Scott, DO</td>
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<tr>
<td></td>
<td>Medical Officer, FAA Aerospace Medical Education Division</td>
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<tr>
<td></td>
<td>Oklahoma City, OK</td>
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<tr>
<td>01:45 PM to 02:45 PM</td>
<td>“Alcohol and Drug Use: Roadmap to Certification”</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Charles C. Chesanow, DO</td>
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<tr>
<td></td>
<td>FAA Chief Psychiatrist</td>
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<tr>
<td></td>
<td>Washington, DC</td>
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<tr>
<td>02:45 PM to 03:00 PM</td>
<td>Afternoon Break</td>
<td></td>
</tr>
<tr>
<td>03:00 PM to 04:00PM</td>
<td>“Medical Legal Issues”</td>
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</tr>
<tr>
<td></td>
<td>Andrew Lambert, JD, Senior Attorney, FAA Office of Chief Counsel, Enforcement Division, Washington, DC</td>
<td></td>
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<tr>
<td>04:00 PM to 04:30 PM</td>
<td>“Brooks AFB/USAFSAM”</td>
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<tr>
<td></td>
<td>Charles R. Fisher, Jr., MD, MPH</td>
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<tr>
<td></td>
<td>Former Commander USAFSAM 2008-2011, Colonel, USAF, MC, CFS (Ret), Senior AME</td>
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<tr>
<td></td>
<td>San Antonio, TX</td>
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</tr>
<tr>
<td>04:30 PM</td>
<td>Adjourn for the Day</td>
<td></td>
</tr>
<tr>
<td>05:00 PM</td>
<td>Load Buses for Field Trip</td>
<td></td>
</tr>
<tr>
<td>06:00 PM – 9:30 PM</td>
<td>Tour &amp; Dinner at Alamo</td>
<td></td>
</tr>
</tbody>
</table>

Casual dress and comfy shoes recommended. Don’t forget your beverage tickets!
### Friday, September 24, 2021

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>07:00 AM to 08:00 AM</td>
<td>Breakfast Buffet</td>
</tr>
<tr>
<td></td>
<td>Espada Room</td>
</tr>
<tr>
<td>08:00 AM to 09:00 AM</td>
<td>“Medical Certification of Cardiac Conditions”</td>
</tr>
<tr>
<td></td>
<td>Andrew H. Miller, MD</td>
</tr>
<tr>
<td></td>
<td>Cardiology, The Heart Place, Dallas/Ft. Worth, TX</td>
</tr>
<tr>
<td>09:00 AM to 10:00 AM</td>
<td>“Structural Heart Disease at Altitude”</td>
</tr>
<tr>
<td></td>
<td>Matthew Cooper, MD, MBA</td>
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<tr>
<td></td>
<td>Cardiology, 3M Corporation</td>
</tr>
<tr>
<td></td>
<td>St. Paul, MN</td>
</tr>
<tr>
<td>10:00 AM to 10:15 AM</td>
<td>Morning Break</td>
</tr>
<tr>
<td>10:15 AM to 11:15 AM</td>
<td>“Historical Notes on the Epidemiological Approach to USAF Aircrew Physical Standards”</td>
</tr>
<tr>
<td></td>
<td>James R. Hickman, Jr., MD, MPH</td>
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<tr>
<td></td>
<td>Colonel USAF, MC, CFS (Ret), Emeritus, Divisions of Cardiovascular Disease and Preventive Medicine</td>
</tr>
<tr>
<td></td>
<td>Mayo Clinic, Rochester, MN</td>
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<tr>
<td>11:15 PM to 12:15 PM</td>
<td>“AFib in Airmen”</td>
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<tr>
<td></td>
<td>Nathaniel Teague, MD</td>
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<tr>
<td></td>
<td>Occupational Medicine</td>
</tr>
<tr>
<td></td>
<td>CAMI, Oklahoma City, OK</td>
</tr>
<tr>
<td>12:15 PM to 01:45PM</td>
<td>Luncheon Buffet</td>
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<tr>
<td></td>
<td>Espada Room</td>
</tr>
<tr>
<td></td>
<td>Keynote Presentation: “Excellence, Exploration, and Evolution”</td>
</tr>
<tr>
<td>01:45 PM to 02:45 PM</td>
<td>“Mental Fitness to Fly: Pathway to Psychiatric Certification”</td>
</tr>
<tr>
<td></td>
<td>Daniel Danczyk, MD, MPH</td>
</tr>
<tr>
<td></td>
<td>Psychiatrist, Mayo Clinic, Rochester, MN</td>
</tr>
<tr>
<td>2:45 PM to 3:00 PM</td>
<td>Afternoon Break</td>
</tr>
<tr>
<td>3:00 PM to 4:00 PM</td>
<td>“Neurology Update”</td>
</tr>
<tr>
<td></td>
<td>Roger Hesselbrock, MD</td>
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<tr>
<td></td>
<td>Neurology</td>
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<tr>
<td></td>
<td>Dayton, OH</td>
</tr>
<tr>
<td>04:00 PM to 05:00 PM</td>
<td>“Aviation Neuropsychology”</td>
</tr>
<tr>
<td></td>
<td>Randy Georgemiller, PhD</td>
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<tr>
<td></td>
<td>Neuropsychology</td>
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<tr>
<td></td>
<td>FAA Aerospace Administration</td>
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<tr>
<td></td>
<td>Washington, DC</td>
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<tr>
<td>05:00 PM</td>
<td>Adjourn</td>
</tr>
<tr>
<td>06:00 PM to 7:30 PM</td>
<td>CAMA Honors Night Banquet</td>
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<tr>
<td></td>
<td>San Juan &amp; Espada Rooms</td>
</tr>
<tr>
<td></td>
<td>Prepared by Thomas J. Tredici, MD, Aerospace Ophthalmologist, Colonel USAF, MC (Ret), San Antonio, TX</td>
</tr>
<tr>
<td></td>
<td>Presented by Douglas J. Ivan, MD, Aerospace Ophthalmologist, Colonel USAF, MC, CFS (Ret), San Antonio, TX</td>
</tr>
<tr>
<td>8:00 PM to 8:30 PM</td>
<td>Keynote Presentation: “Remembering the Shoulders that We Stand Upon”</td>
</tr>
<tr>
<td></td>
<td>James R. Hickman, Jr., MD, MPH</td>
</tr>
<tr>
<td>8:30 PM to 9:00 PM</td>
<td>Awards Ceremony and Transfer of President’s Gavel</td>
</tr>
</tbody>
</table>

### Saturday, September 25, 2021

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>07:00 AM to 08:00 AM</td>
<td>Breakfast Buffet</td>
</tr>
<tr>
<td></td>
<td>Espada Room</td>
</tr>
<tr>
<td>08:00 AM to 09:00 AM</td>
<td>“Obstructive Sleep Apnea and Fatigue”</td>
</tr>
<tr>
<td></td>
<td>David G. Schall, MD, MPH</td>
</tr>
<tr>
<td></td>
<td>Neurologist, ENT</td>
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<tr>
<td></td>
<td>FAA Certification Physician, Oklahoma City, OK</td>
</tr>
<tr>
<td>09:00 AM to 10:00 AM</td>
<td>“Ophthalmology Updates”</td>
</tr>
<tr>
<td></td>
<td>Alan M. Kozarsky, MD</td>
</tr>
<tr>
<td></td>
<td>Ophthalmologist, Atlanta, GA</td>
</tr>
</tbody>
</table>

27 Flight Physician May 2021
10:00 AM to 10:15 AM  
**Morning Break**

10:15 AM to 11:15 AM  
“ENT FAA Update”  
David G. Schall, MD, MPH  
Neurotologist/ENT/Aerospace Medicine  
FAA Certification Physician  
Oklahoma City, OK

01:15 AM to 12:15 PM  
“The History of Instrument Flight and Pilot Spatial Disorientation”  
William R. Ercoline, MS, PhD  
San Antonio, TX

12:15 PM to 01:15PM  
Luncheon Buffet  
Espada Room

01:15 PM to 02:15 PM  
“Infectious Disease and Air Travel Coronavirus Update”  
Richard S. Roth, MD, Professor, Department of Internal Medicine  
Memorial Health University Medical Center, Mercer University School of Medicine  
Savannah, GA

02:15 PM to 02:30 PM  
**Afternoon Break**

02:30 PM to 05:00 PM  
Case Study & Panel Discussion: “Would You Fly With This Pilot? – Aeromedical Decision-Making”  
Moderator: Susan Northrup, MD, MPH,  
Federal Air Surgeon  
Washington, DC

Panel Members:  
Stephen Veronneau, MD, MS, RFS NW Region  
Roger Hesselbrock MD, Neurologist  
Andrew H. Miller, MD, Cardiologist  
Charles C. Chesanow, DO, Psychiatry/Addiction  
David Schall, MD, MPH, Neurotologist/ENT/Aerospace Medicine  
Alan M. Kozarsky, MD, Ophthalmologist

05:00 PM  
**Adjourn**

**Please pick up your CME Certificate from the CAMA table and turn in your FAA testing material to the FAA representative prior to your departure.**

SPECIAL ACTIVITY—At the conclusion of the Annual Scientific Meeting, Dr. William Ercoline will conduct a tour of Hangar 9 and the Hyperbaric and Centrifuge areas at Brooks City Base. If you are interested in this activity, meet Dr. Ercoline in the lobby right after the end of the sessions on Saturday.

No CAMA activities are planned for Saturday evening. You are free to plan your own activities for the evening or to depart for home if you prefer.

Emergency Contact During the Meeting:  
Sherry Sandoval, CAMA EVP  
Call or Text 770-487-0100

**PROGRAM OBJECTIVES:**

To understand and apply the changes in aviation medicine to the individual’s private practice  
To assess specific clinical conditions/disciplines with respect to aviation medicine to correctly utilize the Federal Aviation medical standards with the specific conditions discussed  
To Comprehend the FAA medical program initiatives  
To understand to be able to work with the aeromedical certification system  
To comprehend the legal aspects of being an AME

This program is approved for FAA-AME training.

**CONTINUING MEDICAL EDUCATION**

This Live activity, Civil Aviation Medical Association Annual Scientific Meeting, with a beginning date of 09/23/2021, has submitted for CME evaluation by the American Academy of Family Physicians. Physicians should claim only the credit commensurate with the extent of their participation in the activity.
Dues and Membership 2021

Given the unusual circumstances brought on by the COVID-19 pandemic, and the cancellation of the CAMA and AsMA 2020 Annual Scientific Meetings, many CAMA members overlooked paying their CAMA dues in 2020. CAMA operating expenses continue whether or not we hold an annual meeting. There are still office supplies, WiFi, FAX and telephone expenses, web site maintenance, deposits made for coming years’ meetings and activities, production of newsletters and promotional materials, and a new CAMA web site.

Please take a moment to pay your 2021 dues now if you have not already done so. See below for a new CAMA web site feature that allows you to quickly, easily, and securely pay online.

CAMA has a redesigned web site with advanced security, easy access to news and information, links to important FAA information and web sites, and the capability to complete dues forms and annual scientific meeting registrations online, as well as the capability to process online payments for dues and annual scientific meetings!

The web site is www.civilavmed.org. The dues online payment forms, for both individual and corporate memberships, are located in the Members’ Lounge. You may also download and print regular copies of individual and corporate dues forms from that same page for emailing, faxing, or sending via the post office, along with your preferred form of payment, for home office processing.

Regular and Student registration payment forms for the 2021 Annual Scientific Meeting being held September 23-25th at the Embassy Suites Brooks in San Antonio, Texas, are also online, as well as downloadable, printable registration forms. Please see the Annual Meetings page of the CAMA web site to pay online or to download registration forms.

The new pay online function is a terrific time-saving element of the redesigned CAMA web site that provides both convenience and security for CAMA members to transact business with CAMA from anywhere without needing access to a printer or FAX machine.

Of course, you may continue to join CAMA, renew your membership, or register to attend the Annual Scientific Meeting via email, fax, or regular post office mail using downloaded or printed versions from the web site or forms from the newsletter, “The Flight Physician.”

Call the CAMA Home Office at 770-487-0100 or email civilavmed@aol.com if you have questions.

2021 Aerospace Medical Association Meeting in Denver, Colorado

The Aerospace Medical Association (AsMA) meeting, usually held in May of each year, has been moved to August 29—September 2, 2021, and will take place at the Sheraton Hotel Downtown in Denver, Colorado. CAMA will have a CAMA Sunday program on Sunday morning, August 29th, and will host a keynote speaker at the CAMA Luncheon on Monday, August 30th. There will not be an in-person FAA AME refresher course during the AsMA meeting as of this writing. The already scheduled May refresher course will take place online.

Please remember that CAMA Sunday is a free program and that tickets to the CAMA Luncheon must be purchased IN ADVANCE from AsMA. No tickets are sold at the door.

The CAMA Sunday program will feature Doctors Cheryl Lowry and Brian Pinkston presenting “Extreme Medicine” from 8:00 AM to 10 AM, and Dr. Douglas Ivan will give a presentation regarding “Presbyopia and Vision Correction in Aviators” from 10:15 AM to 12:15 AM. Dr. William Ercoline will be the keynote speaker during the CAMA Luncheon at noon on Monday, August 30th. His presentation will be “Spatial Disorientation in Aviation.”

2021 Annual Scientific Meeting in San Antonio, Texas

The 2021 Annual Meeting will take place in person on September 23-25, in San Antonio, Texas, at the new Embassy Suites-Brooks on the grounds of the old Brooks Air Force Base. Many CAMA members and AMEs went through RAM training at Brooks, and after the conclusion of the last day of the Annual Scientific Meeting, Dr. Bill Ercoline will conduct a tour of the remaining facilities for those who might be interested. Please see the Annual Meeting Program/Schedule of events on Pages 25-28 for additional information.
The aerospace physiology department at Brooks City-Base in San Antonio, TX, operates a human centrifuge for the purpose of training and evaluating fighter pilots and Weapon Systems Officers for high-G flight in Air Force fighter aircraft. Today the Brooks complex houses the AFRL Department of Hyperbaric Medicine and the Davis Hyperbaric Laboratory. As part of Dr. Ercoline’s tour on Saturday, you may to see parts of the old airbase.

The Alamo is the centerpiece of Texas history and the gem of San Antonio. We have been fortunate to be able to arrange for a self-guided tour and catered dinner at the Alamo for our Thursday evening field trip! There will be Alamo employees and Texas Rangers in attendance, and the Alamo will be open for our group only that evening. Dinner will take place in the Alamo pavilion area after the tour.

Unfortunately, the Alamo Gift Shop will not be open during our field trip. However, you may shop for Alamo memorabilia and souvenirs online at: store.thealamo.org

The Alamo does not allow onsite purchase of alcohol or bar tickets. However, they will allow the caterer to furnish beer, a house chardonnay, a house cabernet, and sangria, based on drink/bar tickets sold PRIOR to the event by CAMA. Therefore, if you wish to consume any alcoholic beverages during the field trip, you must purchase the number of drink tickets you desire AT THE TIME OF REGISTRATION. The tickets will be $6.00 per beverage. Be sure to pay for your bar tickets when you register for the meeting and pick them up when you pick up your registration packet at the hotel on Wednesday evening or Thursday morning. There will be a space on the online registration form where you may indicate the number of bar tickets you wish to purchase, and the cost ($6.00 per ticket) will be added to your registration amount.

If you use a paper registration form, please also include the addendum form regarding the purchase of bar tickets to be included in your registration fees. The caterer will be serving water, tea, and coffee as part of the dinner service.

The host hotel for the 2021 meeting is the Embassy Suites San Antonio-Brooks. It is a new facility with a spa, a lobby bar, a coffee facility, an outdoor pool, a fitness center, a salt cave, and free parking. Restaurants and shopping are located nearby, and it is a short trip to downtown San Antonio and the Riverwalk. The modern design of the hotel is different from older Embassy Suites layouts, and will be an excellent place for our meeting. The registration form and link with which to make hotel reservations will be on the Annual Meeting page of the CAMA web site at www.civilavmed.org. The link is also on the registration form. Please consider the convenience of registering online via the CAMA web site.

The educational program is finalized and can be found starting on Page 25 of this publication. It has been submitted to the American Association of Family Physicians (AAFP) for a Continuing Medical Education (CME) rating. The theme of the meeting is “Medical Certification and Human Factors in Aerospace Performance and Safety.”

There will also be elements of historical aviation accomplishments and future developments into the field of civil space travel and exploration. This is an annual meeting you do not wish to miss! Mark your calendar NOW to join us in Texas in September.

NEWS: AirDocs, one of our Corporate Members will provide COVID-19 antibody test kits at the annual meeting for only the cost of the kit—around $30.00. Dr. Gregory Pinnell will have additional information about the kits at the meeting.

We are very excited about this year’s Annual Scientific Meeting program and activities! Please consider joining us for this informative and educational conference.
EDUCATIONAL OPPORTUNITIES

Online Training, Refresher, and Resources for Continuing Medical Education (CME) Credit

With the travel and meeting restrictions imposed by COVID-19 and the resulting cancellation of both the Aerospace Medical Association (AsMA) and Civil Aviation Medical Association (CAMA) Annual Scientific Meetings, opportunities for AME training and CME have become somewhat limited.

Ronan Murphy, MBChB, the CAMA Vice President of Education, has indicated that there are still resources online for those AMEs who need training and/or CME credits. Please see the information and links listed below.

If you are interested in becoming an AME, please contact the FAA Regional Office responsible for your locality. AME seminar attendance requires advance approval of the AAM-400 Education Division.

Available resources from FAA 400 Education Division:

1. FAA AME refresher courses have moved to a Zoom format through the August, 2021, courses. Click the link below to access the course schedules 2021:

   https://www.faa.gov/other_visit/aviation_industry/designees_delegations/designee_types/ame/seminar_schedule/

   - Attendance requires approval in advance. Contact your Regional Flight Surgeon for approval, and the RFS staff will check availability for the course of your choice.
   - Registration opens three months prior to the start date of the seminar.
   - Participants must have an FAA Designee Registration System account (DRS) to sign up for the AME Refresher course.
   - If you do not have an account on DRS and wish to have one, click the following link for instructions:

     https://www.faa.gov/other_visit/aviation_industry/designees_delegations/designee_types/ame/media/drs.pdf

2. To locate other online courses that offer CME, click the following link:

   https://www.faa.gov/other_visit/aviation_industry/designees_delegations/designee_types/ame/ametraining/

   - Clinical Aerospace Physiology Review for Aviation Medical Examiners (CAPAME) – 6 hours American Association of Family Practitioners (AAFP) CME credit available
   - Multimedia Aviation Medical Examiner Refresher Course (MAMERC) 3.0 - 6 hours AAFP CME credit available

3. FAA AME Refresher Training, originally scheduled to take place at the Aerospace Medical Association (AsMA) annual meeting in May has been revised to an online AME Refresher Training session. There will be no in-person AME Refresher Training during the AsMA meeting, which has been rescheduled for August 29—September 2, 2021, at the Sheraton Downtown Hotel in Denver, Colorado.

4. The Civil Aviation Medical Association (CAMA) Annual Meeting, September 23-25, in San Antonio, Texas, is approved by the FAA for AME Refresher Training. CME available—18 to 23 hours, depending upon the final educational program. Registration for the CAMA Annual Scientific Meeting will open in May, 2021.

NOTE: The FAA Headquarters has determined that all FAA AME seminars (Basic and Refresher) will be via Zoom through August, 2021. The /go/ame web site has been updated. See the following page of this publication for a list of all 2021 courses and dates.
<table>
<thead>
<tr>
<th>DATE OF SEMINAR</th>
<th>SEMINAR LOCATION</th>
<th>SEMINAR TYPE</th>
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<tr>
<td>May 24-27</td>
<td>Virtual, via Zoom</td>
<td>Refresher</td>
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<tr>
<td>June 21-25</td>
<td>Virtual, via Zoom</td>
<td>Basic</td>
</tr>
<tr>
<td>August 6-8</td>
<td>Virtual, via Zoom</td>
<td>Refresher</td>
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<tr>
<td>September 23-25</td>
<td>San Antonio, TX</td>
<td>CAMA/Refresher</td>
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<tr>
<td>October 18-22</td>
<td>Oklahoma City, OK</td>
<td>Basic</td>
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<tr>
<td>November 19-21</td>
<td>Albuquerque, NM</td>
<td>Refresher</td>
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</tbody>
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(Continued on Page 26)
AME MINUTE 2020-2021 ISSUE GUIDE

The FAA issues monthly reminders/updates for Aviation Medical Examiners in the form of a brief audio file with information on an important subject. Following is a summary of the AME Minute issuances during 2020, in case you might have missed one. Earlier AME Minute items may be accessed from the FAA archive at:
https://www.faa.gov/other_visit/aviation_industry/designees_delegations/designee_types/ame/videos/

March 2021  https://www.faa.gov/tv/?mediaId=2276  Why does the FAA now allow AASI recertification for pilots with a history of CHD?

March 2021  https://www.faa.gov/tv/?mediaId=2270  Different anticoagulant therapies - Why do different categories of anticoagulants have different wait times?

February 2021  https://www.faa.gov/tv/?mediaId=2265  FDA-approved TAVR procedure, Special Issuance - Why did the FAA introduce a policy on the TAVR procedure?

January 2021  https://www.faa.gov/tv/?mediaId=2254  AFib – Why is the FAA concerned about closure of the left atrial appendage?

May 2020  https://www.faa.gov/tv/?mediaId=2215  Insulin Policy, Part 1 – Why is the FAA now certifying pilots on insulin?

June 2020  https://www.faa.gov/tv/?mediaId=2225  Insulin Policy Part 2 – Why does the monitoring protocol for insulin-treated DM require so many reports?

June 2020  https://www.faa.gov/tv/?mediaId=2229  OTC Sleep Aids – Why is the FAA concerned about Over The Counter sleep aids?

August 2020  https://www.faa.gov/tv/?mediaId=2232  Pancreatitis – Why did the FAA issue new guidance regarding pancreatitis?

August 2020  https://www.faa.gov/tv/?mediaId=2238  – Designee Management System Profile – Why do AMEs need to update their profile in the Designee Management System annually?

September 2020  https://www.faa.gov/tv/?mediaId=2241  – Why can breast cancer be issued by an AME?

November 2020  https://www.faa.gov/tv/?mediaId=2247  – Why are there new requirements for Non-Valvular Atrial Fibrillation (AFIB) or A-Flutter?

Link to the AME Guide via the FAA web site:  https://www.faa.gov/about/office_org/headquarters_offices/avs/offices/aam/ame/guide/

NOTE: This link is also found on the HOME page of the CAMA web site at www.civilavmed.org, along with other important FAA links.

NOTE: The articles published in this newsletter are presented for informational purposes and topics of discussion and do not necessarily represent the opinions or recommendations of the Civil Aviation Medical Association.
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:

**Corporate Members & Sponsors**

- **AirDocs Aeromedical Support Services**
  - Gregory Pinnell, MD
  - MBS International Airport
  - 8430 Garfield Road
  - Freeland, MI 48623
  - [www.airdocs.net](http://www.airdocs.net)

- **Air Line Pilots Association, International**
  - John Taylor, National Pilot Assistance Chair
  - 7950 Jones Branch Drive, Suite 4005
  - McLean, VA 22102
  - [www.alpa.org](http://www.alpa.org)

- **Allied Pilots Association**
  - 14600 Trinity Boulevard, Suite 500
  - Fort Worth, TX 76155
  - [www.alliedpilots.org](http://www.alliedpilots.org)

- **Aviation Medicine Advisory Service**
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  - Phoenix, AZ 85016
  - [www.medaire.com](http://www.medaire.com)

- **Pilot Medical Solutions, Inc.**
  - David Hale, CEO
  - 5901 Philip J. Rhoads, Suite 118
  - Bethany, OK 73008
  - [www.leftseat.com](http://www.leftseat.com)

- **Singular Sleep, LLC**
  - 830 A1A N, Suite 13-308
  - Ponte Vedra Beach, FL 32082
  - [www.singularsleep.com](http://www.singularsleep.com)

**Civil Aviation Medical Association (CAMA)**

**Contact Information:**

- **Mailing address:** CAMA
  - P. O. Box 823177
  - Dallas, TX 75382

- **Telephone:** 770-487-0100 (Voice or Text)

- **Secure FAX:** 770-487-0080

- **Web Site:** [www.civilavmed.org](http://www.civilavmed.org)

- **eMail:** civilavmed@aol.com
# Life Members

<table>
<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td>Prof. Michael Bagshaw, MB BCh</td>
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<td>Raymond S. Basri, MD, FACS</td>
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<td>Sanjeev Batra, DO</td>
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<td>Kris M. Belland, DO, MPH</td>
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<td>David E. Blocker, MD, MPH</td>
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<td>Michael Boyer, MD</td>
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<td>John R. Capurro, MD</td>
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<td>Daljeet Kimberley Chawla, MBBS, FCGP, DNBE</td>
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<td>George H. Coupe, DO</td>
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<td>Bill B. Curtis, MD</td>
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<td>Daniel Danczyk, MD, MPH</td>
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<td>Andrew J. Davis, MD</td>
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<td>M. Craig Delaughter, MD, PhD</td>
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<td>Edmond Feeks, MD, MPH</td>
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<td>Aynalem Gebremariam, MD</td>
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<td>Robert Gordon, DO</td>
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<td>Bradley K. Harrison, MD</td>
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<td>Stephen M. Kirkland, MD</td>
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<td>Story Musgrave, MD, PhD</td>
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<td>Shepard B. Stone, DMSc, PA</td>
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<td>Lars Tjensvoll, MD</td>
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<td>Bruce A. Van Dop, DO</td>
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<td>Alex M. Wolbrink, MD, MS</td>
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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.

# New Members

<table>
<thead>
<tr>
<th>Name</th>
<th>Specialty</th>
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<tbody>
<tr>
<td>Raymond S. Basri, MD, FACS</td>
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</tr>
<tr>
<td>236 Crystal Run Road, Suite 2</td>
<td></td>
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<tr>
<td>Middletown, NY 10941</td>
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<td>Life Member, Senior AME, Pilot, AMA, AsMA</td>
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<tr>
<td>Chester Carlson, DO</td>
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<tr>
<td>Alma, AR 72921</td>
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<tr>
<td>Senior AME, Pilot, AOA</td>
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<td>Specialty: Emergency Medicine</td>
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<td>Guy Foulkes, MD</td>
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<td>175 Lakeview Drive</td>
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<td>Macon, GA 31210</td>
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<td>AME, Pilot, AME, AMA, AOA</td>
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<td>Specialty: Orthopedic Hand Surgery</td>
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<td>Christopher Freeze</td>
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<td>1354 Oakshire Court</td>
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<td>Herndon, VA 20170</td>
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<td>Specialty: Aerospace Physiology</td>
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</table>
Jeff Henson, MD
7309 Canterbury Road
Urbandale, Iowa, 50322
AME, Pilot, AMA, EAA, AsMA
Specialty: Occupational Medicine

David Howell, MD
150 Mallard Lane
Locust Grove, GA 30248
Senior AME, Pilot, AOA, EAA
Specialty: Emergency Medicine

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Specialty: Aerospace Medicine/Occupational Medicine/Family Medicine

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Specialty: Nephrology, Critical Care, HBO

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Specialty: Family Practice

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Jacksonville, FL 32223
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Specialty: Aerospace Medicine/Occupational Medicine

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Austin, TX 78717
Senior AME
Specialty: Family Medicine

Don J. O’Malley, LCSW, CAS, SAP
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Brighten, CO 80601
HIMS
Specialty: HIMS Coordination/Pilot Counseling

Simo Putilainen, MD
Helsinki, Uusimaa
Finland
Senior AME, Pilot, AsMA
Specialty: Occupational Health

Galeno Sibilia, MD
215 Rue de Frejus
Broussard, LA 70518
AME, Pilot
Specialty: Internal Medicine

Tesfaye Tetemke, MD, FACP
Skyline Medical Center
5276 Dawes Avenue
Alexandria, VA 22311
Senior AME, AsMA
Specialty: Internal Medicine/Aviation Medicine

Sustaining Members

Gary Crump, AOPA
Matthew J. Miriani, DO
Richard Ronan Murphy, MBChB
Reddoch Williams, MD
Sir Rodney E. L. Williams, MBBS
CAMA MEMBERSHIP DUES NOTICE FOR 2021

(*Required Information)

*MEMBER NAME & TITLE:
*MEMBER STREET ADDRESS:
*MEMBER STREET ADDRESS:
*MEMBER CITY/STATE/ZIP/COUNTRY:

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<th>AME NUMBER</th>
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<th>YES</th>
<th>NO</th>
</tr>
</thead>
</table>

Permission to add name and address to the CAMA Web Site in the Members Only Section?  YES  NO

Please complete and return with your payment.

NOTE: Membership is from January 1st through December 31st of each year

Membership dues.................................................. $ 150.00 U.S. Dollars
Sustaining Membership dues (optional)........................ $ 300.00 U.S. Dollars
Membership dues for Retired Members...................... $ 50.00 U.S. Dollars
Membership dues for Students................................... $ 50.00 U.S. Dollars
Life Membership.................................................. $1500.00 U.S. Dollars

Payment Options: CAMA Accepts checks, MasterCard, VISA, or American Express.

<table>
<thead>
<tr>
<th>CHECK ENCLOSED</th>
<th>#</th>
<th>MASTERCARD</th>
<th>VISA</th>
<th>American Express</th>
</tr>
</thead>
</table>

CREDIT CARD NUMBER:
EXPIRATION DATE:
CVV/CVC SECURITY CODE:
BILLING ADDRESS ZIP CODE:
TOTAL AMOUNT/AUTHORIZED CHARGE $

PRINT NAME:

Signature or authorization statement for charge: ____________________________________________

SPOUSE/SIGNIFICANT OTHER NAME:

Check if you are a member of:

<table>
<thead>
<tr>
<th>PILOT</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>AME</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>AMA</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>HIMSS</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>AOA</td>
<td>YES</td>
<td>NO</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EAA</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>AOPA</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>FPA</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>AAFP</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>AsMA</td>
<td>YES</td>
<td>NO</td>
</tr>
</tbody>
</table>

*SPECIALTY:

*PHONE NUMBER:

CELL NUMBER:

*FAX NUMBER:

*EMAIL ADDRESS:

*(E-mail address is REQUIRED – all CAMA correspondence, registrations, notifications, and publications are sent via email. Please notify CAMA of any email address changes so you will not miss any important information! CAMA does not share your information with any other entity or organization.)

Return form to: CAMA
P. O. Box 823177
Dallas, TX 75382
FAX: 770-487-0080
Telephone: 770-487-0100
email: civilavmed@aol.com
CAMA CORPORATE MEMBERSHIP FOR 2021

Corporation/Business Name and Address:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Please complete and return with your payment.

NOTE: Membership is from January 1st through December 31st. Corporate Membership dues…………………$ 350.00 U.S. Dollars.
CAMA accepts MasterCard, VISA, American Express, and checks only.

Payment Options:

Check Enclosed # MasterCard _____ VISA _______ AMEX _______

Credit Card Number: ________________________________

CVV/CVC Security Code: ________________________________

Zip Code of Billing Address: _____________________________

Expiration Date: ___________ Authorized Amount $ _______

Print Name on Card: ________________________________

Signature: ________________________________

PLEASE PRINT (* required information)

*Contact Person(s) Name: ________________________________

*Specialty/Type of Business: ________________________________

*Phone: # (____) ________________________________

Cell # of Contact Person(s): (___) ________________________________

Fax: # (____) ________________________________

*E-Mail Address of Contact Person(s):

(E-mail address required – all CAMA correspondence, registrations, notifications, and publications are sent via email. Please notify CAMA of any email address changes so you will not miss any important information! CAMA does not share your information with any other entity or organization.)