

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.

Flight Physician



A publication of the Civil Aviation Medical Association

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CAMA News and Annual Scientific Meeting Registration

To date, 2022 has been a very productive year for CAMA activities, educational programs, and support for Aviation Medical Examiners! The CAMA web site contains the 2022 individual membership and corporate membership forms on the Members' Lounge Page, available for you to join the organization or to renew your membership (www.civilavmed.org).

CAMA sponsored terrific CAMA Sunday and CAMA Luncheon programs at the Aerospace Medical Association (AsMA) meeting in Reno, Nevada, in May. If you were unable attend the AsMA Annual Meeting, you may purchase a video library of all CAMA presentations. The CAMA Sunday and CAMA Luncheon programs are listed on Page 3 for your consideration. All five hours of these programs in a video library are now available for \$39.00. See Page 4 for the order form.

It is time to pay your 2022 dues if you have not already done so!!! We recommend that you use the convenient, secure online renewal module on the Members Lounge page of the CAMA web site. You may also use the forms on the last pages of this publication to complete and email to CAMA for processing. It is important to note that CAMA members are notified first when there is an event, and registration fees for the Annual Scientific Meeting are lower for CAMA members.

REGULAR REGISTRATION FOR THE 2022 CAMA ANNUAL SCIENTIFIC MEETING IS OPEN THROUGH AUGUST 31ST!!!

The meeting will take place at Hotel Albuquerque in Old Town, Albuquerque, New Mexico, September 22—24, 2022. The registration form is on Page 19, followed by a copy of the program on Pages 20 and 21. The program has been approved by the American Academy of Family Physicians (AAFP) for a Continuing Medical Education (CME) rating of 23.5 hours. You may register either by completing the registration form contained in this edition or by using the convenient online registration and pay form on the "Annual Meeting" page of the CAMA web site at www.civilavmed.org. Membership forms and renewals may be processed simultaneously with annual meeting registration.

If you are bringing a guest (spouse, significant other, family member, etc.) who is also a medical professional in need of a CME certificate, please provide that guest's full name and titles on the registration form. We do publish a directory of participants to all attendees at the Annual Scientific Meeting, so be sure to specify on the registration form which address you wish to use. Many professionals use their business address for this purpose. No email addresses or telephone numbers are used in the directory.



CAMA Refund Policy

As of 01/01/2018, the cancellation/refund policy with regard to Annual Scientific Meeting registration fees and guest fees has been established 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 are shown on the registration form for each year, so that there will be no misunderstandings. This year that date is August 31, 2022.

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Editor's Note: For listings of the various CAMA committees, please see the CAMA web site at: www.civilavmed.org. On the "About CAMA" tab, click the link for "Officers." CAMA has many interesting committees and is always searching for expertise and fresh ideas in these areas. If you have an interest in adding your opinion and expertise to CAMA education, operations, planning, or management, please email us at civilavmed@aol.com, so that we may put you in touch with the Chair of any committee whose activities are of interest to you.

2022 CAMA SUNDAY AND CAMA LUNCHEON PROGRAMS/AGENDAS

These amazing presentations are available in the form of a video library for purchase from Podiumcast for a fee of \$39.00. You may use the order form on Page 4 of this publication or you may go directly to Podiumcast.com and order from that web site using the following link:

<https://podiumcast.com/store/events/2022-civil-aviation-medical-sunday>

CAMA Sunday Lectures – Four hours comprised of four presentations.

Sunday, May 22, 2022, 8:00 AM to 12:15 PM, recorded at the Peppermill Hotel and Casino, Reno, Nevada

8:00 AM to 9:00 AM:

Reno Air Races Video, “You Never Know...”
By John S. Raniolo, DO
Photo montage of the Reno Air Races
By David G. Schall, MD, MPH

9:00 AM – 10:30 AM

90-minute presentation by Frederick W. Telling, PhD

Lecture Module Topic – Air Racing in a Unique Environment:

This presentation will cover the unique environment of Air Racing. Factors Unique to these races include aging, highly modified aircraft and aging pilots. The Races take place in an arid, typically hot, geographically confined environment, in aircraft that set world speed records. There are specific medical requirements set forth in the Race rules of operation (approved by the FAA and vetted by the NTSB) which require sustained endurance in a high stress, low to the ground environment. As aircraft exceed 500 mph in the unlimited and Jet classes and exceeding 400 mph in the sport class, most being non-production home-built aircraft all with unique sets of issues. By the conclusion of the lecture the audience will have a grasp of the unique environment and pilot challenges as well as steps taken to mitigate these factors and to minimize risk.

10:45 AM – 12:15 AM

90-minute presentation by Jerome P. Limoge, MD

Lecture Module Topic – Gravitational Loss of Consciousness (GLOC) in the Air Racing Environment:

This lecture will cover Gravitational Loss of Consciousness (GLOC), including the physiology, indicators, contributing factors, prevention, and ways to mitigate it. Additionally, the presentation will discuss the unique environment in air racing of task

saturation and flying at constant increased G loads beneath the curve where visual symptoms occur with the potential to progress to loss of consciousness due to sudden increased G loading. Mitigation strategies, risk management, and improved G tolerance will be stressed. By the conclusion of the lecture the audience will understand of how the above factors affect the planning and execution of these challenging air races.

CAMA Luncheon and One-Hour Presentation

Monday, May 23, 2022, 12:00 Noon - 02:00 PM, recorded at the Peppermill Hotel and Casino, Reno, Nevada

1:00 PM – 2:00 PM

One hour presentation by Tim “Chief T” Spencer, Emergency Management Specialist FEMA, Emergency Services Director Reno Air Races Association

Lecture Module Topic – Disaster Response for Air Race Crashes, “The Galloping Ghost” and Lessons Learned

This one-hour presentation will cover the specialized preparations, both physical and medical, for the Reno Air Races, to minimize risk to persons and property, as well as the prescribed response to emergencies that occur during the races and the recovery from such occurrences. Luncheon participants will gain an understanding of the extensive preparation for the air races to minimize risk of loss of life and property damage and the training for response and recovery of emergency service personnel.

For additional interesting information regarding the Reno Air Races Association, please check out their web site at:

[STIHL National Championship Air Races | Reno Air Races](https://www.stihl.com/en-us/air-races)



ORDER FORM TO PURCHASE 2022 CAMA SUNDAY AND CAMA LUNCHEON PROGRAMS



2022 CAMA Sunday Medical Education Program

**May 22, 2022
(Held during AsMA 2022)**

SESSION RECORDINGS


**Includes FOUR hours of presentations by four speakers + Luncheon Session (5 Hours Total)
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<p>Please provide business card or complete form</p> <p>Name: _____</p> <p>Organization: _____</p> <p>Address 1: _____</p> <p>Address 2: _____</p> <p>City: _____ State: ___ Zip: _____</p> <p>Country: _____</p> <p>Phone: _____</p> <p>Email: _____</p>	<p>Signature: _____</p> <p>Credit Card Number: <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/></p> <p style="text-align: center;">VISA MC AMEX DISCOVER</p> <p>Expiration Date: <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/></p> <p>CVV Code: <input type="text"/> <input type="text"/> <input type="text"/></p> <p>Billing Zip Code: <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/></p> <p>Online Access \$ _____</p> <p>Single Sessions \$ _____</p> <p>TOTAL \$ _____</p> <p style="text-align: right;"></p>
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CAMA President's Message



David G. Schall, MD MPH FACS
CAMA President 2021-2023

I trust that this finds you doing well, especially those of you who attended the Aerospace Medicine Association meeting in Reno. For those unaware, we had an uninvited guest make a significant appearance at the meeting: a highly contagious CoVID Omicron subvariant. Over 270 of 1550 attendees (17%) came down with some form of CoVID symptoms after attending the meeting. This despite the fact that just about everybody was fully vaccinated and many wore masks and did social distancing.

However, we were not the only Medical Conference to be attacked by this uninvited guest. The Society of Academic Emergency Medicine (SAEM) had their meeting in New Orleans and suffered from this surge of the Omicron BA.12.1 subvariant. Reportedly, they had 100's of cases after the meeting with case rates ranging from 18 to 67%. An earlier Conference held by Biogen in Boston, resulted in 175 Executives becoming infected with CoVID, and they sent it worldwide, with an estimated 20,000 cases from this single event. Well, if there is any good news that can come out of this, perhaps it is that we are rapidly approaching herd immunity, assuming that it does not mutate into an antigenically foreign subvariant, and there were no hospitalizations or deaths.

In other news, we had a fantastic CAMA Sunday and Monday Luncheon at ASMA. Our focus was on the history and aero-medical concerns for Air Racing, since we were in Reno, home of the world famous Air Races. Our Sunday session opened with a video and a photo-montage of scenes from the Air Races, followed by the President of the Reno Air Race Association, Dr. Fred Telling. Dr. Telling presented a captivating overview with fascinating videos on the history of Air Racing from the early years of aviation, the difficulties, to include the crash that ended the Cleveland Air Races to the most recent crash of the



Galloping Ghost into the crowd back in 2011 at Reno. He reviewed their current Safety Management System and the multiple improvements made to protect both the attendees and the Pilots. He also went on to address the future of Air Racing and some of the exciting developments such as their Flight Scholarship program, MS Flight Simulator's new Reno Air Racing package that puts you into the seat of the air racers, and their STEM activities around the country.



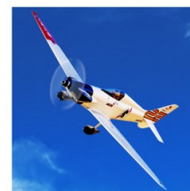
Dr. Telling's lecture was followed by an outstanding talk from Brig. Gen. (Ret) Dr. Jerry Limoge, who is a Senior AME and serves as the Contest Committee Chairman and Chief Judge at the Reno Air Races and is a NTSB vetted subject matter expert on G-induced Loss of Consciousness (G-LOC). He presented on how they approach G-LOC prevention in Air Racing Pilots of various ages, along with some of the risk mitigations used with advanced designed water filled G-suits. He also addressed the use of both prescription and over the counter medication in Air Racers.



UNLIMITED



BIPLANE



FORMULA ONE

Our CAMA sessions were concluded with a captivating talk by Battalion Chief Tim Spencer. Tim is in charge of the Emergency Response at the Reno Air Races and managed the disaster response to the crash of the Galloping Ghost back in 2011.



The Accident that terminated the Cleveland Air Races in 1949 when a Mother and her infant child were killed in Berea, OH by one of the contestants.



He shared about how their mass casualty plan and Incident Command System mitigated further loss of life, as well as some of the unanticipated events that they had to respond to.

(Continued on Page 6)



Galloping Ghost crashing into the spectator section at Reno in 2011

One thing in particular was the lack of sufficient tourniquets due to the overwhelming number of amputations caused by the flying debris; Nurses quickly went through the crowd and collected belts to be used for tourniquets. Amazingly, all seriously injured patients were transported quickly to the Trauma Centers and the last patient moved was under 50 minutes. All of these talks were recorded and if you missed them, I encourage you to get a copy of the Audio/Video and Slides from the Podiumcast website listed in our Newsletter.

For additional interesting information regarding the Reno Air Races Association, please check out their web site at: <https://airrace.org/> and consider attending this year's Air Races Sept 14-18, 2022 in Reno at Stead Airport.

Finally, I encourage you to join us in Albuquerque, Sept 22-24, 2022. We will not only offer a FAA AME Refresher Seminar but some fascinating updates on Aviation Neurology and the latest on Atrial Fibrillation stroke risk, but also learn about the challenges of Hot Air Ballooning with an Internationally renowned and Record setting Balloon Pilot, Troy Bradley. You won't want to miss it!

Albuquerque Balloon Fiesta



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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.

AVIATION TOXICOLOGY

By Mark Thoman, MD

Reprinted with Permission from FPA Member Online Bulletin 2—2022

As I was preparing the final draft of this editorial, this appeared in the daily news:

Actor Miles Tiller had jet fuel in his blood while spending hours surrounded by aircraft on the set of "Top Gun: Maverick." Doctors also reportedly found flame retardant and pesticides in his blood as well.

This editorial is a written narrative based on a presentation I delivered at a Flying Physicians Association Annual Meeting on aviation toxicology. The points covered are:

- A brief history of the how recognized medical toxicology field
- Basic cdefinitions
- Aviation-related toxic agent examples and their effects on humans
- Specific information sources on various aviation-related toxic exposures

to three-year old children were big enough to get into a poison but not mature enough yet to know better.

Historically, the subspecialty of medical or clinical toxicology was not well recognized until the mid-to-late 1960s. In 1966 a group of academic and practicing pediatricians met in Chicago as the appointed members of the Subcommittee on Accident Prevention (See group photo). Their goal was to study and recognize the unique role of physicians in accident prevention.



This archived photo from the American Academy of Pediatrics does ot identify the participants in the photo. I can identify two: myself (Mark Thoman) on the far left, back row, and Joel Alpert to my immediate left.



In 1954, pediatrician Edward Press organized the first PCC, or Poison Control Center, in Cook County, Illinois. Pediatricians were the primary specialists who oversaw poison centers. This was the case because most calls originated from parents after their toddlers took a potentially toxic substance. These one-

(Continued on Page 8)

Subsequently, in 1968, a group of practicing pediatricians and medical directors of various Poison Control Centers met to create an organization for physicians serving as medical toxicologists.

The new organization was chartered and named the American Academy of Clinical Toxicology, or AACT. In 1975, this organization formed the first physician examining board to administer an oral and written examination to candidates who sought certification in the field of medical toxicology. After several years the American Board of Medical Toxicology (ABMT) was recognized as a conjoint board with pediatrics, emergency medicine, and occupational medicine. The newly recognized specialty organization was named the American College of Medical Toxicology, or ACMT and now requires two years of an accredited toxicology fellowship before taking the board exam.



Left to right: Eric Comstock, AACT founder and first president, Mark Thoman, and Griffith Quinby, second AACT president

Toxicologists are medical professionals who research and identify the impact of chemicals, toxic materials, medications, and radiation and who come from various scientific disciplines including:

- Academic
- Clinical (or Medical)
- Ecotoxicology
- Forensic
- Industrial and pharmaceutical
- Occupational

Definitions: Difference between Toxin and Toxicant

The word “poison” is from the Latin “Potare,” meaning “to drink.” Whereas the word “toxin” is from the Greek “Toxikon,” meaning “(poison) for use on arrows.”

The word “toxin” applies if the foreign material comes from a biological source. In other words, it is only a poisonous substance produced by living cells or organisms.

“Toxicant,” on the other hand, should only be used if the foreign material came from artificial sources. Or the poisonous substance is manufactured and not produced biologically. Examples of toxicants or man-made chemicals are insecticides, bisphenol, and millions of other industrial chemicals.

The toxin is a poisonous substance, especially a protein, produced by living cells or organisms and is capable of causing disease when introduced into the body tissues, but is often also capable of inducing neutralizing antibodies or antitoxins. Some examples of toxins are variously capable of harm to humans. Bacteria and viruses are other examples of toxin production.

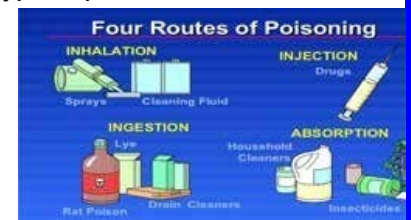
HAZARDS:

- Physical: Hazard that results from energy and matter and the relationship between the two
- Biological: Toxins that cause an illness dependent on their infectious and toxic properties
- Chemical: Agents that are toxic in one form or another, and the reaction will be dependent primarily on dose and duration of exposure

TOXIC EXPOSURES: HOW DO WE GET POISONED?

There are four main areas of poison exposure, one* often not included in a typical poison event:

- Inhalation
- Ingestion
- Injection
- Absorption/Contact
- Radiation*



*RADIATION POISONING

Radiation poisoning is often not included in the discussion of the most common toxic exposures. However, it is in the area of a medical toxicologist’s expertise. The ACMT, as described above, offers medical toxicologists’ courses in diagnosing the treating patients with radiation poisoning.

AVIATION POPULATION AFFECTED

More than a million personnel work in the aerospace industry, including pilots, mechanics, ground and air crews. There are 650,000 pilots (private, commercial, recreational, etc.) and almost 600,000 non-pilot aircrews. Other categories include aircraft mechanics and parachute riggers—flight engineers and navigators.

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HISTORY OF EARLY AVIATION TOXIC EXPOSURES

The first fuel used in aviation also served a second lubrication purpose: castor oil. The typical front position aircraft engines sprayed this on the pilot's face and was the main reason most pilots wore the iconic scarf: to wipe away the oil from their goggles and face. There could also be, of course, a component of ingestion.

BARNSTORMERS



INHALANT DEFINITIONS:

Aerosol: Liquid droplets or particles dispersed in air

Dust: Solids created by handling crushing, grinding, organic and inorganic material that settles via gravity

Fumes: Airborne particulate matter formed by condensation of a solid particle from a gas

Smoke: Suspension in air or aerosol of particles from combustion or sublimation. Usually contains droplets as well as dry particles

Vapor: Gaseous form of a substance that usually is a liquid or solid at room temperatures



TOXIC FUMES

- Simple asphyxiants: CO₂, Halon, Methane
- Chemical asphyxiants: CO, HC, HS
- Upper respiratory tract irritants: (high water solubility) Isocyanates, Sulfur Dioxide
- Lower respiratory tract irritant: (low water solubility) Nitrogen Oxides

CARBON MONOXIDE:*

- This is the most common cause of fatal poisonings in the U. S.
- Incomplete combustion chemical asphyxiant
- Binds to Hb with 256X greater affinity than O₂
- Inhibited Cytochrome P-450
- Engine exhaust gases
- Reciprocating 8.5% CO at takeoff
- Turbine: CO exhaust from warm engine minimal



Carbon Monoxide Concentration Levels

Typical Environment	Health Effects	
Outside in a rural area	0.1 ppm	
Typical indoor level, often encountered outside in cities	0.5 - 5 ppm	
Within feet of a gas stove or furnace in an unvented kitchen	5 - 15 ppm	
Typical concentration in flue gases (chimney) of furnace or water heater	15-20 ppm	Minor long-term cardiovascular and mental effects in vulnerable persons
Maximum allowable outdoor level according to EPA	35 ppm	Increase in cardiac and/or respiratory complaints with constant exposure
Maximum safe level for long-term exposure (up to 8 hours)	50 ppm	Headache and dizziness after 8 hours of exposure. May aggravate existing conditions
Level equivalent to that of a heavy smoker	75 ppm	Fatigue, difficulty concentrating
Polluted city centers, maximum short-term (30 minutes) exposure at work	150 ppm	Nausea, dizziness, headaches, impaired mental function after 2 to 6 hours
Closed garage after car has been allowed to warm up for 2 minutes	400 ppm	Hallucinations, dementia and serious headaches within 1-2 hours; risk of death after 3 hours
Maximum air-free concentration from gas kitchen ranges (ANSI)	800 ppm	Seizures, severe headaches and vomiting in under an hour, unconsciousness in two hours
Near a smoldering wood fire or malfunctioning furnace indoors	1,500 ppm	Headache, dizziness and nausea in under 20 minutes; death within one hour
Undiluted warm car exhaust without a catalytic converter	6,400 ppm	Unconsciousness after two or three breaths; death within 15 minutes.

<https://www.abe.iastate.edu/extension-and-outreach/carbon-monoxide-concentrations-table-aen-172/>

(Continued on Page 10)

SULFUR OXIDES:

- Combustion of sulfur-containing fossil fuels (rotten eggs)
- Upper musosal and respiratory tract irritation
- Chronic exposure can lead to “bronchitis-like” airway disease characterized by mucosal gland hypertrophy

CYANIDES AND PHOSGENE:

- A product of combustion from nylon, foam seats, wool, silk synthetic rubber, and rubber paper polymers
- Isocyanates re-released from polymers and foam
- Phosgene gas can come from burning fluoro-carbons
- S/Sx include eye irritation, coughing, wheezing, and nausea

TOXIC INGESTION (Unintentional) Eating, drinking, or smoking during aircraft preflight checks

- Flying with fuel-contaminated clothing (see below)
- Crews eating, drinking, or handling foodstuffs with contaminated hands or gloves
- Ag pilots who work around potent chemicals (e.g., pesticides) who have contaminated skin/clothing



AVGAS 100LL FUEL

This most commonly used grades of avgas still contain tetraethyllead (TEL). It is a toxic substance used to prevent engine knocking (detonation). There is ongoing research to eventually reduce or eliminate the use of TEL in aviation gasoline. Leaded avgas is currently in several grades with variable lead concentrations.

TEL is an expensive and polluting ingredient in leaded avgas. The minimum amount needed to

bring the fuel to the required octane rating in actual concentrations is often lower than the maximum permissible concentrations. (Unleaded avgas is also available.)

LUBRICANTS

- Relatively non-toxic unless contaminated by PCBs. Also, these agents can be contaminated with gram-negative or gram-positive bacteria, as well as fungi
- Oil-induced dermatitis (allergic as well as irritative)
- Respiratory exposure to oil mist can cause chemical pneumonitis, eye irritation, as well as the lower respiratory tract, in addition to nausea.

FIRE EXTINGUISHING AGENTS

- Halogenated hydrocarbons
- Carbon dioxide
- AFFF: Aqueous Film Forming Foam
- Halon is utilized in automatic fire suppressing systems
- Hazardous: Expanding gas, simple asphyxiant displacing oxygen, illegal in the civilian sector

CUTANEOUS ABSORPTION



HYDRAULIC FLUIDS

- Groups: Petroleum-based castor oil, silicon-based phosphate, ester based
- Prevalent forms “Skydrol” and “Mil Spec 556” dibutyl phenyl phosphate and tributyl phosphate
- Tricresol phosphate: organophosphate-induced delayed neurotoxicity, nerve agent-like activity can cause dermatitis

TOXIC METALS

- Zinc: Used in paint and plating, “metal fume fever”
- Chromium: used in paint and plating and may cause chronic skin ulcers
- Beryllium: Extremely toxic to the lungs
- Cadmium: Used in batteries and electroplating
- “Chrome holes” in the nasal mucosa

(Continued on Page 11)

- Mag-Thorium: No longer used due to radioactive concerns

SOLVENTS AND DEGREASERS

- Lipid solubility causes CNS effects and may also cause contact dermatosis/mucosal irritation of the nose and pharynx, as well as eye irritation
- “Degreaser’s flush:” Vasodilatation with ethanol and TCE
- Impaired neuropsychological performance can manifest with frequent headaches, memory and concentration problems, fatigue, vertigo, and sleep disturbances

INJECTION INCIDENTS

1. The first reported industrial injection incident: 1937

This article describes an injury resulting from tissue penetration from fuel oil from a diesel engine, A motor mechanic, age 47, was testing the jet of a diesel engine by holding the jet towards a cylinder head and just an inch from the tip of the right middle finger. This proximity caused the oil to enter the finger at very high pressure.

C. E. Reees—*Journal of the American Medical Association*, 1936



2. High-pressure injection injuries, though rare, more commonly occur from work-related industrial accidents which use a high-pressure or hydraulic gun. Substances most commonly used in this manner that can be accidentally injected are oil, paint, benzene, and gasoline. They enter the skin and they have the potential to follow anatomical planes with considerable diffuse destruction though the entry wound often appears benign.

Occupational Medicine Volume 61, Issue 7, October 2011, Pages 518-520

RELIABLE SOURCES TO OBTAIN INFORMATION FOR AVIATION TOXIC EVENTS

- Poison Center Hot Line: 1-800-222-1222
- NLM.GOV (HSDB, PUBMED, TOXNET, WISER (see next))
- WISER: Wireless Information Service for

- Emergency Responders
- National Pesticide Information Center Hotline and Web Site: 1-800-858-7379, NPIC@orst.edu
- EPA Hot Line: 1-800-424-9646, Press Option #3

Aviation Toxicology: An Introduction to the Subject and a Handbook of Data JAMA, 1953;153(12): 1134. doi:10

Chaturvedi AK, et al. Aviat Space Environ Med. 1996. PMID: 8775410 Review

–Flight Surgeon’s Check List. 5th Edition, Society of USAF Flight Surgeons

Forensic Sci Int. 2001. PMID: 11566422

Aircraft fires, smoke toxicity, and survival. Hartzell GE. Toxicology 1996. PMID: 9016738 Review

SUMMARY

- As a pilot you may never have to deal directly with an aviation toxicant exposure
- As a “plane builder” you may be dealing with a plethora of potentially troublesome toxicants
- As a passenger there may be limited exposure but, in the example of fueling an aircraft, there may be secondary exposure to consider
- Remember, CO, or carbon monoxide, is a silent killer and must always be considered when a pilot of passenger exhibits symptoms similar to other conditions that affect the brain and cause a decrease in oxygenation (known as hypoxia): headache, nausea, dizziness, and fatigue, especially if more than one person is affected in the area.



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Mental Health and Pilots – Changing the Narrative



By Susan Northrup, MD, MPH
Federal Air Surgeon
*Reprinted with FAA permission from
Federal Air Surgeon Bulletin dated
June 2022*

Two college-level aviation students took their own lives in 2021. We will never know all the reasons they took this tragic action. However, the myth that pilots can't admit to having mental health issues because they fear that they will never get a medical certificate again didn't help. In fact, that myth is a barrier to pilots' getting help when it is desperately needed. As an aviation community, we need to change the narrative from "never admit to mental health challenges because the FAA will ground you forever" to "get the help you need early before the symptoms progress to major depression or anxiety."

Per the National Institutes of Health, in 2020 an estimated 21 million adults in the US have had at least one major depressive episode in their lives. This represents 8.4% of all US adults and it is worse in 18-to-25-year-olds, with 17% reporting a major depression event. The numbers are even higher in adolescents.

The numbers are similar for anxiety disorders. Pilots and people who want to be pilots are affected, too. Most people's symptoms do not start with major depression. They start with milder symptoms that progress over time. There is an opportunity for early intervention.

So, why are there barriers to pilots seeking help? At one time, most mental health conditions led to permanent grounding for civilian and military pilots, but that has not been the case for some time. In fact, in 2020, there were 1,510 pilots flying on anti-depressant medication that would not have been flying prior to 2010. There were 1,719 pilots flying with a diagnosis of substance dependence in remission who would not have been flying prior to 1970.

Unfortunately, not every pilot is given a Special Issuance. Typically, their illnesses required multiple medications to effectively manage their symptoms; their past symptoms were severe; or they continue to be at a high risk for symptoms to recur. The aeromedical [disposition table for psychiatric conditions](#),

which is reviewed and updated frequently, may be found in the Guide for Aviation Examiners.

In addition to severe depression and anxiety, conditions that interfere with judgment, impulse control, and cognition could make airman medical certification challenging. Anyone with an active mental health illness or whose mental status would impair performance or safety should not fly. The last place someone with focus problems or intrusive thoughts should be is in the air.

While people with a history of psychosis, schizophrenia, bipolar disorder, previous suicide attempts, or personality disorders with multiple overt acts are seldom granted waivers, the FAA will carefully review every case on its own merits for consideration. Most people with a history of adjustment disorders, bereavement, dysthymia, mild or moderate depression, personality disorders without overt acts, or substance abuse/dependence, as well as people using an approved SSRI medication -- who are in remission and recovered -- have been granted a special issuance and are eligible to fly again if they meet the requirements for renewal. In some cases, AMEs can even directly issue their medical certificate.

The Office of Aerospace Medicine (AAM) constantly reviews its policies for mental health conditions and processing time frames. Of note, Attention Deficit Disorder (ADD) and Attention Deficit Hyperactivity Disorder (ADHD) policies are under review as current science seems to indicate childhood and adolescent ADD/ADHD can be "outgrown." The FAA SSRI program has been active for just over 10 years. A team is looking at the data to see if the follow up neuropsych testing for renewal requirements can be streamlined or reduced. Further, AAM is considering authorizing additional medications for treatment of pilots. Due to acknowledged delays in processing of mental health cases at the Federal Air Surgeon's level, the Behavioral Health team has been expanded and now includes six professional staff members and a support team.

Here's the myth buster: the FAA has made significant strides to grant airman medical certificates to people with successful treatment of past mental health diagnoses. While we can't approve all of them, we do issue special issuances to many pilots.

Now, we need your help to change the narrative. We can't afford to lose even one more life that could be saved with early treatment that helps that individual successfully recover from their mental health condition. Early treatment is a win-win: the person

gets help more quickly; typically the symptoms are less severe; and obtaining a special issuance is more likely to be successful.

Once the illness progresses past mild or moderate to severe, it can be very difficult to obtain a waiver. As an aviation community, we need to get the message out that mental status is a performance and safety issue. When there is impairment, pilots need to take action – and the sooner, the better before impairment progresses to frank illness. Mental health is health, and getting treatment means getting back to a long future of flying.

One final note: if you are having anxiety, depression, or any other mental health issue, please seek help through your primary care provider or a mental health professional. Get the help you need to get healthy and fit. It is never too late to get assistance.

Susan

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AVIATION MEDICINE ADVISORY SERVICE

Alcohol and Drug Abuse and Dependence in the Aviator – A Guide to Cockpit Return

By David A. Hardy, DO, MPH

Reprinted with FAA permission from Federal Air Surgeon Bulletin dated June 2022

Alcohol and Drug Abuse and Dependence are not uncommon for Aviation Medical Examiners (AMEs) to be confronted with when doing a Medical Certification Exam. For the FAA, both alcohol DEPENDENCE and Alcohol ABUSE (in the last two years) are specifically disqualifying for all classes of pilots.



The FAA defines *Dependence* as at least **ONE** of the following:

- Increased tolerance,
- Manifestation of withdrawal symptoms,
- Impaired control of use, or
- Continued use despite damage to physical health or impairment of social, personal, or occupational functioning.

The FAA defines *Abuse* as:

- Use of a substance in a situation in which that use was physically hazardous, if there has been at any other time an instance of the use of a substance also in a situation in which that use was physically hazardous
- A verified positive drug test result, an alcohol test result of 0.04 or greater blood alcohol concentration, or a refusal to submit to a drug or alcohol test required by the U.S. Department of Transportation or an agency of the U.S. Department of Transportation, or
- Misuse of a substance that the Federal Air Surgeon, based on case history and appropriate, qualified medical judgment relating to the substance involved
- Makes the person unable to safely perform the duties or exercise the privileges of the airman certificate applied for or held, or
- May reasonably be expected, for the maximum duration of the airman medical certificate applied for or held, to make the person unable to perform those duties or exercise those privileges.

Very often, a telltale sign of alcohol Dependence and Abuse is a drunk driving (DUI) conviction. The [DUI disposition decision-making tool](#) provides information on when it is acceptable to issue and when the AME must defer.

If the AME determines he/she cannot issue a medical certificate and defers the case to the FAA, we may require the pilot to see a Human Intervention Motivation Study (HIMS) AME. The pilot will need to have several items submitted from both the HIMS and (possibly) a psychiatrist. Review the [HIMS Drug and Alcohol certification aid](#) for a complete list.

If the FAA requires separate psych and neuropsych testing, they will use the [list of items](#) that must be addressed provided in the AME Guide.

When I was a Military AME, I worked a few cases where the FAA didn't require ALL the items above, and some where they required MORE. It is case-dependent, but the requirements above are ballpark for 90% of the cases. As an example of when the FAA didn't require everything listed above, I helped a recently retired Air Force pilot who completed the Air Force's Drug and Alcohol program (ADAPT) and for 10 years ran the local AA meetings on base. He had an Air Force flying waiver since 2009. In this case, the FAA only required his AME to submit driving records, a personal statement, treatment and ADAPT notes, and reference letters from his commanders.

Expectation management is always an important part of dealing with pilots who need a Special Issuance, and substance Abuse and Dependence is no exception. The entire process can take months if everything runs smoothly. Once in the program, there is a step-down process that takes years to complete. Of note, many pilots choose to never leave the program, as it motivates them to remain sober. The [step down process](#) is described in the AME Guide.

I hope this helps you better understand the process involved in obtaining a Special Issuance for pilots who have substance Abuse or Dependence issues. As always, if you have questions, you can reach out to your Regional Flight Surgeon or the Certification Division.

Dr. Hardy (at the time this article was written) was the Regional Flight Surgeon of the International, Military, and Federal Region and the Manager of the AAM-400 division at the FAA's Civil Aerospace Medical Institute



Minutes of CAMA Space Medicine Committee Meeting: June 18, 2022

By Basil Spyropoulos, MD
Chair CAMA Space Medicine Committee

The committee met via Zoom to continue its discussions regarding the current state of civilian aerospace operations and CAMA's continuing role in educating, and advocating for the domestic and international aviation physician. Ongoing space medicine research is increasingly shedding light on the range of potential medical issues facing the orbital and sub-orbital space traveler. It will likely become increasingly important for many AMEs to have a basic familiarity with such issues.

With this in mind, Dr. Gregg Bendrick, MD, MPH, FAA Aerospace Medicine Certification Specialist at CAMI in Oklahoma City, OK, will be presenting CAMA's first space medicine lecture, entitled "Contemporary Space Medicine", at its annual meeting in Albuquerque, NM on Friday, September 23, 2022 at 9AM. Dr. Bendrick is the former Chief Medical Officer at the NASA Neil A. Armstrong Flight Research Center and will address such issues during his lecture.

In addition to addressing the needs of the AME community directly, CAMA will also be exploring the benefit of outreach to young people who are in their primary and secondary education and will determine if we may be in a position to offer or promote positive STEM experiences for young students. The AME community is aging, with an average age of approximately 62 years. Thus, inspiring young people to prepare themselves for careers in the sciences is an important focus not just for CAMA, but for the entire medical community as it addresses the needs of future generations of practitioners in all medical fields.

For further reading about STEM (Science, Technology, Engineering, and Mathematics) and other educational outreach in aerospace, visit these sites:

- <https://www.amsro.org/>
- <https://www.nasa.gov/stem/about.html>
- <https://aerospace.org/stem>

Readers who are residency trained in emergency medicine may be interested in learning about UCLA's Space Medicine Fellowship, established in 2021.

https://www.emergencymedicine.ucla.edu/education/fellowships/space_medicine

Attendees at this year's CAMA meeting may also be interested in visiting Virgin Galactic's Spaceport America in Truth Or Consequences, NM, (approximately a 2 hour drive south from Albuquerque—about 150 miles). Tours are limited, must be booked in advance and require groups of 8-13 people. (Cost is \$49.99-adults, \$29.99-children under 12).

For more information visit: <https://www.spaceportamerica.com/visit/>.
For tour information, email: cr@finalfrontiertour.com.

(Due to distance and scheduling factors, CAMA is unable to arrange tours as part of the annual meeting curriculum.)

Following is an interesting link to Wikipedia information regarding Space Port America: [Spaceport America - Wikipedia](#),

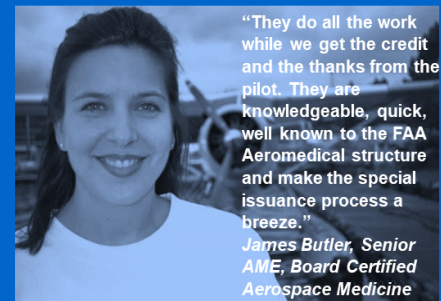


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- *Aerospace Medicine & Human Performance Journal*



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*Erwin Samuelson
Senior AME*



"They do all the work while we get the credit and the thanks from the pilot. They are knowledgeable, quick, well known to the FAA Aeromedical structure and make the special issuance process a breeze."
James Butler, Senior AME, Board Certified Aerospace Medicine



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Home Office Activities and Information



*Sherry Sandoval
CAMA Executive Vice President*

Dues and Membership 2022

CAMA is proud to welcome eighteen new CAMA members so far in 2022! However, there are many long-time CAMA members who have not yet renewed their memberships for this year. If you have not yet paid your dues for 2022, please take care of this as soon as possible.

Please look at the CAMA web site with its 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 on the Members' Lounge page. 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.

The pay online function is a wonderful 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 or experience problems.

2022 Aerospace Medical Association Meeting in Reno, Nevada

The Aerospace Medical Association (AsMA) meeting, took place at the Peppermill Hotel and Casino in Reno, Nevada, in May. CAMA held a four-hour CAMA Sunday program on Sunday morning and will hosted a key note speaker at the CAMA Luncheon on Monday. Both programs were very well-received and garnered excellent reviews! See Page 3 for a full description of these excellent educational programs and how to purchase copies of the five hours of presentations for only \$39.00 from Podiumcast.com, who also records all of the AsMA educational sessions and presentations.

Tim "Chief T" Spencer, Emergency Management Specialist FEMA, Emergency Services Director Reno Air Races Association, was awarded the David P. Millett Oratory Excellence Award during his CAMA Luncheon presentation.



"Chief T" Tim Spencer during CAMA Luncheon keynote presentation.



Chief Tim Spencer receiving David P. Millett Oratory Excellence Award from CAMA President Dr. David Schall.

The 2022 winner of the CAMA-sponsored Tamisiea Award was Clayton T. Cowl, MD, MS, past CAMA President, for his contribution in the application of the art and science of Aviation Medicine in its application to the general aviation field. An Aviation Medical Examiner for nearly a quarter of a century, he has been visionary. He created a center of excellence at the Mayo Clinic sought after by many pilots around the world, dealing with complex aero-medical issues and helping them return to the cockpit safely. Dr. Cowl also helped develop a Fellowship in Aviation Medicine at the Mayo Clinic.

(Continued on Page 17)

Through his active leadership in the management and practice of Aerospace Medicine, he has earned an International reputation of excellence and dedication. Congratulations to Dr. Cow!!

Our Thursday field trip will be to the Anderson Abruzzo Albuquerque International Balloon Museum, where we will tour the various colorful and interesting exhibits covering the history of balloon flight and the various hot air vehicles used over the years. Our dinner, catered by CiCi Martinez of Scarpas, will take place on the plaza level of the museum, overlooking the incomparable views of Sandia Peak and Balloon Fiesta Park. As our meeting takes place close to the time of the Annual Balloon Fiesta, it is very likely that there will be balloons we may observe at the park practicing for the fiesta events. There are a number of hot air balloon companies in Albuquerque who take individuals up for flights (very, very early in the mornings!), so you may wish to book a flight during your stay in Albuquerque.



2022 Tamisiea Award Presentation at AsMA Honors Night. Dr. David G. Schall, CAMA President, Dr. Clayton T. Cowl, Tamisiea Award Recipient, and Dr. James DeVoll, AsMA President

2022 Annual Scientific Meeting in Albuquerque, New Mexico

The Albuquerque CAMA annual scientific meeting will be held from Thursday 09/22/22 through Saturday 09/24/22, at the Hotel Albuquerque Old Town. The hotel is situated right in the middle of the Old Town section of Albuquerque, New Mexico, with tons of shopping and restaurants, with various museums and points of interest within a very short walking distance of the hotel.

Shortly after the conclusion of the AsMA annual meeting, I traveled to Albuquerque to reacquaint myself with the hotel and its recent renovations and to finalize preparations for the meeting. Recently updated sleeping rooms now have new furniture, wood/vinyl flooring instead of carpet, and the lobby is an amazingly huge, cool, southwestern space. There is a great restaurant within the hotel and a soon-to-be opened jazz bar.

Our meeting will take place shortly before the 2022 annual International Balloon Fiesta in Albuquerque, so those who attend the meeting may wish to block off some days after the meeting to participate in the balloon festivities, sightseeing, shopping, hiking, or indulging in the amazing New Mexico cuisine! Santa Fe and Taos are a short drive north of Albuquerque, and there are a number of Native American pueblos nearby for sightseeing and shopping.



Hotel Albuquerque Lobby

Mr. Troy Bradley will be our Honors Night keynote speaker and will be the recipient of the 2022 Forrest and Pamela Bird Recognition Award for his pioneering spirit, his superior safety record, his participation in safety seminars to promote good aeronautical decision-making, pre-flight planning, flight operations, accident and flight reviews, and his contributions to aviation in the sport of ballooning. Troy Bradley is the area's premier balloonist with over 7,732 balloon piloting hours (322 days aloft). He has set 64 World Records and has flown 235 different balloons on 5 continents, in 16 countries, and in 45 US states. Check out additional information regarding this amazing individual and his family at the following link: [Ballooning Bradleys](#).

Mr. Bradley has crossed both oceans in hot air balloons several times in the past, and many of the items in the Hot Air Balloon Museum are his exhibits, photos, equipment, and donations.

(Continued on Page 18)

The 2022 Annual Scientific Meeting program is finalized and has been rated by the American Association of Family Physicians (AAFP) for 23.5 hours of Continuing Medical Education (CME) credits. There is a copy of the program in this edition on pages 21 and 22, along with a registration form. The registration form, hotel link, and program are posted to the Annual Meeting page of the CAMA web site at www.civilavmed.org. Please block the dates on your calendar, as this will be a meeting you will NOT want to MISS!!

As with the 2021 Annual Scientific Meeting, all lectures, presentations, and training sessions will be recorded by Podiumcast.com into a video library to be provided as part of the registration fee to each registered medical professional at no additional cost. A few days after the conclusion of the meeting, each entitled attendee will receive an email with a link and a password to the CAMA annual meeting video library on the Podiumcast.com web site. This library makes an excellent reference for all of the content presented during the meeting.

For those annual meeting attendees who might wish to fly into Albuquerque in their own aircraft, following is FBO information at Albuquerque International Sunport Airport—Cutter Aviation, Clark Carr Loop S. E, Albuquerque, NM 87106. Telephone 505-842-4148. Jessica Rowden, General Manager.
Website: [FBO Services at Albuquerque International Sunport | Cutter Aviation](http://www.fboalbuquerque.com)

walking among those amazing aircraft before dinner in the Atrium!



SAC Museum near Omaha, Nebraska

The DoubleTree has a terrific meeting space, and they have promised that the room rates will be at the Federal Government per diem rate for Omaha in 2023 (currently \$110). The Old Market shopping and restaurant district is within a short walking district of the hotel, as is the river event area currently under development (scheduled for completion in early 2023, with shops, museums, and other interesting venues).

The dates for the 2023 Annual Scientific Meeting are October 5-7, 2023, so please reserve those dates on your calendar and plan to join us for this event.

As a matter of interest, Dr. John A. Tamisiea, for whom the Tamisiea Award is named (CAMA sponsors this award each year at the Aerospace Medical Association [AsMA] meeting) graduated from Creighton Medical School in Omaha, Nebraska, in 1916. Dr. Tamisiea was a founding pioneer of aviation/aerospace medicine. He delivered the very first presentation at the very first meeting of the Aero Medical Association (now known as AsMA) in Detroit, MI, in 1929. He is buried in the Calvary Cemetery in Omaha.



The familiar red and yellow sun symbol used on the New Mexico flag is called the "Zia." The Zia are also an indigenous tribe centered at the Zia Pueblo in New Mexico and are known for their pottery and use of the sun symbol.

2023 Annual Scientific Meeting in Omaha, Nebraska

In late November 2021, I toured a number of hotels and field trip venues in Omaha, Nebraska, which were interested in hosting our 2023 CAMA Annual Scientific Meeting. The DoubleTree Hotel in downtown Omaha has been selected as the site of the 2023 annual meeting, and the Strategic Air Command Museum will be the venue for our Thursday field trip and catered dinner. The beautiful airplanes in the museum were simply impossible to resist, and attendees in 2023 will certainly enjoy



Downtown Omaha

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.

**CIVIL AVIATION MEDICAL ASSOCIATION
ANNUAL SCIENTIFIC MEETING, SEPTEMBER 22-24, 2022
HOTEL ALBUQUERQUE AT OLD TOWN, ALBUQUERQUE, NEW MEXICO 87104**

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:	<input type="checkbox"/>	NO:	<input type="checkbox"/>

SPOUSE/GUEST NAME AND TITLE* IF APPLICABLE:

NOTE: There is a \$575.00 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. If your guest is also a medical professional in need of CME, please provide that information and titles.)

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:
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EMAIL (REQUIRED):	CELL PHONE:
--------------------------	--------------------

DO YOU OR YOUR GUEST HAVE ANY SPECIAL DIETARY NEEDS?	YES:	<input type="checkbox"/>	NO:	<input type="checkbox"/>	PLEASE DESCRIBE: (Vegan, Vegetarian, Gluten Intolerant, etc.) and indicate which individual.
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REGISTRATION FEE MAY BE PAID BY CHECK (U.S. DOLLARS) OR CREDIT CARD

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AUTHORIZED CHARGE AMOUNT (U. S. DOLLARS):

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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):

[Hotel Albuquerque at Old Town - Reservations - Room Availability \(synxis.com\)](https://www.synxis.com)

THIS IS A SPECIAL LINK EXCLUSIVELY FOR CAMA MEETING ATTENDEES TO USE TO RECEIVE THE CAMA ROOM RATE OF \$149.00, PLUS APPLICABLE FEES AND TAXES. ALL RESERVATIONS MUST BE MADE BY AUGUST 31, 2022, TO RECEIVE THE CAMA RATE AND FOR AVAILABILITY. ROOMS AFTER THAT DATE ON AVAILABILITY BASIS ONLY.

CAMA MEMBER REGISTERED ON OR BEFORE AUGUST 31, 2022	-----\$ 925.00 U. S. DOLLARS
CAMA MEMBER REGISTERED AFTER AUGUST 31, 2022	-----\$ 975.00 U. S. DOLLARS
SPOUSE/GUEST OF ATTENDEE	-----\$ 575.00 U. S. DOLLARS
*NON-MEMBER REGISTERED ON OR BEFORE AUGUST 31, 2022	-----\$1100.00 U. S. DOLLARS
*NON-MEMBER REGISTERED AFTER AUGUST 31, 2022	-----\$1150.00 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 Hot Air Balloon Museum 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 2022 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



THE CIVIL AVIATION MEDICAL ASSOCIATION ANNUAL SCIENTIFIC MEETING September 22-24, 2022

"EVOLVING TREATMENT AND CERTIFICATION IN CONTEMPORARY AEROSPACE MEDICINE"

WEDNESDAY, SEPTEMBER 21, 2022

03:00 PM to 06:00 PM **CAMA Board Meeting**
Pottery

07:00 PM to 09:00 PM **Meeting Registration**
Hotel Albuquerque Lobby

THURSDAY, SEPTEMBER 22, 2022

07:00 AM to 08:00 AM **Breakfast Buffet**
Alvarado E

08:00 AM to 08:30 AM **Welcome and Introductions**
Alvarado FGH

- **Welcome from CAMA**
David G. Schall, MD, MPH
President, CAMA
- **Welcome from CAMA**
Sherry Sandovai
Executive VP, CAMA
Schedule & Field Trip Info

- **Welcome from FAA/CAMI**
Gary Sprouse Program Manager, FAA
Aerospace Medical Education Division,
Oklahoma City, OK (Video instruction
regarding AMIE test module)

8:30 AM to 9:30 AM **"AME Program Overview and Performance"**
David M. O'Brien, MD, MPH
Manager, FAA Certification
Division, Oklahoma City, OK

9:30 AM to 9:45 AM **Morning Break**

09:45 AM to 10:45 AM **"Aeromedical Assessment Updates from the Federal Air Surgeon's Office"**
Brett A. Wyrnick, DO, MPH,
Deputy Federal Air Surgeon,
Washington, DC

10:45 AM to 11:45 AM

"Certification Issues – CACI Conditions and Working with the Online Guide for AMEs"
Courtney D. Scott, DO, MPH
Medical Officer, FAA Aerospace
Medical Education Division,
Oklahoma City, OK

11:45 AM to 12:45 PM

Luncheon Buffet
Alvarado E

12:45 PM to 01:45 PM

"Mental Fitness to Fly:
"Pathway to Psychiatric
Certification"
Daniel Danczyk, MD, MPH
Deputy Chief Psychiatrist, FAA
Washington, DC

01:45 PM to 02:45 PM

"Medical Legal Issues"
Brian K. Khan, JD, Senior
Attorney, FAA Office of Chief
Counsel, Enforcement Division,
Washington, DC

02:45 PM to 03:00 PM

Afternoon Break

03:00 PM to 04:00 PM

"Update on Medical
Certification of Cardiac
Conditions"
Andrew H. Miller, MD, FAAC
Cardiology, The Heart Place
Dallas/Fort Worth, Texas

04:00 PM 5:00 PM

"Atrial Fibrillation,
Anticoagulation, Ablation and
Appendages – The Current and
Future For Embolus Mitigation"
Timothy J. Ingall, MBBS, MD,
Neurology, Mayo Clinic,
Phoenix, AZ

05:30 PM – 5:45 PM

Load Buses for Field Trip

**Field Trip to the Albuquerque
Hot Air Balloon Museum and
Catered Dinner**
Casual dress and comfy shoes
recommended.

06:15 PM – 10:00 PM

FRIDAY, SEPTEMBER 23, 2022

07:00 AM to 08:00 AM

Breakfast Buffet
Alvarado E

08:00 AM to 09:00 AM


"The Aging Aviator"
Fred A. Furgang, MD
Anesthesiology, Senior AME,
HIMS, Miami, FL

CAMA

ANNUAL SCIENTIFIC MEETING

Hotel Albuquerque at Old Town
800 Rio Grande Blvd, NW
Albuquerque, NM 87104
Telephone: 505-843-6300

September 22-24, 2022

09:00 AM to 10:00 AM	"Contemporary Space Medicine" Gregg Bendrick, MD FAA Aerospace Medicine Certification Specialist, CAMI Oklahoma City, OK	Troy Bradley, International Premier Balloonist/Balloon Pilot Albuquerque, NM	05:00 PM	Adjourn**
10:00 AM to 10:15 AM	Morning Break	9:30 PM to 9:30 PM Awards ceremony	**Please pick up your CME Certificate from the CAMA table.	
10:15 AM to 11:15 AM	"Potential Aeromedical Implications of Long Covid" Greg Vanichkachorn, MD, MPH Aerospace Medicine/Family Medicine/Occupational Medicine Mayo Clinic, Rochester, MN	SATURDAY, SEPTEMBER 24, 2022	To receive FAA credit for recertification/refresh training, you must complete the FAA test online no later than Tuesday, September 27, 2021.	
11:15 PM to 12:15 PM	"Aviation Neurology Update" Alison Leston, MD, MPH Associate Professor, Dept. of Neurology & Neurotherapeutics, UT Southwestern Medical Center Dallas, TX	07:00 AM to 08:00 AM Breakfast Buffet Avarado E	No CAMA dinner is planned for Saturday evening. You are free to plan your own activities for the evening or to depart for home if you prefer.	
12:15 PM to 01:15 PM	Luncheon Buffet Avarado E	08:00 AM to 09:00 AM "Obstructive Sleep Apnea and Fatigue" David G. Schall, MD, MPH Neurologist, CAMA President CAMI, Oklahoma City, OK	Emergency Contact During the Meeting: Sherry Sandoval, CAMA EVP Call or Text 770-487-0100	
01:15 PM to 2:15 PM	"Medications & Biologics in Aviation" Vinh "Vickie" Kieu, PharmD, BCACP, FAA Clinical Pharmacist Washington, DC	09:00 AM to 10:00 AM "Ophthalmology FAA Updates" Alan Kozarsky, MD Ophthalmology, Senior AME Atlanta, GA	PROGRAM OBJECTIVES:	
2:15 PM to 2:30 PM	Break	10:00 AM to 10:15 AM	<ul style="list-style-type: none"> 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 aeronautical certification system To comprehend the legal aspects of being an AME 	
02:30 PM to 03:30 PM	"Alcohol and Drug Use: Roadmap to Certification" Christopher F. Flynn, MD FAA Assistant Chief Psychiatrist Washington, DC	10:15 AM to 11:15 AM "ENT FAA Update" David G. Schall, MD, MPH Neurologist, CAMA President CAMI, Oklahoma City, OK	This program is approved for FAA-AME training.	
3:30 PM to 4:30 PM	"History of Aerospace Medicine" David G. Schall, MD, MPH Neurologist, CAMA President CAMI, Oklahoma City, OK	11:15 AM to 12:15 PM "Advances and Innovations in the Treatment of Diabetes" Yogish Kudva, MBBS, Endocrinology Mayo Clinic, Rochester, MN Avarado E	CME Credit:	
04:30 PM to 5:00 PM	"Neuropsychology Study – OHSU" R. Roman Murphy, MBChB, Neurologist, CAMA VP of Education, CAMI, Okla. City, OK	12:15 PM to 01:15 PM "Infectious Disease and Air Travel Coronavirus Update" Richard S. Roth, MD, Professor Internal Medicine, Memorial Health Univ. Med Ctr, Mercer Univ. School of Medicine Savannah, GA	The AAFP has reviewed CAMA Annual Scientific Meeting and deemed it acceptable for up to 23.50 Live AAFP Prescribed credits. Term of Approval is from 09/22/2022 to 09/24/2022. Physicians should claim only the credit commensurate with the extent of their participation in the activity.	
6:00 PM to 7:30 PM	CAMA Honors Night Banquet Avarado E Dress is business casual – more formal wear optional	02:15 PM to 02:30 PM Afternoon Break	Civil Aviation Medical Association P. O. Box 823177, Dallas, TX 75382 Phone: 770-487-0100 FAX: 770-487-0080 Email: civilavmed@aol.com Web Site: www.civilavmed.org	
7:30 PM to 9:00 PM	Keynote Presentation: "Pushing Ballooning Boundaries – Planning, Human Factors, Medical Factors, and Safety Issues" Alison Leston, MD, MPH Neurology Andrew H. Miller, MD, Cardiology Christopher F. Flynn, MD, Psychiatrist David G. Schall, MD, MPH, Neurology/ENT/ Aerospace Medicine Alan Kozarsky, MD, Ophthalmology	02:30 PM to 05:00 PM Case Study & Panel Discussion: "Would You Fly with This Pilot? – Aeromedical Decision-Making" Moderator: Brett Wyrick, DO, MPH, Deputy Federal Air Surgeon Washington, DC		

EDUCATIONAL OPPORTUNITIES

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

With the potential travel and meeting restrictions imposed by COVID-19, opportunities for AME training and CME may 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 may be moved to a Zoom format if necessitated by COVID-20 restrictions. Click the link below to access the course schedules 2022:

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

NOTE: See the following page of this publication for a list of all 2022 courses and dates.

FEDERAL AIR SURGEON'S PILOT MINUTE VIDEO FILES (To activate each link, use "control" and "mouse click" at the same time)

[Pilot Minute: What should I do if I have depression or anxiety?](#)

[Pilot Minute: Why is it important to assess my health before piloting an aircraft?](#)

[Pilot Minute: Why is it important to do a PRICE check before and during a flight?](#)

[Pilot Minute: Why is it important to be careful with over-the-counter cold and sleep medications?](#)

[Pilot Minute: Why is acceleration tolerance important for general aviation?](#)

[Pilot Minute: What are the most essential items for a good survival kit?](#)

[Pilot Minute: What's going on with the Aeromedical Summit?](#)

[Pilot Minute: What are some tips for speeding up my medical certification?](#)

AVIATION MEDICAL EXAMINER (AME) SEMINAR SCHEDULE

For full information, visit the FAA web site at: https://www.faa.gov/other_visit/aviation_industry/designees_delegations/designee_types/ame/seminar_schedule/

DATE OF SEMINAR	SEMINAR LOCATION	SEMINAR TYPE
July 18-22	Oklahoma City, OK*	Basic**
August 5-7	Washington, DC*	Refresher**
September 22-24	Albuquerque, NM	CAMA
October 24-28	Oklahoma City, OK*	Basic**
November 18-20	Oklahoma City, OK*	Refresher**

* The 2022 seminar schedule shown MAY change to virtual format should COVID-19 protocols change in 2022.

** We (FAA) recommend that you make sure all travel and lodging reservations are refundable. While scheduled to proceed as an in-person seminar, it may be rescheduled as a virtual seminar with little notice. This seminar will open for registration when the contract is approved and hotel room block information is received.

Register for a Refresher Seminar

Registration opens **three months** prior to the start date of the seminar. To register for a refresher seminar, you will need an account to access the Designee Registration System (DRS). Please review the instructions (PDF) on the FAA web site for creating a DRS account. Registration is open to the FAA Aviation Medical Examiner (AME)

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.

Accreditation Statement

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

Seminar Types

Basic

A 4 1/2 day AME seminar focused on preparing physicians to be designated as Aviation Medical Examiners. Contact your Regional Flight Physician

Refresher

A 2 1/2 day AME refresher seminar consisting of 12 hours of AME specific subjects. You must use the Designee Registration System (DRS) to register for a seminar.

Aerospace Medical Association (AsMA)

A 3 1/2 day AME seminar held in conjunction with the Aerospace Medical Association (AsMA). Registration must be made through AsMA. Call 703-739-2240, extension 106/107. A registration fee is charged by AsMA to cover their overhead costs. Registrants have full access to the AsMA meeting.

Civil Aviation Medical Association (CAMA)

Sanctioned by the FAA, this seminar is sponsored by the Civil Aviation Medical Association (CAMA) and does fulfill the FAA recertification training requirements. Registration may be completed through the CAMA web site (www.civilavmed.org) or by calling CAMA at 770-487-0100

AME MINUTE 2021-2022 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 most recent AME Minute issuances, 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/

September 2021 <https://www.faa.gov/tv/?mediald=2298> Why should AMEs review visits to health professionals?

August 2021 <https://www.faa.gov/tv/?mediald=2294> Why would a pilot need an interim medical certificate?

July 2021 <https://www.faa.gov/tv/?mediald=2288> Why would a pilot need a verbal authorization?

June 2021 <https://www.faa.gov/tv/?mediald=2286> Why did I receive a letter about a vision restriction?

May 2021 <https://www.faa.gov/tv/?mediald=2282> Why does the FAA disallow AMEs from using PRNC?

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

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

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

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

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

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

August 2020 <https://www.faa.gov/tv/?mediald=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/?mediald=2241> – Why can breast cancer be issued by an AME?

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.

Civil Aviation Medical Association

Sustaining, Corporate, and Life Members

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

Corporate Members & Sponsors

AirDocs Aeromedical Support Services
Gregory Pinnell, MD
MBS International Airport
8430 Garfield Road
Freeland, MI 48623
www.airdocs.net

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John Taylor, National Pilot Assistance Chair
7950 Jones Branch Drive, Suite 400 S
McLean, VA 22102
www.alpa.org

Allied Pilots Association
14600 Trinity Boulevard, Suite 500
Fort Worth, TX 76155
www.alliedpilots.org

Aviation Medicine Advisory Service
15530 E. Broncos Parkway, Suite 350
Centennial, CO 80112
www.aviationmedicine.com

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3022 Morgans Point Road, Suite 204
Mount Pleasant, SC 29466
AME Pilot Medical Advertising
Advertising@DFmailing.com

Harvey Watt & Company, Inc.,
P. O. Box 20787
Atlanta, GA 30320-9990
www.harveywatt.com

MedAire, Inc.
4722 N. 24th Street, Suite 450
Phoenix, AZ 85016
www.medaire.com

Pilot Medical Solutions, Inc.
David Hale, CEO
5901 Philip J. Rhoads, Suite 118
Bethany, OK 73008
www.leftseat.com

Wingman Med, LLC
225 N. Pace Boulevard, Suite 410
Pensacola, FL 32505
PilotDoctors.com
www.wingmanmed.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
eMail: civilavmed@aol.com



Life Members

Prof. Michael Bagshaw, MB BCh
Raymond S. Basri, MD, FACS
Sanjeev Batra, DO
Kris M. Belland, DO, MPH
Michael A. Berry, MD, MS
David E. Blocker, MD, MPH
Michael Boyer, MD
Bascom K. Bradshaw, DO, MPH
John R. Capurro, MD
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Salil C. Tiwari, MD
Lars Tjensvoll, MD
Bruce A. Van Dop, DO
Stephen J. H. Veronneau, MD, MS
Alex M. Wolbrink, MD, MS

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

Bascom K. Bradshaw, DO, MPH
511 Prestwick Drive
Dothan, AL 36305
HIMS, AOA, AsMA
Specialty: Psychiatry/Aerospace Medicine
Life Membership

Anil Chopra, MD
5936 Clifton Oaks Drive
Clarksville, MD 21029
Senior AME
Specialty: Internal Medicine

Kent D. Gaylord, MD
P. O. Box 1229
Telluride, CO 81435
Senior AME, Pilot, AAFP
Specialty: Family Practice

Danny S. Julian, MD
102 Westridge Lane
Woodway, TX 76712
Senior AME, Pilot, EAA, AAFP
Specialty: Family Medicine
Life Membership

New Members (Continued from Page 27)

Joseph Kimball, DO
1410 Highway 169
Winterset, IA 50273
Senior AME, AAFP
Specialty: Family Practice

Alan S. Seifer, MD
4720 S. Lejeune Road
Coral Gables, FL 33146
Senior AME, AAFP
Specialty: Family Practice

Theron Toole, MD, MPH
15125 Cane Harbor Boulevard
Corpus Christi, TX 78418
Senior AME, AsMA, AOA
Specialty: Cardiology/Aerospace Medicine/
Preventive Medicine

Stephen J. H. Veronneau, MD, MS
27427 12th Place S
Des Moines, WA 98198-9418
Regional Flight Surgeon, Northwest Mountain
Region, Senior AME, Pilot, EAA, AsMA
Conversion to Life Membership
Specialty: Aerospace Medicine

Ernest Yong, MD
A28-03 Suasana Condominium
2 Jalan Stesen Sentral 5
Kuala Lumpur, WP, 50470, Malaysia
Senior AME
Specialty: Family Medicine

Sustaining Members

Gary Crump, AOPA
Ron McGaugh, MD
Richard Ronan Murphy, MBChB
Reddoch Williams, MD
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CAMA MEMBERSHIP DUES NOTICE FOR 2022



(*Required Information)

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

AME NUMBER:		SENIOR AME?	YES		NO	
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Permission to add name and address to the CAMA Web Site in the Members Only Section?	YES		NO	
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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.

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TOTAL AMOUNT/AUTHORIZED CHARGE \$	
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Check if you are a member of:

*PILOT	YES		NO	
*AME	YES		NO	
*AMA	YES		NO	
*HIMS	YES		NO	
*AOA	YES		NO	

*EAA	YES		NO	
*AOPA	YES		NO	
*FPA	YES		NO	
*AAFP	YES		NO	
*AsMA	YES		NO	

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

(*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.



CAMA CORPORATE MEMBERSHIP FOR 2022



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. You may pay corporate dues online on the "Members Lounge" page of the CAMA web site at www.civilavmed.org

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Check Enclosed # _____ MasterCard _____ VISA _____ AMEX _____

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Expiration Date: _____ Authorized Amount \$ _____

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P. O. Box 823177
Dallas, TX 75382
FAX: 770-487-0080
Telephone: 770-487-0100
email: civilavmed@aol.com

PLEASE PRINT (* required information)

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*Phone: # () _____

Cell # of Contact Person(s): () _____

Fax: # () _____

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(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.