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Flight Physician



A publication of the Civil Aviation Medical Association

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SPECIAL NEWS:

Last Call for Annual Scientific Meeting Registration!!

This is **last call for registration** to attend the 2023 CAMA Annual Scientific Meeting Registration. The meeting takes place October 5-7, 2023, at the DoubleTree Downtown Hotel in Omaha, Nebraska. You may register using either the registration form included in this publication on Page 19, or you may use the online registration and payment module on the Annual Meeting page of the CAMA web site at www.civilavmed.org.

See Page 2 for CAMA's cancellation policy. If you have made arrangements to attend the annual meeting and need to cancel your registration, timing is critical in order to avoid additional charges. Once the catering guarantees have been turned in to the hotel, the food charges cannot be refunded. This year, the catering reports will be provided to the hotel and to the outside caterer for the SAC Museum visit on September 13th.

A copy of the meeting program is posted on Pages 17 and 18 for your perusal. The meeting is approved by the FAA for AME refresher/recertification and has been rated for 23.0 hours of CME by the AAFP. This program, as part of the CAMA 2023 Annual Scientific Meeting, will be the last opportunity in 2023 to attend an AME refresher course. Check with your Regional Flight Surgeon to ascertain whether you require refresher/recertification this year in order to maintain your AME status.

See Page 13 for a review of this year's annual meeting activities, along with the Executive Vice President's news on Pages 15 and 16.

If you have any questions or concerns, please contact the CAMA Home office by telephone or email. Articles for future editions of the CAMA newsletter are always appreciated. We look forward to hearing from you soon.



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 about 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 \$75.00, 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 September 13, 2023.

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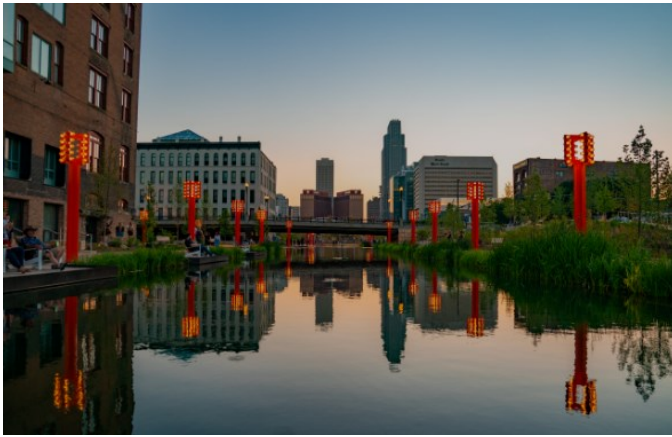
CAMA President's Message



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

OH MY
GOSH

Nebraska!



Here we come! The last vestiges of the Summer solstice are fleeing us, and soon our Fall meeting will be upon us. I hope you had a wonderful fun-filled summer.



I know that those of you who able to attend the 70th Anniversary of Air Venture up at Oshkosh, WI, had an awesome time!



I am looking forward to our meeting in Omaha! Doctors Ronan Murphy and Alison Leston have a great line up of speakers assembled. Our Thursday evening catered dinner will include a tour of the Strategic Air Command & Aerospace Museum.



B-36 Peacemaker



B-29 Superfortress



U-2C Dragon Lady

(Continued on Page 4)



Dr. John A. Tamisiea

I will be sharing in Omaha about one of the early Pioneers in Aviation Medicine, John Alexander Tamisiea, MD, who is from the Omaha area and is also buried there. He was there at our very beginning, attended the first Aviation Medicine meeting, and presented the first paper at that ground-breaking meeting. He was also President of CAMA and ASMA and our very own Tamisiea Award honors his legacy each year.



Dr. Byers "Bud" Shaw

Our Honors Night speaker will be Dr. Byers "Bud" Shaw. He trained under the Pioneer Liver Transplant Surgeon Dr. Thomas Starzl MD, PhD, and later created a center of excellence at the University of Nebraska for Liver Transplantation. He is an internationally known Surgeon as well as accomplished Pilot, who will share vignettes about his career, rising to the pinnacle and the challenges of knowing when to stop as a career Physician. He will provide insights into dealing with the impaired provider and his cancer journey. He has written a book about his career called "Last night in the OR" available on Amazon. Dr. Shaw will be accompanied to the Honors Night Banquet by his lovely wife, Rebecca Shaw, who is a Novelist, Poet and Artist in her own right.

I look forward to seeing you all in Omaha this October!

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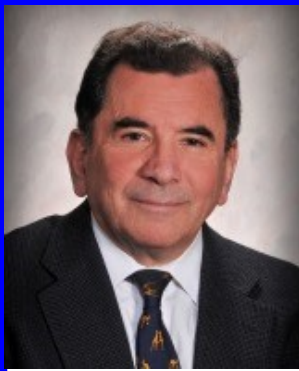
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Matthew M. Cooper, MD MBA FACS FAsMA FCAMA
Chief Medical Officer Medical Solutions & Global Director Safety, 3M Health Care

Dr. Cooper serves as Global Senior Medical Director and Director, Patient Safety for 3M's Health Care Business Group. He has previously served as Medical Information Director at 3M's Health Information Systems. He is a Diplomat of the American Boards of Thoracic Surgery and Surgery, and a Fellow of the American College of Surgeons (FACS). He is a graduate of Franklin & Marshall College (BA, Mathematics & Biology), New York University School of Medicine, and Watson Graduate School of Management, Spears School of Business, Oklahoma State University (MBA). In addition to Residencies and Chief Residencies in General Surgery (New York University Medical Center, The University of Iowa Hospitals & Clinics) and Thoracic Surgery (Columbia Presbyterian Medical Center), he also completed a Medical Staff Fellowship in the Surgery Branch of the National Heart, Lung & Blood Institute of the National Institutes of Health (NIH) and a Fellowship in Pediatric Cardiothoracic Surgery and Transplantation at The Hospital for Sick Children, Great Ormond Street, UK. He has also studied Health Policy at the John F. Kennedy School of Government, and Comprehensive Medical Simulation, both at Harvard University.

Dr. Cooper's research has included pioneering methods of immunosuppression for primate cardiac xenograft transplantation. In addition to his 3M responsibilities, he serves in multiple capacities at the University of Minnesota as a member of the Industrial Advisory Board of the Institute for Engineering in Medicine, the Executive Planning Committee for the Design for Medical Device Conferences, and a member of the Pediatric Device Innovation Consortium. Dr. Cooper is also a member of the AdvaMed Pediatric Working Group, the Pediatric Device Breakthrough Collaborative, and the Fetal Therapy Think Tank.

Dr. Cooper is a Senior Aviation Medical Examiner, expert in Aviation Physiology, and a Special Consultant to the Federal Air Surgeon. He is a commercial pilot, flight instructor, and aerobatic and formation air show performer, and has flown a variety of single and multi-engine, general and military aircraft. He has been a leader in the application of aviation-based safety culture to health care.

The Future is Here* (Part 1 of 2)

***This article contains material previously presented during CAMA Sunday at the recent AsMA Meeting in New Orleans, May 21, 2023, and CAMI Group Meeting July 18, 2023.**

Steve Jobs was quoted as saying: "We're here to put a dent in the universe. Otherwise why else even be here?" This concept applies beyond product design and innovation. In fact, the rest of the universe is getting closer in several ways. This first of a two-part series will begin with a sampling of the current realities of extra worldly pursuit and exploration. Part two will return to earth for a closer and perhaps more familiar exploration of augmented human cognition and performance, and the future of digital health. It will also converge the foregoing in a call for needed coherent generational achievement(s). The consistent takeaway from all content should be the exciting times we are living in.

We are no longer limiting our sights to the moon... nor limiting explorers to trained crews. SpaceX, Blue Origin, and most recently Virgin Galactic have delivered civilian crews safely to variable levels of low earth observation. This has immediately and consequentially forced us to consider the physiology of participants in commercial space exploration. With a variable and potentially physiologically abnormal human substrate, what is the required/necessary adaptation to the abnormal environment of space...to survive, tolerate, function, and perform? Further we are learning that there may be

long-term and permanent sequelae of sojourns in reduced gravity. Captain James Tiberius Kirk has indeed been to space at age ninety. We are at the juncture of the need for unifying focus, and we cannot dwell only in perfection of the present at the expense of the future. The future is here....

One aspect of concerted effort is exemplified by the Translational Research Institute for Space Research (TRISH) at Baylor College of Medicine. This is a virtual institute empowered by the [NASA Human Research Program](#) to solve the challenges of human deep space exploration. Its consortium includes partnerships with Caltech and MIT to pursue and fund novel research to deliver high-impact scientific and technological solutions that advance space health and help humans thrive wherever they explore, in space or on Earth. It is prototypical of developing centers of shared translational science. We know that what we learn for and in space has dramatic applications here on earth – the Apollo program showed that.

Simultaneously, the fabric of space and our interaction with it are already being transformed from the finite space industry to the infinite space economy already valued at \$1.7 trillion (Inter Astra,

(Continued on Page 6)

Charles F. Bolden Group).

You might ask, "Why do we care about space?" We do so for the understanding of and benefits to the earth, for the survival of humanity, and for our innate need for exploration (Figure 1). Value for space has always been bidirectional with value from space. The terrestrial return on investment in the growing space ecosystem has the potential for generational achievements on earth, for which there is ample historic precedent.



Figure 1. The earth as view from the Apollo program.

First, we are mapping where we are physically and in time. A framework for such study was presented by Dr. John C. Mather, JWST Senior Project Scientist, NASA Goddard Space Flight Center, and Nobel Laureate, in his Keynote at Beyond the Cradle, MIT Media Lab, March 2023. He asked:

“Where did we come from?
What is our cosmic history?
Are we alone? Where are the neighbors?
Is life a miracle or a thermodynamic Imperative?
How far can we go?”

He went on to share what guides his vision:

If it's not forbidden its required
(from particle physics).
If there's no law of nature against it
The universe is large. It's happening somewhere.
It might be worth trying here.
Build to discover.
If you can imagine it (in detail) you can build it.
Humble arrogance: we don't know yet, but we will.
AND
Build the tool that was never built before, to discover
what was never known before.

Further he enticed all to participate by suggesting:
“What if we could feel in our bones, that our work matters to all humanity?”

We are gleaning input for the map of our

surroundings with tools such as the James Webb Space Telescope (JWST, Figure 2). You have probably seen some of the magnificent images from JWST that was designed to look back in time to the first galaxies (~100 million years). Coming next is the Nancy Grace Roman Observatory which will hunt for dark energy and exoplanets. Due to launch in 2027, it will have superior instrumentation and a much larger field of view with a coronagraph that allow us to image planets within the glare of their parent star's light that are about one thousand times fainter than JWST can see.

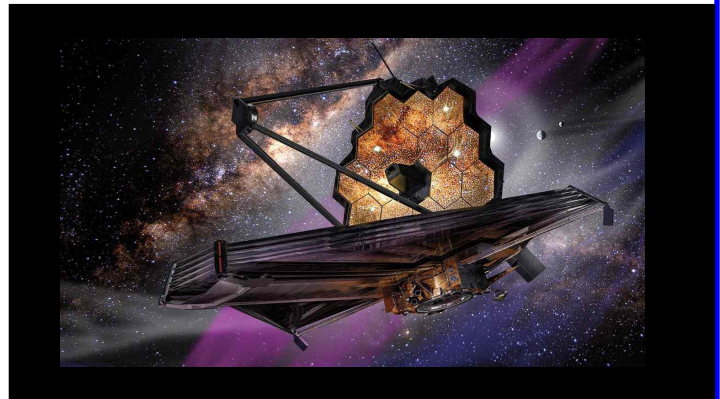


Figure 2. James Webb Space Telescope (JWST NASA)

NASA's flagship mission to follow the Nancy Grace Roman Space Telescope will be known as the Habitable Worlds Observatory (HWO; estimated launch 2040). It is being designed to boldly and audaciously answer the question: "Are we alone?" It will position detection of alien life as a reachable goal. Because this observatory will work with optical light, which has a shorter wavelength than the infrared captured by JWST, the integrated mirrors will need to be perfectly shared to a level of one picometer – one millionth of one millionth of one meter – compared to billionths of a meter for JWST. Its concept includes a robotic star shade (coronagraph) floating more than 100,000 kilometers away to screen out the light of an exoplanet's star (Figure 3). However, it will have to improve on that of the Roman Telescope's coronagraph which can block out the light of a star one hundred million times



HABITABLE WORLDS OBSERVATORY (HWO) → Are we alone?

(Continued on Page 7)

brighter than its planet; the HWO's will have to cope with stars that are ten billion times brighter. Further, remote robotic modular serviceable design will reduce risk and extend the life of the observatory by increasing feasibility of upgrades.

Shifting focus, how does man plan to dwell in space. You are likely familiar with the International Space Station (ISS), due to be defunctionalized by 2030. There are currently four orbiting commercial space stations planned, in addition to the Chinese station. Perhaps the furthest along is Orbital Reef, a collaboration of Blue Origin/Amazon, Boeing, and Sierra Space. The team from Orbital Reef envisions thousands to millions working in space in next generation shared facilities in low earth orbit. Activities will include research and study of physical, biological, and earth sciences, material and product development, manufacturing, and related commercialization. It is estimated that 80% of what is launched currently is intended to protect the payload. Manufacturing in space of accumulated raw materials offers paradigm change. Crystals for drug manufacture and synthetic retinæ for patients with macular degeneration are already being synthesized in low earth orbit. In parallel, the MIT Media Lab is looking at inclusive design strategies for microgravity. Such focus on designing for those with disabilities illuminates benefits for all.

Proceeding apace as well is the Artemis program. Next up is revisitation to the moon with multiple designs of compatible extended duration lunar landers and practical issues to figure out such as creating the best cement for construction from moon dust/regoliths. A vital component of NASA's Artemis program is the Lunar Gateway, previously known as the Deep Space Gateway, a planned space station in lunar orbit to serve as communication hub, science laboratory, and short-term habitation module. It is intended to serve as a multipurpose outpost providing essential support for long-term human return to the lunar surface and a staging point for deep space exploration.

Human Systems Integration is obviously a critical consideration in all of the foregoing. It represents exceptional challenge to our physiology impacting the success of all related endeavors. We speak of the abnormal environment of flight and now of space. We have dealt with the abnormal (to us) environment of the oceans for some time, including rebreathers, SCUBA, altered air

mixtures, and technical diving capabilities. We have dealt with physiologic limitations by training, acclimatization, etc. and even use NEEMO (NASA Extreme Environment Mission Operations) on the floor of the Atlantic Ocean to train astronauts.

As we consider examples of specific challenges to our physiology in altered gravity, I would ask you to ponder whether more than adaptation is required. In the low gravity of orbit, there is estimated to be a two-liter fluid shift from the legs to head, neck and upper torso – a “reverse” lymphedema. Coincident with the same is a significant decrease in plasma volume related to increased capillary membrane permeability. Such fluid shifts have in part increased attention to lymphatic function, the endothelial glycocalyx, and alternative biomechanical theories such as biotensegrity*. This latter concept describes an integrated system in which cells, tissue and body parts (every part of an organism) use fluidity to dissipate energy from movement and deformation while maintaining structural integrity. All body parts aggregate to form a complete functional unit to withstand force/unnecessary deformation with minimal energy expenditure. Such structural support is not limited to bone and muscle. The lymphatic system has a role in immune function and the endothelial glycocalyx (eGCX) is of increasing focus in various disease states, including the very function of the blood brain barrier (1). Exposure to microgravity dysregulates brain and ocular systems with intracranial effect that may become increasingly significant with increasing duration, such as MRI-visible perivascular space changes with long-duration spaceflight (2-4). Fortunately, biomarkers have been determined that are useful for both detection and surveillance of brain injury and degeneration after long-term spaceflight (5).

(Continued on Page 8)

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Jugular venous thrombosis has been detected and treated during spaceflight and hypoalbuminemia reported in female astronauts who used combination oral contraceptives and some male astronauts (6,7). Albumin has direct effects on the integrity of the eGCX and blood viscosity (8). The addition of microgravity-associated inflammation and other direct effects on the eGCX have been incorporated in a unifying proposed hypothetical mechanism (7). The discovery of mechanical force sensors present in the cell membrane (Piezo 1 and 2 channels) that transduce mechanical stimulation to intracellular signals leading to tissue damage and inflammation have been implicated in an array of pathologic states and are another example of basic science studies with implication to the human exposure challenge in microgravity that then bounce back to enhance insights for treating those on earth (9). Further extending the fundamental importance of such concepts is that high intensity interval training used in space and known to improve health and fitness on earth may work in part through effects on the microvascular glycocalyx (10). Central venous pressures have been measured to be lower than normal in zero gravity and proposed related mechanisms responsible for deconditioning of space crews incorporate considerations of alteration of mechanical stimulation, hydrostatic pressure, and fluid shifts between blood capillaries and interstitial fluid as a result of altered Starling-Landis pressures (11, 12).

As noted, deconditioning of astronauts in reduced gravity manifests in bone demineralization, cardiac and skeletal muscle atrophy, and is detectable at the cellular level with impacts on lymphocyte and osteoblast cell growth and osteoblast gene expression. Stem cell differentiation and mitochondrial function may also be affected. The physico-chemical response to reduced gravity in combination with the cellular response to cosmic radiation, altered

* Thanks to Drs. M. Mark Melin, Mayo Clinic & Dr. Heather Hettrick, Nova Southeastern University: Study of fluid shifts, lymphatic and venous function, the role of the eGCX and implications for astronaut health and for treatment on earth.

environmental conditions, and potential toxins may all pose challenges to normal homeostatic biologic behavior and require physiologic and functional adaptation. Other effects of microgravity on buoyancy driven convection (ceases), limited exchange of nutrients and metabolic waste products, reduced shear and hydrostatic pressure gradients are under study**.

These considerations of adaptation prompt the obvious question of what to wear? The functions of spacesuits include pressure, respiration, radiation protection, thermal control, power, communication, water, food, waste collection, and mechanical enablement and advantage. Modern designs are right out of science fiction and avoid the bouncing that we have seen among moon walkers as a result of the memory recall of inflated suits, as in balloons. Mechanical pressure may be substituted for air, as in Dr. Dava Newman's Biosuit, in which the principle of lines of non-extension is utilized to place tension elements along lines of the body where the skin does not stretch during most normal movements (Figure 4). Materials include nylon, spandex, elastic, foam, boron, and carbon tubing and also provide radiation shielding. Extensive materials engineering is involved including temperature related phase transformations, controllable compression technology, shape memory alloys, active textiles, and fabrics tunable at the fiber and stitch pattern level. Extravehicular activity is thus mechanically enabled.

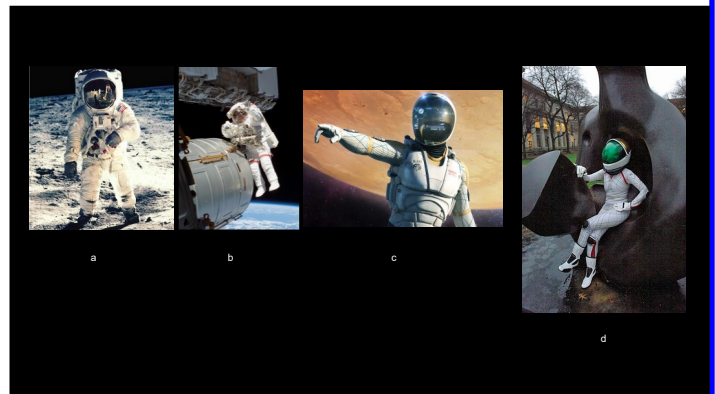


Figure 4. Spacesuite: a,b—NASA; c—Dr. Brad Holschuh, University of Minnesota Wearable Technology Laboratory; d—Dr. Dava Newman, Biosuit spacesuit design, Director, MIT Media Lab.

In concluding this brief and incomplete survey of biophysical and physiologic challenges to human adaptation to space, we may include deconditioning, reduced aerobic capacity and muscle strength, genomic changes, gender differences in adaptation such as orthostatic intolerance potentially related to hormonal influences, and modification of antibiotic resistances and biofilm changes. It poses the very real question of whether we can create and sufficiently control artificial environments so that the need for human adaptation is at least partially mitigated. Can we afford to do so in the context of the cost in energy and dollars? Or is this how branching evolution is stimulated? Is human evolution required in order for us to survive in

(Continued on Page 9)

space? Do we consider induced evolution utilizing tools such as CRISPR and genetic manipulation? It is not just the technologic capabilities to do so that will answer these questions. However, in a very real and imminent sense, how do we ensure that the first Mars lander mission is not a one-way trip?

—
***Thanks to Dr. Bruce Hammer, University of Minnesota for parts of this discussion.*
—

In his remarks at the dedication of the Aerospace Medical Health Center, San Antonio, Texas, November 21, 1963, President John F. Kennedy stated that:

...medicine in space is going to make our lives healthier and happier here on earth.

...medical space research may revolutionize the technology and the techniques of modern medicine”

...medical space research may lead to new safeguards against hazards common to many environments.”

Our space exploration has been motivated in different ways at different times in our history. Nonetheless, such exploration has always been to and for space and from space for the earth.

In organizing ourselves for space exploration, preparation and training for function in microgravity require more than parabolic flights. Semesters aboard, on orbit, will relatively soon be a reality at several universities. The MIT Media Lab’s Space Exploration Initiative, as an example, is actively pursuing understanding and the necessary ingredients to create a democratized expanded human presence, accessible to millions. Artists, musicians, scientists, engineers, and designers are prototyping a very real “sci fi” future. Envisioned is the reality of a Starfleet Academy, Ex Astris Scientia, From the Stars Knowledge.

Stayed tuned for Part 2 which will launch the reader to considerations of augmented human cognition and performance, the future of digital health, and the convergence of the discussions that have gone before.

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A Glance on Glaucoma

By Dr. Noha Maher Emara, MS, ICO, FRCS Glasgow

Noha Maher is an Egyptian female ophthalmologist and a long-time participant in CAMA activities, publications, and Annual Scientific Meetings. She graduated with honors in December 2006 from Ain Shams university. In 2011 she received her master's degree and in 2015 FRCS Glasgow in ophthalmology. Dr. Noha has worked for about ten years as an ophthalmologist and an AME in the Aeromedical council, Egyptian Ministry of Civil Aviation. Dr. Noha loves reading, dancing, painting and watching adventurous, fantasy and horror movies. She also sometimes writes poetry.

Please also see Dr. Noha's article entitled "Inverted Globe Scan by Ultrasound" in the December 2019 edition of The Flight Physician on the CAMA website.

Dr. Noha enjoying a balloon flight in Luxor, Egypt (August 2023)

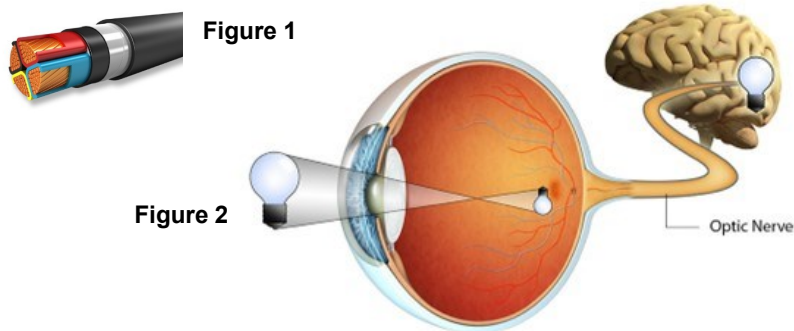


First—some basic pathology

The optic nerve is simply a cable that carries the signal from the eye (retina) to the brain, where it is processed and perceived. It contains many fine fibers (about 1.2 million). Also, every group of fibers are responsible for seeing a part of the world that our eyes see, i.e. visual field. The optic nerve cannot regenerate. As long as these fibers remain healthy, we can see this part of our world. If a certain group of fibers die, this part of the field will be lost forever. (See Figures 1¹ and 2²)

Glaucoma is a chronic disease where progressive irreversible damage to the optic nerve results in gradual permanent loss of the peripheral vision. Glaucoma is often associated with elevated pressure within the eye (intraocular pressure/IOP)³.

The pathology can be simply explained as an out-flow disease, where the drainage of the normal amount of aqueous (the clear fluid that fills the anterior part of the eye so it can retain its shape) is impaired, or excessive formation of aqueous. This leads to an increase in the intra-ocular pressure (IOP). (See Figure 3⁴) on next page.



(Continued on Page 11)

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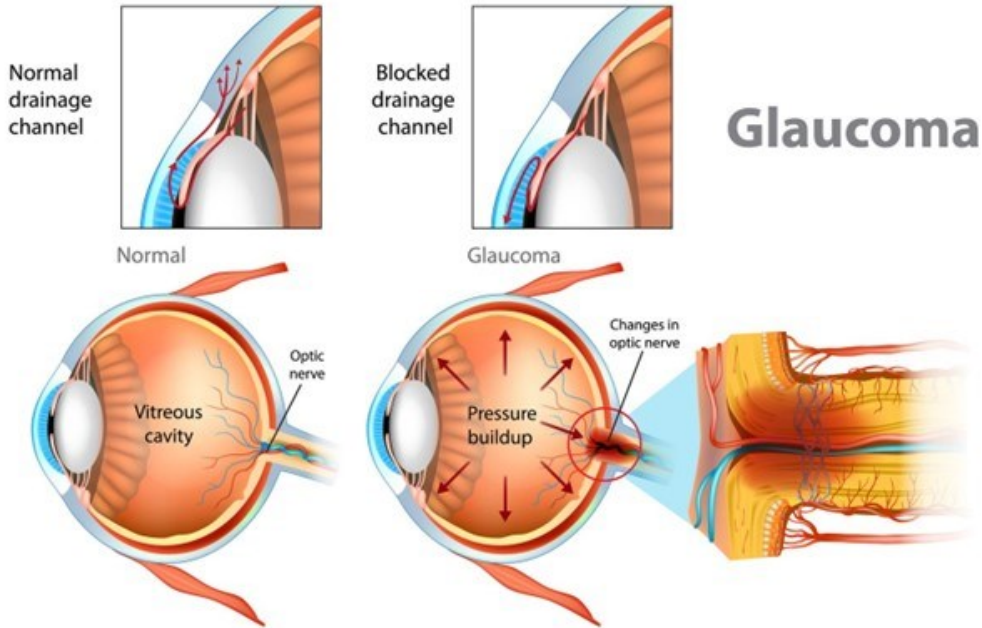


Figure 3

Normally the eye maintains a stable IOP by balancing the production of fluid (aqueous) with the outflow of fluid into the drainage pathway. In general, "normal" eye pressure ranges between 12 and 21mmHg. Patients with glaucoma often have eye pressures higher than the normal range without treatment.³

The damage of the nerve fibers occurs slowly with the tiny fibers yielding under pressure, where normal fibers (Figures 4, 5⁴) become unhealthy then die leaving a vacant space instead (Figure 6). When a group of fibers die, it is reflected on the optic nerve appearance by something called cupping, where the optic cup (the empty part of the optic nerve becomes larger) and loss in the visual field called scotoma. If left untreated the damage progresses and so does the space in the optic cup. (Figures 7, 8⁴)

Figure 6
diseased dying fibers
leaving space instead
(cupping)



Figure 7
(progressive loss with
increased inner vacant
space)

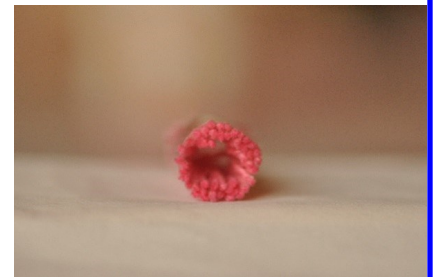


Figure 8
(advanced cupping due
to glaucomatous optic
nerve damage.)

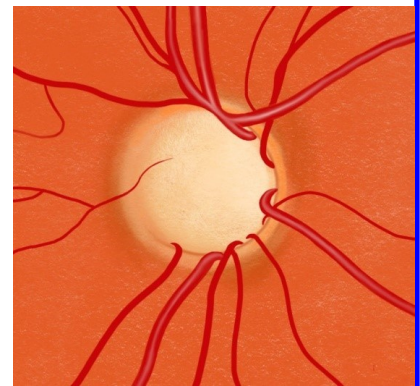


Figure 4
(normal amount of
fibers with a tiny space
in the middle, i.e. optic
cup)

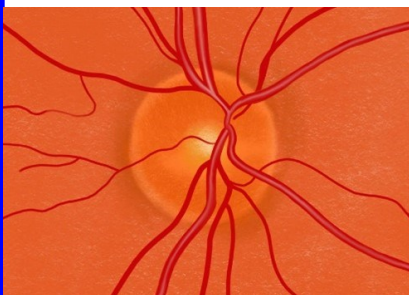


Figure 5

(Continued on Page 12)

As mentioned before, each group of fibers is responsible for a part of the visual field. The progressive loss of the fibers leads to progressive loss in the visual field (Figures 9⁵, 10⁴).

The other type is called ‘the silent thief of sight’ it usually has no symptoms and discovered by high index of suspicion or in advanced stages.

We need to screen, whom?

Nowadays it is common practice in ophthalmology clinics to measure the IOP for all incoming patients. However, some groups should be actively seeking screening or referred by their physicians to measure their IOP. These include diabetics, people with family history of glaucoma, farsighted or hyperopic, nearsighted or myopic. These high-risk groups are better screened after the age of 35. Also patients with long-term use of corticosteroids and previous eye injury or surgery should be screened for glaucoma.

Can glaucoma be cured?

Sadly, no. Glaucoma is a chronic **treatable** disease that requires a life long follow up and treatment. However, we cannot hesitate in screening or management. Neglected glaucoma can lead to the faster progression of permanent field loss or blindness.

How can glaucoma be treated?

After meticulous examination and assessment each case has a tailored treatment plane with frequent follow-up according to the stage of the disease and the age (life expectancy) of the patient. Treatment options include eye drops, selective laser trabeculoplasty (SLT) and surgery.

References:

1. <https://www.egyptcable.com/>
2. <https://irisvision.com/optic-nerve-damage-diseases-and-eye-conditions/>
3. <https://www.waterlooeeye.ca/diseases/glaucoma>
4. <https://www.verywellhealth.com/glaucoma-causes-5095122>
5. <https://www.glaucomaspecialist.my/Glaucoma/Glaucoma.html>
6. Resnikoff et al., 2004; Quigley and Broman, 2006; Bourne et al., 2013
7. Whitson, 2007

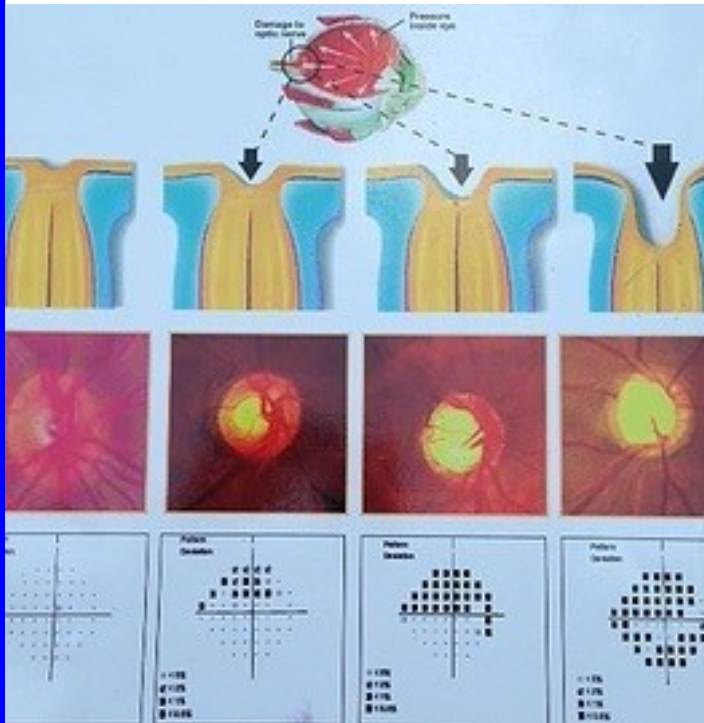


Figure 9—Progressive cupping and visual field loss



Figure 10—Progressive loss of visual field

Why do we need to know about Glaucoma!!!?

Because **glaucoma** is the most common cause of irreversible blindness and the second cause of visual impairment after cataract worldwide⁶. Nevertheless, over one-third of cases remain undiagnosed⁷.

Does glaucoma have symptoms?

There are two types of glaucoma the closed angle type which tends to occur fast it presents with eye pain or pressure, headache, colored halos around light, blurred vision, narrowed vision (tunnel vision) or blind spots, nausea and vomiting and red eyes.



2023 CAMA ANNUAL SCIENTIFIC MEETING INFORMATION

Timely registration for the 2023 CAMA Annual Scientific Meeting will be closing soon! To avoid a late registration fee, you must register prior to September 13, 2023. The meeting will take place at the Downtown DoubleTree Hotel in Omaha, Nebraska, October 5-7, 2023. The theme for the meeting is "Diagnoses, Treatment Innovations, and Keeping Pilots in the Cockpit." This meeting has been approved by the FAA as fulfilling the criteria for AME Refresher/Recertification purposes, upon satisfactory completion of the FAA AME test administered during the meeting.

The registration form is on Page 19 of this publication and can also be found on the CAMA web site at www.civilavmed.org on the Annual Meeting page. See Pages 17—18 for the meeting program/agenda educational series and related events.

The CAMA room block at the DoubleTree Downtown Hotel in Omaha will be closed out September 13th. The CAMA room rate at the DoubleTree is \$110.00 per night (plus applicable taxes). Our negotiated hotel rates quoted above are good until the deadline of September 13, 2023 for as long as rooms in the block are available. Rooms reserved after that date are on an availability-only basis and may be subject to additional charges. Please use the following link to make your hotel reservations: <https://www.hilton.com/en/attend-my-event/omah-dt-cam-f5ebaffc-411d-41a5-ab51-48a0aa63921f/>.

This link is also on the Annual Meeting page of the CAMA web site.

When using the hotel link, please be alert to the default dates. The default dates on the reservations link are Wednesday, October 4th through Sunday, October 8th (checking out on Monday October 9th). So, if you plan to depart on Saturday or Sunday, open the link, then click "Book a Room" and on the top of the next page, click "Edit Stay" and change the dates to those you prefer. The standard rate of \$110.00 is the government per diem rate for Omaha - available for everyone who books within the CAMA block before the cut-off date.

While registration for the meeting can be done up to any point before the cutoff date of September 13, 2023 without a late fee, based on our experience of the past two annual meetings, rooms in the block go quickly, so it would be advisable to go ahead and make your hotel room reservations now, even if you plan to submit your registration form at a later date. The rooms are available on a first come-first served basis. The educational portion of the Annual

Scientific Meeting begins at 8:00 AM on Thursday, October 5th, so it is recommended that participants arrive on the Wednesday evening prior to the start of the conference.

The deadline for registering with CAMA for the meeting is September 13, 2023. Late registration after the deadline will be subject to an additional \$50.00 late charge. The registration fees are \$1195.00 for CAMA members, \$795.00 for guests, and \$1370.00 for non-members. If you are not currently a CAMA member and wish to register at the member rate, please complete a membership form (see Page 26 or the CAMA website on the Members Lounge page). Membership and registration actions may be processed at the same time.

A guest is considered to be a spouse, significant other, or child. If you are bringing a member of your office staff who is not seeking CME, that person may also be considered a guest. If you have any questions regarding the guest registration, please call the CAMA home office at 770-487-0100. CME can be provided to guests who are also medical professionals and are spouses or significant others of the primary medical professional registered for the meeting. Only registered attendees and their registered guests (ID credentials will be issued by CAMA to all registered individuals) will be allowed to attend the meeting and/or join the registered professional for meals and other activities. Tickets for the field trip and/or Friday Night Honors Banquet are not sold separately. Please see the CAMA refund policy on Page 2 of this publication. A minimum 10% processing fee will be withheld from any refunds of registration payments.

A directory will be prepared for distribution at the meeting with the names and addresses of all registered professionals. Therefore, please use the street or postal address you wish to share with your fellow attendees. (No email addresses or telephone numbers will be shared in the directory.)

A video library containing every lecture and every slide used during the Annual Scientific Meeting will be provided to each registered medical professional from Podiumcast.com after the end of the annual meeting. This is a terrific video library with which one may refresh the memory of the information and subjects discussed during the meeting, including the keynote presentation during Honors Night.

(Continued on Page 14)

Our field trip and catered dinner out on Thursday, October 5th will be held at the Strategic Air Command Museum about half an hour from the hotel. Buses have been arranged to take all participants to the SAC Museum for a self-guided tour and a catered dinner in the atrium of the museum. We have contracted with the Museum for our participants to have access to the two flight simulators on site, which can be programmed for many different types of aircraft. Participation in the field trip is not mandatory, but we are required to provide guarantee numbers of participants for tour, transportation, and catering purposes. If you prefer to stay at the hotel instead of going on the field trip, please let CAMA know at the point of registration. There is no registration discount for not attending all of the CAMA activities during the meeting.

If your organization or company is a corporate member of CAMA, and you wish to host an exhibit at the Annual Scientific Meeting, please let us know, so that we may arrange for exhibition space for you. If you have any questions, please contact the CAMA office at 770-487-0100 or by email at civilavmed@aol.com.



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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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- Issue more certificates and shorten deferment timelines with our case management for new SI, AASI & CACI

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Home Office Activities and Information



Sherry Sandoval
CAMA Executive Vice President

Dues and Membership 2023

The 2023 CAMA Membership Dues rate remains at \$150.00 for a Regular membership, \$300.00 for a Sustaining membership, \$50.00 for a Retiree/Student membership, \$1500.00 for a Life Membership, and \$350.00 for a Corporate Membership. Please take a few moments and pay your 2023 CAMA dues if you have not yet done so.

Most individuals paying dues (or registering to attend the annual meeting) are using the links on the CAMA website to complete the necessary forms and to make their payments. The CAMA website has advanced security, easy access to news and information, and links to important FAA information and web sites, such as the AME Guide, the AME Minute, FAA AME training seminar schedule, the Federal Air Surgeon Bulletin and the Pilot Minute files. These important links are on the landing page of the CAMA website at www.civilavmed.org.

The online dues 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 website 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 website 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.

2023 Annual Scientific Meeting in Omaha, Nebraska

The DoubleTree Hotel in downtown Omaha is the site of the 2023 CAMA Annual Scientific Meeting, and the Strategic Air Command (SAC) 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 walking among those amazing aircraft before dinner in the Atrium!

The DoubleTree has wonderful meeting space, and they have offered room rates 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 distance frp, the hotel, as is the river event area currently under development (scheduled for completion prior to the Fall of 2023, with shops, museums, and other interesting venues).

CAMA will conduct a brief business meeting this year during the Annual Scientific Meeting at the beginning of the Honors Night Dinner to take care of any business that requires the approval of the CAMA membership. The attendees at the Annual Scientific Meeting are considered to be a quorum for approval purposes. This year, the vote will be concerning proposed changes to the CAMA Bylaws. These proposed changes were published in previous editions of the newsletter in 2022 and earlier this year. If you are attending this year's Annual Scientific Meeting, please review the proposed changes and be prepared to vote during the Honors Night Dinner in Omaha.

The Visit Omaha Convention and Visitors Bureau will provide for all attendees to receive local shopping maps for the Old Market and the recently established riverwalk areas, along with discounts and coupons for shopping, dining and local attractions.

For this year's Annual Scientific Meeting, a number of CAMA Corporate Members have indicated an interest in exhibiting during the annual meeting. A table will be provided for each exhibitor in the pre-space outside of the training room so that during breaks, before and after meals, and during free time, attendees may visit the exhibitor tables and discuss products and services with the companies present during the meeting. Neither the FAA nor CAMA endorses or promotes any particular goods or services provided by these exhibitors. Exhibitor space is provided as part of the Corporate Membership agreement so that

(Continued on Page 16)

attendees may enjoy the exhibits and view and discuss options with the Corporate Members.

If you are a CAMA Corporate Member and wish to have an exhibit table during this year's Annual Scientific Meeting, please make arrangements with Sherry Sandoval at the CAMA Home Office as soon as possible. You have several options regarding your participation during the meeting.

2024 Annual Scientific Meeting in Jacksonville, Florida

Thee Sheraton Hotel Jacksonville will host our 2024 Annual Scientific Meeting in Jacksonville, Florida, September 19-21, 2024. The hotel is located near a large shopping mall and a number of restaurants and has free parking for meeting participants.

At this time, pending some additional arrangements, our plans are to have a meet-and-greet cocktail party on Thursday evening at a new Flight Base of Operations (FBO) facility at the Jacksonville Executive Airport. The FBO hangar is currently undergoing renovations and improvements that will be completed by the time of the 2024 Annual Scientific Meeting. Ryan Smith, Chief Growth Officer of JAX Executive at the KCRG Airport, promises a number of beautiful aircraft will be staged in the upgraded hangar around which we will spend an hour or so with light appetizers and a couple of cash bars to relax and network with the attendees and those corporate members who elect to participate in the conference activities. Ryan has also indicated that in honor of the annual meeting, he will offer tiedown and aviation fuel incentives for any CAMA attendees who fly into JAX Executive Airport and use his FBO for services. Additional information will be provided next year once registration for the 2024 Annual Scientific Meeting opens in May of 2024.

We have contracted the newly established Deerwood Castle and Jacksonville Sports Car Museum to host the second leg of our field trip and catered dinner among an amazing collection of exotic cars, some of which belonged to celebrities and several from some well-known movies (all of which are for sale, so bring your wallets)! Deerwood Castle will be designing a terrific menu for us over the next few months.

Both the new FBO (it is currently in operation, even during the renovations) and Deerwood Castle/Jacksonville Sports Car Museum are new businesses in the area, and CAMA is proud to work with and support these local establishments to host various aspects of our 2024 annual meeting field trip.

Leigh Speicher, MD, MPH, will be the new CAMA President at the time of the 2024 annual meeting. Dr. Speicher lives in Jacksonville and works at Mayo Clinic, Jacksonville, so having her first Annual Scientific Meeting as CAMA President take place in her home town will be a special occasion. We hope to be able to invite a number of specialists from Mayo Clinic Jacksonville to speak at the 2024 meeting.

2025 Annual Scientific Meeting

We are currently negotiating arrangements for the 2025 Annual Meeting and will be reporting that information early next year. There are some amazing possibilities up for consideration, so be sure to tune in after the Omaha conference for news regarding 2025!

All of us with CAMA are looking forward to seeing you at one of our Annual Scientific Meetings very soon! Hope everyone has had a wonderful summer as we move into a very productive fall season.



Join us as we lead the charge with our Medical Initiative to bring sleep physicians and dentists together to **Treat More OSA Patients, More Effectively** with Oral Appliance Therapy.

Learn More



CIVIL AVIATION MEDICAL ASSOCIATION



ANNUAL SCIENTIFIC MEETING

DoubleTree Hotel
1616 Dodge Street
Omaha, NE 68102
Telephone: 402-636-7600
October 5-7, 2023

THE CIVIL AVIATION MEDICAL ASSOCIATION ANNUAL SCIENTIFIC MEETING October 5-7, 2023

"DIAGNOSES, TREATMENT INNOVATIONS, AND KEEPING PILOTS IN THE COCKPIT"

WEDNESDAY, OCTOBER 4, 2023

03:00 PM to 06:00 PM **CAMA Board Meeting**
Capitol/Dodge Room
06:30 PM to 09:00 PM **Meeting Registration**
DoubleTree Hotel Lobby

THURSDAY, OCTOBER 5, 2023

07:00 AM to 08:00 AM **Breakfast Buffet**
Ballroom West
08:00 AM to 08:30 AM **Welcome and Introductions**
Ballroom Center/East

- Welcome from CAMA**
David G. Schall, MD, MPH
President, CAMA
Sherry Sandoval, Executive VP, CAMA
Schedule & Field Trip Info
- Welcome from FAA/CAMI**
Deann King, EdD, Acting Division Manager,
Aerospace Medical Education Division, FAA
Oklahoma City, OK (Video instruction regarding AME test module)

08:30 AM to 09:30 AM **"AME Program Overview and Performance"**
Deann King, EdD, Acting Division Manager
Aerospace Medical Education Division, FAA,
Oklahoma City, OK

09:30 AM to 09:45 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"**
Judith A. Frazier, MD, MBA, Medical Officer, FAA
Aerospace Medical Education Division,
Oklahoma City, OK

11:45 AM to 12:45 PM **Luncheon Buffet**
Ballroom West

12:45 PM to 01:45 PM **"Medical Considerations for Commercial Space Flight Operations"**
Rahul Suresh, MD
Internal Medicine, NASA, Houston, TX

01:45 PM to 02:45 PM **"Medications and Biologics in Aviation"**
Vinh "Vickie" Kieu, PharmD, BCACP, FAA Clinical Pharmacist, Washington, DC

02:45 PM to 03:00 PM **Afternoon Break**

03:00 PM to 04:00PM **"Medical Legal Issues in Aviation"**
Brian K. Khan, JD, Esq., Attorney, FAA Office of Chief Counsel, Enforcement Div., Washington, DC

04:00 PM 05:00 PM **"Medical Certification Issues for Airmen with Cardiac Conditions"**
Stephen V. Savran, MD, Cardiologist
CAMI Consultant, Las Vegas, NV

05:30 PM – 0 5:45 PM **Load Buses for Field Trip**

06:15 PM – 10:00 PM **Field Trip to the Strategic Air Command Museum and Catered Dinner**
Casual dress and comfy shoes recommended.

FRIDAY, OCTOBER 6, 2023

07:00 AM to 08:00 AM **Breakfast Buffet**
Ballroom West

08:00 AM to 09:00 AM

"Then and Now: The Evolution of Research at Boys Town Research Hospital"
Barbara Morley, PhD, Director, Neurochemistry Laboratory, Boys Town, Omaha, NE

09:00 AM to 10:00 AM **"The Brain in The Wild – Operational Environments, Human Factors, and Neuroergonomics"**

Matthew Rizzo, MD, Director of Neuroscience Services (Neurology, Neurosurgery, Mental Health, Pain Management) Nebraska Neuroscience Alliance, Omaha, NE

10:00 AM to 10:15 AM **Morning Break**

10:15 AM to 11:15 AM

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

11:15 PM to 12:15 PM

"Aviation Neurology Update"

Alison Leston, MD, PhD, Associate Professor,
Dept. of Neurology & Neurotherapeutics, UTSW
Medical Center, Dallas, TX

12:15 PM to 01:15 PM

Luncheon Buffet

Ballroom West

01:15 PM to 02:15 PM

"Indication-Interpretation for Pulmonary Function Testing"

Mark J. Ivey, MD, Pulmonary Medicine/Sleep
Medicine, APA, Fort Worth, TX

02:15 PM to 02:30 PM

Break

02:30 PM to 03:30 PM

"Alcohol and Drug Use: Roadmap to Certification"

Christopher F. Flynn, MD
FAA Assistant Chief Psychiatrist, Washington, DC

03:30 PM to 04:30 PM

"The Shoulders on Which We Stand – John A. Tamisela, MD"

David G. Schall, MD, MPH, Neurologist, CAMA
President, FAA CAMI, Oklahoma City, OK

04:30 PM to 05:00 PM

"Social Networking Q & A"

Near Exhibitor Booths in Hallway

05:00 PM to 07:30 PM

CAMA Honors Night Banquet

Ballroom West
Dress is business casual – more
formal wear is optional
In hallway outside of
Ballroom West

07:30 PM to 09:00 PM

Keynote Presentation: "Elvis Has left the Building and So Will You!"

Byers W. Shaw, MD, Author and Former
Transplant Surgeon, Omaha, NE

09:30 PM to 10:00 PM Awards ceremony and passing of
the Presidential gavel

SATURDAY, OCTOBER 7, 2023

07:00 AM to 08:00 AM

Breakfast Buffet

Ballroom West

08:00 AM to 09:00 AM

"Obstructive Sleep Apnea, Fatigue, and Cockpit Performance"

David G. Schall, MD, MPH, Neurologist
CAMA President. CAMI, Oklahoma City, OK

09:00 AM to 10:00 AM

"Ophthalmology & Color Vision in Pilots and FAA Regulations"

William A. Blank, MD, Ophthalmologist
La Crosse, WI

10:00 AM to 10:15 AM

Morning Break

10:15 AM to 11:15 AM

"ENT FAA Update"

David G. Schall, MD, MPH, Neurologist
CAMA President, CAMI, Oklahoma City, OK

11:15 AM to 12:15 PM

"Diabetes, Continuous Glucose Monitoring, & Other Endocrine Issues in the Cockpit"

Joyce A. Pastore, MD, Col. USAF (Ret), Internal Medicine,
AAM-240, Medical Appeals Branch, Washington, DC

12:15 PM to 01:15 PM

Luncheon Buffet

Ballroom West

01:15 PM to 02:15 PM

"Spinal Conditions and Spine Hardware in Aviation"

Curtis Edwards, MD, General and Vascular Surgery
Olympia, WA

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: Brett A. Wyrnick, MD, MPH
Federal Air Surgeon
Washington, DC

Panel Members:

Randy J. Georgermiller, PhD, Neuropsychology
R. Roman Murphy, MChB, Neurology
Stephen V. Savran, MD, Cardiology
Christopher Flynn, MD, Psychiatry
David G. Schall, MD, MPH, Neurology
Douglas J. Ivan, MD, Ophthalmology

05:00 PM

Adjourn**

****Please pick up your CME Certificate from the CAMA table.**

To receive FAA credit for recertification/refreshers training, you must complete the FAA test online no later than Tuesday, October 10, 2023.

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.

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.

CME Credit:

The AAFP has reviewed Annual Scientific Meeting 2023 and deemed it acceptable for up to 23.00 Live AAFP Prescribed credits. Term of Approval is from 10/05/23 to 10/07/23. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

AAFP Prescribed credit is accepted by the American Medical Association as equivalent to **AMA PRA Category 1 credit(s)** toward the **AMA Physician's Recognition Award**. When applying for the **AMA PRA**, Prescribed credit earned must be reported as **Prescribed**, not as **Category 1**.

Civil Aviation Medical Association
P. O. Box 823177, Dallas, TX 75382
Phone: 770-487-0100
Email: civilavmed@aol.com
Web Site: www.civilavmed.org





**CIVIL AVIATION MEDICAL ASSOCIATION
ANNUAL SCIENTIFIC MEETING, OCTOBER 5-7, 2023
DOUBLETREE DOWNTOWN, OMAHA, NEBRASKA 68102**



ATTENDEE NAME & TITLE*		AME NUMBER:	
*(MD, DO, MBChB, MBBS, 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:			
<small>NOTE: There is a \$795.00 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.)</small>			
ATTENDEE ADDRESS:			
<small>(Please use the address you wish to be used in the participant roster that will be given to all in attendance)</small>			
CITY:		STATE/PROVINCE:	
ZIP:	COUNTRY:	PHONE:	
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.
REGISTRATION FEE MAY BE PAID BY CHECK (U.S. DOLLARS) OR CREDIT CARD			
CREDIT CARD TYPE:	VISA: <input type="checkbox"/>	MASTER CARD: <input type="checkbox"/>	AMERICAN EXPRESS: <input type="checkbox"/>
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):
<https://www.hilton.com/en/attend-my-event/omah-dt-cam-f5ebaffc-411d-41a5-ab51-48a0aa63921f/>
THIS IS A SPECIAL LINK EXCLUSIVELY FOR CAMA MEETING ATTENDEES TO USE TO RECEIVE THE CAMA ROOM RATE OF \$110.00, PLUS APPLICABLE FEES AND TAXES. ALL RESERVATIONS MUST BE MADE BY SEPTEMBER 13, 2023, TO RECEIVE THE CAMA RATE AND FOR AVAILABILITY. ROOMS AFTER THAT DATE ON AVAILABILITY BASIS ONLY.

CAMA MEMBER REGISTERED ON OR BEFORE SEPTEMBER 13, 2023	\$1195.00 U. S. DOLLARS
CAMA MEMBER REGISTERED AFTER SEPTEMBER 13, 2023	\$1245.00 U. S. DOLLARS
SPOUSE/GUEST OF ATTENDEE	\$ 795.00 U. S. DOLLARS
*NON-MEMBER REGISTERED ON OR BEFORE SEPTEMBER 13, 2023	\$1370.00 U. S. DOLLARS
*NON-MEMBER REGISTERED AFTER SEPTEMBER 13, 2023	\$1420.00 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 Strategic Air Command 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 2023 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
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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.

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/amettraining/

- 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

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

- Pilot Minute: [What are some important safety considerations regarding sunglasses?](#)
- Pilot Minute: [What is a verbal authorization and how does it work?](#)
- Pilot Minute: [Why is it important to report disability benefits in MedXPress?](#)
- Pilot Minute: [What is jet lag and how can I prevent it?](#)
- Pilot Minute: [How is the FAA approaching new treatments for cancer?](#)
- Pilot Minute: [How do we encourage the brightest minds into aviation?](#)
- Pilot Minute: [How do I check my application status in MedXPress?](#)
- Pilot Minute: [Is it okay to fly if I'm just a little tired?](#)
- 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
October 5-7, 2023	Omaha, NE	CAMA
October 23-27, 2023	Oklahoma City, OK	Basic

The 2023 seminar schedule shown MAY change to virtual format should COVID-19 protocols change in 2023.

The FAA recommends that you make sure all travel and lodging reservations are refundable. While scheduled to proceed as in-person seminars, one or more of these sessions may be rescheduled as a virtual seminar with little notice. These seminars will open for registration when the contract is approved and hotel room block information is received. The CAMA seminar registration is now open.

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 Annual Meeting page (www.civilavmed.org) or by calling CAMA at 770-487-0100

AME MINUTE 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. 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/

- [AME Minute: Why do different categories of anticoagulants have different wait times?](#)
- [AME Minute: Why does the FAA now allow AASI recertification for pilots with a history of CHD?](#)
- [AME Minute: Why would a pilot need an interim medical certificate?](#)
- [AME Minute: Why are categories required for documents when uploading in AMCS?](#)
- [AME Minute: Why do I need to confirm a pilot's name matches official identification?](#)
- [AME Minute: Why did the FAA change vision limitations?](#)
- [AME Minute: Why are commercial balloon pilots asking for exams?](#)
- [AME Minute: Why do CACIs require specific verbiage?](#)
- [AME Minute: Why does the FAA list some medications as conditionally acceptable?](#)
- [AME Minute: Why did the FAA revise the GO AME website?](#)
- [AME Minute: Medical Certification Updates for the AME – September 2017](#)
- [AME Minute: 10 Color Vision Testing](#)
- [AME Minute: Why should AMEs review visits to health professionals?](#)
- [AME Minute: Why would a pilot need a verbal authorization?](#)
- [AME Minute: Why did I receive a letter about a vision restriction?](#)
- [AME Minute: Why does the FAA disallow AMEs from using PRNC?](#)
- [AME Minute: Why does the FAA allow recertification of pilots with CHD?](#)
- [AME Minute: Why do different anticoagulants have different wait times?](#)
- [AME Minute: Why did the FAA introduce a policy on the TAVR procedure?](#)
- [AME Minute: Why is the FAA concerned about left atrial appendage closure?](#)
- [AME Minute: Why are there new requirements for AFIB or A-Flutter?](#)
- [AME Minute: Why can breast cancer be issued by an AME?](#)
- [AME Minute: Why do AMEs need to update their profile in DMS annually?](#)
- [AME Minute: Why did the FAA issue new guidance regarding pancreatitis?](#)
- [AME Minute: Why is the FAA concerned about Over the Counter Sleep Aids?](#)
- [AME Minute: Why does the monitoring protocol for ITDM require so many reports?](#)
- [AME Minute: Why is the FAA now certifying pilots who are on insulin?](#)
- [AME Minute: Why did the FAA add an upload feature to AMCS?](#)
- [AME Minute: Why do pilots need to be concerned about CBD products?](#)
- [AME Minute: Why do AMEs need to worry about Subpoenas? Part 2](#)
- [AME Minute: Why do AMEs need to worry about Subpoenas?](#)
- [AME Minute: Why is Unexplained Syncope Aeromedically Significant?](#)
- [AME Minute: Why is an evaluation required post myocardial infarction?](#)
- [AME Minute: Why is Chronic Immune Thrombocytopenia a CACI?](#)
- [AME Minute: Why was the CACI program developed?](#)
- [AME Minute: Why is an Incomplete Right Bundle Branch Block considered a normal variant?](#)
- [AME Minute: When is a Special Issuance required under BasicMed?](#)
- [AME Minute: What Makes Aerospace Medicine Unique?](#)
- [AME Minute: Near and Intermediate Vision Testing](#)
- [AME Minute: New Oral Anticoagulants in the DVT Protocol](#)
- [AME Minute: Identification of ECG Normal Variants Reduces Delays - Part 5](#)
- [AME Minute: Double Vision and Heterophoria Testing](#)
- [AME Minute: Aeromedical Implications of Disability Benefits Reported by Pilots](#)
- [AME Minute: Identification of ECG Normal Variants Reduces Delays - Part 4](#)
- [AME Minute: What's So Special About Disposition Tables?](#)
- [AME Minute: What the FAA Needs to Know About Monovision Lenses](#)
- [AME Minute: Why did the FAA update criteria for PTSD?](#)
- [AME Minute: Identification of ECG Normal Variants Reduces Delays - Part 3](#)
- [AME Minute: Identification of ECG Normal Variants Reduces Delays - Part 2](#)
- [AME Minute: Identification of ECG Normal Variants Reduces Delays - Part 1](#)
- [AME Minute: How Do AMEs Keep Designation Information Up To Date?](#)
- [AME Minute: Radionuclide Stress Test and Holter monitor: What does the FAA Want?](#)
- [AME Minute: CACI Worksheets Speed Up Medical Certification](#)
- [AME Minute: How Certification Aids Speed up Information Collection for Pilots](#)
- [AME Minute: Colon cancer timeframes for medical certification](#)
- [AME Minute: The SSRI recertification checklist](#)
- [AME Minute: Why did the FAA add new guidance for some psychiatric conditions?](#)

Civil Aviation Medical Association

Sustaining, Corporate, and Life Members

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

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www.asma.org

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421 Aviation Way
Frederick, MD 21701
www.aopa.org

AirDocs Aeromedical Support Services
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Freeland, MI 48623
www.airdocs.net

Air Line Pilots Association, International
John Taylor, National Pilot Assistance Chair
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www.alpa.org

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www.medaire.com

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Somnomed
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Plano, TX 75024
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Pensacola, FL 32505
PilotDoctors.com (Find an AME)
www.wingmanmed.com

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.



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