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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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Flight Physician



A publication of the Civil Aviation Medical Association

**Second International Congress
Dedicated to the 110th Anniversary of Aviation Medicine in Russia**



FIRST NEWSLETTER
AVIATION MEDICINE DOCTORS ASSOCIATION (AMDA)

31 OCTOBER – 03 NOVEMBER 2019 | MOSCOW

SECOND INTERNATIONAL CONGRESS

«CURRENT ISSUES
OF AVIATION MEDICINE »
DEDICATED TO THE 110TH ANNIVERSARY
OF AVIATION MEDICINE IN RUSSIA

SHEREMETYEVO
INTERNATIONAL AIRPORT (SVO)
RADISSON BLU HOTEL
WWW.AVAM-AVIA.RU



SECOND INTERNATIONAL CONGRESS

CAMA has received an invitation for the SECOND INTERNATIONAL CONGRESS, taking place October 31 – November 3, 2019, in MOSCOW, RUSSIA. Following is an extract of the information provided on the flyer advertising the event. If anyone receiving CAMA publications plans to attend this conference, please consider submitting a report to CAMA for publication in “The Flight Physician.”

SUBJECT: «CURRENT ISSUES OF AVIATION MEDICINE »

Sheremetyevo International Airport (SVO)
Radisson Blu Hotel

Aviation Medicine Doctors Association (AMDA)
Dedicated to the 110th Anniversary of Aviation Medicine in Russia

By request participants can receive visa support.

Congress on 31 October – 03 November, 2019

The congress is held under the support of Ministry of Transport of the Russian Federation and the Federal Air Transport Agency. The main site is Sheremetyevo International Airport (SVO).

The Congress will be attended by the representatives of the Ministry of Health of the Russian Federation, the Federal Service for Supervision of Consumer Rights Protection and Human Well-Being, the Federal Service for supervision of transport.

The Congress is dedicated to the 110th Anniversary of Aviation medicine in Russia.

Apart from the general agenda, the Congress is also the site for ESAM Executive Committee (EC), ESAM Advisory Board (AB), AMDA Presidium meetings and those of aeromedical experts from CIS countries. The event will receive considerable profile media coverage.

The Congress is included into the system of continuing medical education (CME) in Aviation and Space Medicine in accordance with the requirements of the Ministry of Health of the Russian Federation. Participants of the Congress will receive certificates and CME credits as well as the credits of International Educational system of ESAM-EASA in Aerospace Medicine.

Dear Friends and Colleagues! Aviation Medicine Doctors Association (AMDA) invites you to take part in the Second International AMDA

Audience: Aerospace medicine practitioners, chiefs and members of flight expert medical commissions (including Central Flight Expert Medical Commission), airline medical practitioners, medical practitioners of civil aviation institutions (therapists, cardiologists, ophthalmologists, neurologists, psychologists, otolaryngologists, surgeons, specialists in the field of functional and laboratory diagnostics) from over 20 countries, including the Russian Federation, CIS countries, Europe etc.

Number of participants: 300

Registration fee: 3000 RUB; AMDA members – 1500 RUB (*Editor's note: 1500 Rubles equals \$22.76 US Dollars*)

The Congress Program includes lectures, plenary and section sessions, contests for young scientists, working groups, poster presentation sessions and reports on clinical cases. There will be technical tours of the Central Clinical Hospital of Civil Aviation as well as aerospace medical centers provided. The main events of the Congress will be accompanied with simultaneous translation (Russian-English).

EVENT BRIEF

Dates: 31 October – 03 November 2019

Venue: Radisson Blu Hotel, Sheremetyevo International Airport (SVO), Moscow, Russia

<https://www.radissonblu.com/ru/hotel-sheremetyevo-moscow/>

(Continued on Page 3)

Organizer: Aviation Medicine Doctors Association (AMDA)

<http://avam-avia.ru/>

Under support of: Ministry of Transport of the Russian Federation and the Federal Air Transport Agency.

With participation of: European Society of Aerospace Medicine (ESAM)

<http://www.esam.aero/>

www.avam-avia.ru

REGISTRATION FEE PAYMENT

Aviation Medicine Doctors Association (Ассоциация врачей авиационной медицины)

Legal details: 7, Ivankoskoye Shosse, Moscow, 125367, Russia

Tel/fax + 7 (495) 490-03-91

INN/KPP 7733311810/773301001

OGRN 1167700076576

Current account 40703810800000000415

Corresponding account 30101810200000000700

BIC 044525700

Raiffeisenbank, JSC, Moscow

There is additional information on the fees and payment on www.avam-avia.ru

SCIENTIFIC PROGRAM

1. Medical assessment, fitness evaluation and certification of civil aviation personnel at the current stage.

1.1. Harmonization of regulations on medical assessment, fitness evaluation and certification in Russia with the global standards and aligning to the principles of equal rights, rationality and economic efficiency for all operators (ICAO Convention on International Civil Aviation).

1.2. Fitness criteria, methods of monitoring and health assessment of flight attendants. Optimization of approaches to medical assessment taking into account periodic medical check-ups in accordance with the regulations assigned by the Ministry of Labour and the Ministry of Health of the Russian Federation.

1.3. Clinical aspects of medical assessment, fitness evaluation and licensing of aviation personnel: medical examination protocols and fitness-to-fly criteria applied to flight crew members of civil aircrafts

1.4. Treatment and rehabilitation of civil aviation personnel in conditions affecting flight safety. Reinstatement to operations and traffic control after treatment and rehabilitation.

1.5. Issues of training aeromedical practitioners and medical assessment experts.

1.6. Medical risks and risk management in Flight Safety System.

2. Medical provision on civil aircrafts. In-flight medical emergencies

2.1. Medical assistance for passengers on-board when being consulted by remote medical experts. Peculiarities, problems, solutions

2.2. Features of first medical aid on-board provided by a volunteer specialist (from passengers). Technical and legal issues.

2.3. Medications provision on civil aviation aircrafts

2.4. Information programs for passengers on health promotion measures on-board.

2.5. Medical provision units at airports. Functioning, equipment, procedures, issues of medical service quality

2.6. Sanitary-epidemiological provision in airlines. Operational management to follow sanitary-epidemiological regulations on prevention of carrying and disseminating infectious (parasitic) diseases. Organization of disinfection, disinsection, deratization of aircraft. (*Editor's note—taken directly from flyer*)

You may apply to organize a separate workshop, symposium or section session within the frames of the Congress on www.avam-avia.ru or e-mail congress2019@avam-avia.ru

ATTENTION! Applications for on-site events are to be submitted before 15/07/2019! (*July 15, 2019*)

All the applications will be reviewed by AMDA experts. The organizing Committee may decline an application or suggest changing or combining it with different application if the topics coincide.

REPORTS AND ABSTRACTS—ATTENTION! Abstract submission deadline is 15/07/2019!

(Continued on Page 4)

Forms of participation in the Congress:

- Presentation (report)
- Poster presentation
- Publication of an abstract in AMDA resources
- Contest for young scientists
- Application requirements (panel report, poster report or abstract):
 - ◆ full name,
 - ◆ degree (if any),
 - ◆ organization, position,
 - ◆ contact details,
 - ◆ form of participation: panel report, poster report, abstract publication,
 - ◆ topic of a report,
 - ◆ report and/or abstract in **doc.**, **docx.**, **rtf.** or **pdf.**

Applications for participation are to be submitted via e-mail: congress2019@avam-avia.ru. All abstracts received later the mentioned above date will not be considered. Accepted abstracts will be typeset from the text submitted by the author without copy editing changes. Abstract publication is free.

CONTEST FOR YOUNG SCIENTISTS

ATTENTION! Applications received after 15/07/2019 will not be considered!

Research works for the contest are to be in the field of Aerospace Medicine or Aviation Psychology.

- The age limit for the participants is 35 years old on the date when applied for the contest.
- One applicant (author or team of authors) is allowed to present only one work to be considered for the contest.
- Applications for participation to be first reviewed by experts need to be sent to konkurs2019@avam-avia.ru not later than 15/07/2019.

Application requirements:

- Contest work is an article not less than 6 pages (Times New Roman, 14, line spacing 1,5 without reference list);
- Author's details (full name, organization, area of scientific interest, address, contact phone number, e-mail address) Reference from the organization (scanned copy);
- Reference from the academic adviser (scanned copy).

The results of preliminary expert review will be published on the website www.avam-avia.ru after 15/08/2019. (*August 15, 2019*). The works of the participants who passed the preliminary expert review will be presented in poster reports session. Successful finalists will be invited to give a report during the Congress Scientific Program. The winners will receive awards and AMDA diplomas. The first winner will receive a grant for participation in ESAM Scientific Conference, 2020 in Paris.

FOR PARTNERS OF THE CONGRESS

Partners and sponsors of the Congress can take part in Congress events, hold a technical workshop, organize a specialized exhibition of their products and post their advertising information in the official proceedings of the Congress.

Applications are accepted at congress2019@avam-avia.ru

Partnership can be established with medicine manufactures and medical and diagnostic organizations, medical equipment and technology suppliers as well as aviation medicine organizations and profile media. Additional information is available on the web-site www.avam-avia.ru

ORGANIZING COMMITTEE

Non-profit public organization

Aviation Medicine Doctors Association

Address: **7, Ivankovskoye Shosse, Moscow, 125367, Russia**

Tel/fax + 7 (495) 490-03-91

Congress Organizing Committee: congress2019@avam-avia.ru

Secretary of the Association: info@avam-avia.ru



Warren S. Silberman, DO, MPH
CAMA President, 2018-2019

Warren S. Silberman, DO, MPH, is from Philadelphia, PA, and now resides in Oklahoma. He was the Manager of the Aerospace Medical Certification Division at the Civil Aerospace Medical Institute for 14 years. He was in the United States Army Medical Corps and was a Flight Surgeon in the U.S. Army for 12 years. While working as the Chief of Aerospace Medical Certification, he joined the Oklahoma Air National Guard and served as the State Air Surgeon for approximately 5 years.

Dr. Silberman received his BA from Temple University in 1971 and his DO from Des Moines College of Osteopathic Medicine & Surgery in 1974. He served a 1-year internship at Lancaster Osteopathic Hospital in Lancaster, PA, then a residency at Community General Osteopathic Hospital in Harrisburg, PA, from 1975-1978. After his residency, he practiced Internal Medicine in Phoenix Arizona from 1978 to 1985. He then joined the United States Army.

He earned an MPH at the University of Texas Health Sciences Center of Houston in 1991 and then served a residency in Aerospace/Preventive Medicine at the USAF School of Aerospace Medicine at Brooks AFB, TX, from 1991-1992. Dr. Silberman is Board Certified in Internal Medicine and Preventive/Aerospace Medicine. He is a Fellow of the American Osteopathic College of Internists, American Osteopathic College of Occupational and Preventive Medicine, the Aerospace Medicine Association, and the Civil Aviation Medical Association.

CAMA President’s Editorial

I know many of you could not make the annual meeting in Anchorage this past September. Not being modest, you missed a fantastic meeting! We are currently planning the speakers for the CAMA Meeting September 26-28, 2019, to be held at the Metropolitan 9 in downtown Cleveland. Ms. Sandoval tells us that the venue hotel is a boutique one, and we may take most of the rooms. Since we are downtown, there are many places to dine and shop nearby. Do not forget that we hold a FAA Refresher Seminar during the meeting, so you can get your Recertification credit. The rest of the time is for interesting speakers to present relevant aerospace topics.

CAMA Sunday at AsMA on May 5th this year will be Case Presentations and discussions from various AMEs. It is free to those who attend and runs from 8:30 AM to Noon. The CAMA Luncheon will be held from Noon to 2:00 PM on Monday, May 6th. The speaker for the luncheon is Dr. David O’Brien, Manager, Aerospace Medicine Certification Division, who will speak about plans for the processing of cases in medical certification both at the current time and in the future.

I am going to update you on the FAA Extension, Safety, and Security Act of 2016 (FESSA), passed in July, 2016. This is the alternative to 3rd-class medical certification. The act is also known as Basic Med, and it became effective May 1, 2017. The FAA medical regulations are 14CFR Part 67, and Basic Med is 14CFR Part 68. NOTE, 14CFR Part 67 has NOT changed for 3rd-class.

To participate, the pilot must have had an FAA medical certificate that was issued after July 14, 2006, and the medical certificate was not denied,

suspended, revoked. If the pilot had a medical examination performed prior to that date, they must obtain a current third-class exam and then can fly under Basic Med. The Basic Med process requires the pilot to complete a medical examination Form 8700-2, called the Comprehensive Medical Exam Checklist. The physician who performs this exam must be a state licensed physician, and when the physician completes and signs the form, he/she also must provide their address and State Medical License number. The pilot then takes an online aeromedical review course. There are currently two of these available. The Aircraft Owners and Pilots Association (AOPA) created one, and Mayo Clinic and the Aerospace Medical Association developed the other. You can obtain all of these and review more details about Basic Med at www.faa.gov/GO/AME.

Should a pilot who participates in Basic Med develop one of the following conditions, they must apply to the FAA for a special issuance. Once obtained, they may then resume flying under Basic Med. Here are the medical conditions. You should note that these are some of the 15 Specifically Disqualifying Medical Conditions:

- Personality Disorder
- Psychosis
- Bipolar Disorder
- Substance Dependence
- Epilepsy
- Disturbance of consciousness without satisfactory medical explanation of cause
- Transient loss of nervous system function
- Myocardial Infarction

(Continued on Page 6)

Coronary artery disease that has required treatment or is symptomatic
Valve Replacement
Heart Replacement

pilots. The rate of increase has been slowing. The median age of the participants is 65.5 years. 6.2% of the pilots are over age 80. Interestingly, 358 pilots (0.8%) who are Basic Med participants were denied as of their last FAA exam. Therefore, these pilots should not be flying under Basic Med! A special issuance was required at the time of the last FAA exam for 12,427 (28%) of Basic Med participants, but only 6.2% of the non-Basic Med third-class pilots.

So how has the Basic Med program been doing? As of 02/01/2019, the program has been in effect for 21 months. There are 44,000 plus pilots now participating. This is 19.6% of current third-class

CAMA Refund Policy

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

- 1) If a refund is requested due to cancellation of attendance **prior** to the catering guarantee date (*normally 2-3 weeks prior to the first day of the meeting – it varies by hotel, caterer, and location*), 10% of the total registration fee amount, or \$50.00, whichever is greater, will be withheld to cover bank and service processing fees.
- 2) If a refund is requested due to a cancellation of attendance **after** the catering guarantee date, the cost of the meals will be withheld from the refund, plus 10% of the total registration fee to cover bank and service processing fees.
- 3) **Dire** or **unusual** circumstances which require cancellation/refund (attendee and/or guest fees) after the guarantee date will be determined on a case by case basis (death in the immediate family, accidents, emergency surgery, etc.), but the 10% fee will be applicable in all cases.
- 4) The cutoff date for the guarantees will be shown on the registration form for each year, so that there will be no misunderstandings.

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- Army
- Coast Guard

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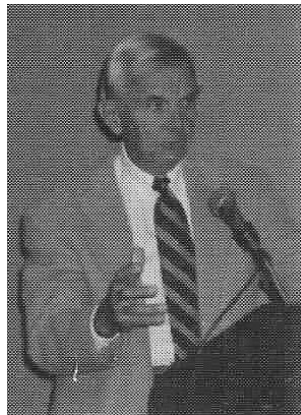
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Earl Francis Beard, CAMA Past-President, Passes Away at Age 85

Dr. Earl Beard was born on August 9, 1923, and passed away on October 3, 2018. He was a cardiologist in Houston, Texas, and was affiliated with Baylor St. Luke's Medical Center and was a Clinical Assistant Professor at the Baylor College of Medicine. He received his medical degree from Northwestern University Feinberg School of Medicine in 1948, and served in the US Air Force. He practiced medicine for more than 50 years. He was one of 243 doctors at Baylor St. Luke's Medical Center who specialized in Cardiology.



Dr. Earl Beard was a legend in the cardiology medical community. He retired in April, 2004, after 50 years of service. A founding partner in the Kelsey-Seybold Clinic and a pioneer in the field of cardiac catheterization, Beard made a significant impact on the Houston, Texas, community.



Dr. Berthelsen, chairman of Kelsey-Seybolds board of directors said Dr. Beard had been a trusted consultant in cardiology and aerospace medicine for decades. His colleagues have benefited from his counsel on the board and in shareholder meetings to guide Kelsey-Seybold to its present place in Houston medicine.

Beard joined Kelsey-Seybold Clinic in 1954. Within his first year, he performed the first cardiac catheterization at Texas Children's Hospital and helped establish the cardiac catheterization laboratories at St. Luke's Episcopal Hospital and Texas Children's Hospital. He also played an integral role in Kelsey-Seybolds beginnings with the National Aeronautics and Space Administration by helping to arrange the first occupational medicine contract with NASA in the 1960s, as the Johnson Space Center was being built.

Dr. Beard received several awards for his contributions to the medical community. In 1992, he received an honor award from the American College of Sports Medicine, Texas Chapter, for outstanding scientific and scholarly contributions to

sports medicine. In 1995, Beard accepted the Civil Aviation Medical Association Award of Merit, and in 1996, he received the Texas Heart Institute Cardiology Society Gold Stethoscope Award and an honorary Doctor of Science Degree from Texas Lutheran University. Dr. Beard also impacted the lives of many young doctors by helping to establish an internship program at Texas Lutheran University.

Two scholarships were created in Beard's honor at TLU, including the Earl Beard Scholarship for pre-professional students and the W.J. and Lela Budwine Scholarship-Grant Award.

Upon retirement, Beard continued his work as a consultant to the FAA and Social Security Commission and with the Frontiers of Cardiology symposium in Colorado, as well as continuing his post-graduate teaching.

Dr. Earl Beard was predeceased in August, 2014, by his wife Evelyn Love "Lovie" Beard, loving wife and friend, who came from a prominent political family in Germany.

In 1940, Lovie attended nursing school at Abington Memorial Hospital. After receiving her nursing license, she accepted a position at an Air Force hospital in Coral Gables, Florida. In 1946, she was accepted at Northwestern University in Evanston, Illinois, where she pursued an advanced RN degree in nursing. Upon completion of her certification, she accepted a position at the Mayo Clinic in Rochester, and in 1948 met Earl Beard, a postgraduate trainee at Northwestern pursuing his cardiology fellowship. Lovie and Earl were married in 1950.



A transformational gift from Dr. Earl and Mrs. Lovie Beard endowed the Earl and Lovie Beard Scholarship Fund at Northwestern University Feinberg School of Medicine, directly supporting medical student scholarships.

Additional information about We Will, The Campaign for Northwestern is available at wewill.northwestern.edu. Further details on Northwestern Medicine initiatives can be found at www.feinberg.northwestern.edu/giving.



DR. RAYMOND BASRI, MD, FACP, is in the private practices of internal medicine and diagnostic cardiology in Middletown, NY. Dr. Basri is a Diplomate of the American Board of Internal Medicine and president of the Mid-Hudson Section. He received the 2008 Laureate Award of the American College of Physicians, of which he is a Fellow. Dr. Basri also is clinical assistant professor of medicine at New York Medical College, attending physician in the Department of Internal Medicine at Orange Regional Medical Center and on the consulting staff in cardiology at The Valley Hospital in Ridgewood, NJ. He is a member of the Excelsior Hook and Ladder Company in Middletown and a deputy fire coordinator for Orange County. Dr. Basri is the senior physician of the Disaster Medical Assistance Team (DMAT NY-4). He is a Senior Aviation Medical Examiner for the Federal Aviation Administration (FAA) and chief physician for Health & Safety Specialists in Medicine, which does on-site medical examinations for the fire service and consultant to FirePhysicals.com.

By Dr. Raymond S. Basri, MD, FACP and Daniel E. Leisman, BS, Affiliation: Icahn School of Medicine at Mount Sinai, New York, NY.

Text Messaging Your AME: Caveat Emptor

(Incoming Text)

Dr Basri,

This is Paul X—one of your FAA and PCP patients. Sorry to bother you on a Sunday, particularly fathers day, but I wanted to ask a question.

About two weeks ago I pretty aggressively strained my left quadriceps muscle due to repetitive motion and ignoring the discomfort. Unfortunately it flared up pretty significantly and the pain is a daily experience as you are well aware of I am sure. The pain is localized all along the left side of my leg well above the knee which is not affected. I assumed this was a home care issue and it has been so far with the exception of the daily pain I am in and at night where the leg rests constantly on the tender area rendering sleep problematic.

My father has a soft tissue injury and while I am taking ibuprofen, they are prescribing Tramadol to help him to sleep.

I was wondering if that would be of some help to me in this case. I know little about it with the exception that it does help him.

If it is available here is my info:

Paul X
12/12/70
555-555-0000

CVS #122
Route Z, Township
Somewhere, State XXXXX
555-555-0001

Thank you again. I figured it was worth asking in any case. Happy Fathers Day. Paul

(Outgoing Text)

You could take that pain medicine tonight. I will be in the office tomorrow beginning at 8 AM. You should come to the office in the morning and we will do an ultrasound of your leg. Please arrive before 10:30 AM. Happy Father's Day.

(Incoming Text)

Ok.
I will do my best to see if I can get some transportation there. If you remember, my wife is still out of town completing cancer treatments so I am the only one here and the drive is an hour to your office which would be a bit problematic with this leg. Nonetheless I will see if someone is available and I appreciate your time as always.

(Outgoing Text)

Thanks

(Incoming Text)

Just to clarify—should we wait on the prescription then?

(Outgoing Text)

I am not prescribing anything today. You can take a Motrin or whatever you have at home for pain relief tonight. Hot towels around the leg and elevate please

(Incoming Text)

Got it.
Thanks again.

(Continued on Page 9)

These are the text messages from a 47-year-old major airlines captain, Paul X on Father's Day, Sunday June 18, 2017. It sounded routine, un-alarming, and why worry? He did not come to my office the next day. The following week, Paul X visited a local urgent care where he was diagnosed with a hematoma, although there was no history of trauma. The leg pain became constant and bilateral. Paul X did not contact me again until he arrived at my office 8 days later, my last patient on the afternoon of Monday, June 26.

This previously healthy and athletic commercial pilot had no significant past medical history or medications. He passed his first-class medical exam for the FAA just three months earlier. Now roughly a month after first noticing symptoms, he presented to my office in considerable distress. Paul X limped in pain, alone and hunched over, and appearing acutely ill.

Over the previous week, Paul X had waited at home for improvement as his legs swelled, until the fluid reached his scrotum. He said that he gained 20 pounds. Now there was redness and marked warmth over both legs. Walking was difficult as he had difficulty bending his knees. Paul X said the pain was localized along the left quadriceps and behind his right knee. He denied injuring himself, chest pain, shortness of breath, fever or chills. He had maintained a regular schedule flying and had multiple episodes of prolonged sitting until early June.

Paul X stands 72 inches and weighed 223 pounds, which is almost 10 pounds higher than his previous weight during his last medical exam 3 months earlier. His blood pressure was elevated at 160/90, and his heart rate was tachycardia to 123 beats per minute. He had rapid breathing and was afebrile. There was cellulitis and considerable swelling of both thighs which were markedly asymmetric. There was both pretibial and sacral edema. The thighs were crepitant, boggy, and swollen. There were no signs of deep venous thrombosis.



Bilaterally, both quadricep areas were spongy and distended. Further questioning revealed that three weeks earlier he popped a blister on the dorsum of his left foot. There was a left plantar 2 cm open wound without pus.

Laboratory studies showed a white blood cell count of 18,600 with left shift, glucose 343, an anion gap of 25.45 (corrected for albumin), and a positive D-dimer of 8.79. His hemoglobin A1C was 11.7 and urinalysis with 3+ glucose and ketones.

CT scan of the chest with intravenous contrast showed small right pleural effusion with right lower lobe atelectasis. Echocardiogram showed a dilated left ventricle with overall left ventricular systolic function mildly depressed due to diffuse mild hypokinesis involving all left ventricular wall segments. There was mild tricuspid and aortic insufficiency without valvular stenosis or mitral valve prolapse. Calculated ejection fraction was 51% and there were no vegetations seen.

(Continued on Page 10)

Ultrasound of the right leg revealed that there was a complex cystic structure within the right popliteal fossa and extending into the posterior proximal thigh measuring 2.1 x 1.2 x 1.7 cm and 3.5 x 2.1 cm.

CT of the left femur showed "a large low density mass-like structure which is apparently a very large collection of fluid within the thigh anteriorly and laterally extending almost the entire length of the thigh over almost 40 cm in length, 11 cm in width and 6 cm in depth with large amount of fluid and multiple gas bubbles. Findings are consistent with a very large soft tissue abscess. The abscess appears contained within the anterior compartment. No definite involvement in the posterior compartment could be identified. Extensive changes in the subcutaneous fat of the left pelvis and thigh consistent with infection and/or edema and or inflammation."

Venus study of the right leg showed complex cystic structures within the internal right popliteal fossa and extending into the posterior proximal thigh. They measured 2.15 x 1.2 x 1.7 cm and 3.5 x 2.1 cm, likely related to complex collection identified on recent CT scan compatible with soft tissue infection or abscess.

On admission to the hospital, Paul X was diagnosed with sepsis and bilateral thigh abscesses secondary to staph aureus. The patient also had new onset diabetes with diabetic ketoacidosis.

On the first day of admission, Paul X underwent bilateral incision and drainage of large left and right thigh abscesses, debridement of the left foot and removal of bilateral great toenails. Cultures and sensitivities from abscess contents grew methicillin sensitive staphylococcus aureus and streptococcus group B bacteria were isolated from the abscesses. Blood cultures grew staphylococcus aureus bacteremia.

The surgeon described the procedure as follows: "An incision was made along the area of the most induration and erythema until pus was located. The pus was approximately 1 cm to 2 cm below the surface and was under such pressure that there was significant splatter to two feet. This incision was widely opened and a tremendous amount of pus was removed from the patient's thigh. The incision was ultimately extended over the left knee as the pus was tracking towards the knee. The abscess essentially extended from the lateral aspect of the hip to the knee."

"The right leg abscess was then incised. There was a large amount of erythema just posterior to the

knee in the popliteal fossa. A curvilinear incision was made at the back of the patient's knee. Pus was noted and pus seemed to be tracking in the fascial planes. It was a boggy over the right thigh and over the area of most fluctuance an incision was made. There was no erythema in this area but a large amount of pus was removed from this incision as well. The pus was completely evacuated and then these wounds were packed. Again, hemostasis was difficult to achieve due to the swelling, edema, and large surface area of concern. This abscess tracked as far back as the patient's buttocks."

"Attention was directed towards the plantar aspect of the patient's left foot where a portion of dead tissue was removed. The tissue was sharply debrided and then attention was directed towards the patient's bilateral great toes. Both toenails were

ingrown with a plethora of granulation tissue over the toenails. Pus had been seen coming from the nailbed so both toenails were removed. Estimated blood loss was 500 mL."



After the radical debridement, Paul X was taken to the ICU for management of sepsis, diabetic ketoacidosis, and transient respiratory failure. He was treated with Piperacillin-Tazobactam, Levofloxacin, Vancomycin, and insulin. He remained in the hospital for 10 days followed by inpatient rehab for several weeks.

(Continued on Page 11)

This commercial pilot returned to unrestricted duty and had his FAA first class medical certification reinstated on April 10, 2018. His legs now look like this:



This case illustrates an unusual presentation of a previously healthy pilot with sepsis, staph aureus bacteremia, and bilateral lower extremity abscesses secondary to a blister on the dorsum of the left foot, in the setting of new onset diabetes mellitus. Hematogenous spread of the bacteria seeded both legs. However, he was quite fortunate that he did not develop endocarditis.

The initial text message to this physician was compatible with a minor orthopedic injury. However, the progression of his illness was life-threatening. He was not known to be diabetic prior to this illness. Since leaving the hospital, he has been controlled

with oral hypoglycemic medications and has completed extensive physical therapy.

This case reminds us that common orthopedic complaints may be the earliest signs of less common systemic illness. The differential diagnosis in a commercial pilot with leg pain and swelling would include venous thrombosis and thromboembolism. A popliteal vein thrombosis could masquerade for a posterior fossa abscess until the evaluation is completed.

Furthermore, a patient with tachypnea and tachycardia will need careful evaluation to determine if the cause is a pulmonary embolus, diabetic keto-acidosis, sepsis, or a combination of these acute illnesses.

Almost half of all hospitalized patients are seen by an outpatient provider in the week before hospitalization for an infection. The warning signs of infection may be obscured within other symptoms and only become manifest later. This patient was afebrile and denied fever or chills prior to admission. Immediate treatment including surgical drainage and early intravenous antibiotics were needed to reduce the increased mortality with each hour of delay.



EDITOR'S NOTE:

Dr. Basri will present this interesting case in greater detail at the CAMA Annual Scientific Meeting in Cleveland in September, 2019. The pilot, Paul X, has given written permission for CAMA and Dr. Basri to use his first name and other identifying information, photos of his medical situation, and to present his case both for publication in this newsletter and at the Annual Scientific Meeting.



Dr. Fred Furgang graduated from New York University with a B.A. degree in physics, and from Columbia University's College of Physicians and Surgeons with the M.D. degree. He completed his residency in Anesthesiology at the University of Miami, and spent 15 years in private practice in Miami as the head of his anesthesia department before joining the faculty of the University of Miami's School of Medicine, where he retired after 20 years. Dr. Furgang also served with the U. S. Navy as a Diving Medical Officer, and is currently a full-time Senior Aviation Medical Examiner and HIMS AME for the FAA. He is certified by the American Board of Anesthesiology.

As a pilot himself (ATP, CFI/II), Dr. Furgang believes pilot physical exams should be conducted in an 'aviator friendly,' non-medically threatening, environment. To make that a reality, he opened an

office in Reliance Aviation at Miami Executive Airport (KTMB). All classes of FAA physicals can be accommodated with on-site transmission of ECG's. Dr. Furgang has extensive experience helping pilots obtain medical certification in problem cases, and maintains an active HIMS program for pilots requiring special assistance.

ALTITUDE HYPOXIA

By F. A. Furgang, MD, AME, ATP, CFI

As physicians, and especially AME's, we are no stranger to the concept of hypoxia. Many of us are pilots and are in a position to advise pilots on the prevention of hypoxia, and the deleterious consequences of flying hypoxic. Although there are multiple causes of hypoxia, including anemia, CO intoxication, and G-loads, it is the altitude-induced hypoxia that effects virtually all pilots to some degree on every flight. In this article, I will describe why we must consider the effects of altitude, not only on arterial oxygen saturation (SO₂), but also on the partial pressure of oxygen (PO₂) and the oxy-hemoglobin dissociation curve (OHDC), as critical factors in determining when to use supplemental oxygen. In addition, I will describe what, I believe, is a simplified way of explaining the decrease in available oxygen with increasing altitude.

You may recall the loss of professional golfer Payne Stewart in his Lear 35 in 1999, most probably due to a slow loss of cabin pressurization. In 2014, a Cirrus SR22 crashed into the Atlantic Ocean after overflying its intended destination on a flight from Wisconsin to Virginia. Also in 2014, a TMB 900 on a flight from New York to Florida continued at FL 250 until it ran out of fuel and crashed into the Atlantic off the coast of Jamaica. Unfortunately, hypoxia does not leave any telltale markers that can be used to make a definitive diagnosis in the subsequent accident investigation. In all probability, hypoxia plays a role, to some degree, in a great many more accidents than we give it credit for. For example, some accidents related to spatial disorientation may be triggered by hypoxia.

In discussing altitude hypoxia with pilots, I like to say that we require about 250 cc of oxygen (O₂) per minute at rest. This is equivalent to consuming a cupful of oxygen molecules per minute, assuming your cup is filled with 100% O₂ at sea level.

As altitude increases, there are less O₂ molecules in the cup, so you need to "drink" more cups to satisfy your O₂ needs. A deficiency of O₂ in the lungs will lead to a deficiency of O₂ in blood and tissues. Since the brain is the organ most sensitive to O₂ deficiency, a simplified definition of hypoxia is that it equals "stupidity."

It is important to emphasize that although the percentage of oxygen (O₂%) in the atmosphere (21%) does not change with altitude, the PO₂ does decrease at the same rate as the fall in atmospheric pressure (Patm). The PO₂ is simply Patm X 0.21. At sea level Patm=29.92 in Hg; therefore PO₂ = 6.3 in. At 5000 ft, the Patm=24.9 in, and PO₂=5.2 in. Divide 5.2 by 6.3, and we have an equivalent O₂ percentage (EO₂) of 17%. Therefore, breathing air at 5000 feet is equivalent to breathing a gas at sea level consisting of only 17% O₂. Diluting the O₂ in air with nitrogen, makes it possible to have pilots experience hypoxia at sea level without the need for an altitude chamber (normobaric hypoxia).

Referring to the Table 1 on the following page, you will note that the EO₂% progressively declines from 21% at the surface, to 14% at 10,000 ft, and 10.5% at 18,000 ft, where the Patm is 1/2 that of the surface pressure.

(Continued on Page 13)

ARTERIAL OXYGEN SATURATION VS. ALTITUDE (air breathing)

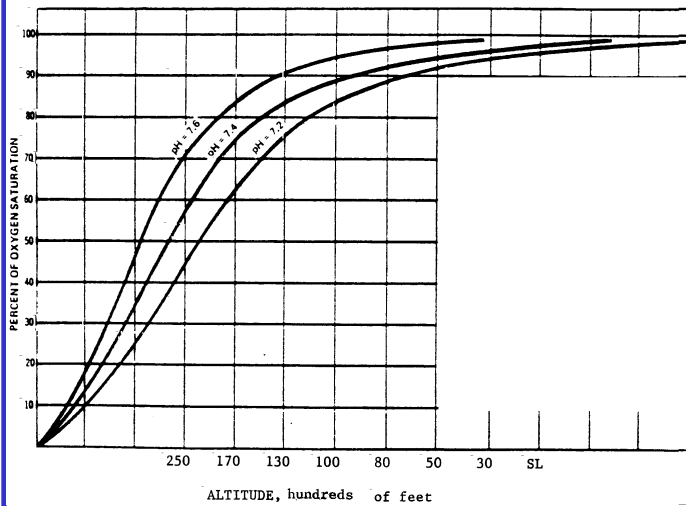


Table 1

There have been several recent articles in the popular flying press about hypoxia, and the importance of maintaining adequate blood oxygenation, as measured by a pulse oximeter. These articles correctly stress the importance of maintaining oxygen saturation (SO₂), but often fail to consider the importance of PO₂ and the shape of the OHDC. It is the PO₂ in arterial blood, and not the saturation, that is the driving force for the movement of O₂ into the body tissues.

Plotting the OHDC as a function of altitude, instead of PO₂ (see Fig 1, pH 7.4), demonstrates that the knee of the curve occurs about 10,000 ft. There is a relatively slow decline in SO₂ from the surface to this altitude (10%), but a rapid decline in arterial PO₂ (40%). Thereafter the decline in saturation is much more rapid with increasing altitude and can rapidly fall into critical levels. Recall that at sea level, the SO₂ of mixed venous blood returning to the heart is approx. 70% with an arterial PO₂ about 40 mmHg; these conditions might occur in arterial blood at approximately 18,000 ft if breathing air.

I like to compare the decrease in manifold pressure for a normally aspirated piston aircraft engine, to the decrease in EO₂ for the pilot; both suffer a loss of performance with increasing altitude. The knee in the OHDC can be thought of as the "critical altitude" equivalent of a turbo-charged engine; it is the point at which a further increase in altitude results in a rapid fall off of SO₂, and a decrease in arterial PO₂ into potentially critical levels.

According to FAR 91.211, a pilot must use oxygen if flying above 12,500 ft, up to 14,000 ft, only if spending more than 30 minutes in this range. It is not until 14,000 ft that pilot use of O₂ is mandatory, and 15,000 ft before it must be "provided" to each occupant! In contrast the commercial regulation

FAR 135.89 requires O₂ use by pilots when over 30 min at cabin altitudes between 10,000 ft and 12,000 ft and continuous O₂ use above 12,000 ft. However, AIM 8-1-2, which is non-regulatory, suggests "For optimum protection, pilots are encouraged to use supplemental oxygen above 10,000 ft during the day, and above 5,000 ft at night." The lowered altitude at night reflects the high degree of sensitivity of retinal cones to hypoxia. At 12,500 ft, in the absence of compensatory mechanisms, a pilot might be expected to have an arterial SO₂ of approx. 85%, and a PO₂ of only 50 mmHg.

A nasal canula can increase the inspired O₂% to approx. 25-30%, and is legal to use up to 18,000 ft. For example, at 10,000 ft, where Patm=20 in, 25% O₂ will provide 5 in of PO₂; this is equivalent to cabin air at 5000 ft. A face mask may provide 35-50% inspired O₂. At 25,000 ft the Patm=11 in, and 50% O₂ will provide the equivalent of cabin air at 2500 ft.

I recommend that pilots maintain an SO₂ of approximately 95%, which is about the mid-portion of the OHDC plateau. Portable oxygen systems are easy to obtain and use in the cockpit. They may have an oxygen flow valve which is calibrated in altitude. However, it is still critical to actually measure your SO₂ with a pulse oximeter to be certain that you are well saturated. Case in point was a flight at 12,000 ft in a Bonanza: in spite of more than adequate O₂ flow on the meters, our saturations in the cockpit were still in the 80's. Confused by this, we descended to a lower altitude. When the equipment was later checked, it was determined that all O₂ was leaking out through the flowmeter itself. The glue used in assembly of the flowmeter had deteriorated permitting the O₂ to escape rather than flowing to the cannula.

As an anesthesiologist, I began using continuous SO₂ monitoring of patients in the operating room as soon as the technology became available. SO₂'s below 95% would arouse concern; any SO₂ below 90% was deemed critical and required an immediate response. When portable pulse oximeters became available they were pricey and required a physician's prescription to purchase. Now they are cheap and can be easily ordered on-line. Unless you are flying a crop-duster, you should carry one in your flight bag. If you like to fly high where the air is clear and fresh, the visibility unlimited, the traffic is light, and if you don't have a built-in O₂ system, keep a portable oxygen system in the cockpit and fly "smart" and monitor yourself in addition to the aircraft.



Daniel Glover is a writer-editor for the Federal Aviation Administration.

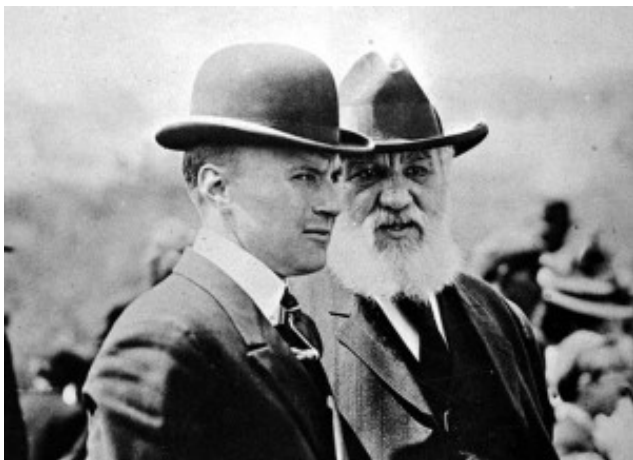
K. Daniel Glover has three decades of experience as a writer, editor and social media strategist, most of that time as a journalist covering Congress for leading Washington news outlets. He has written and edited news stories, features, columns, blogs, speeches, broadcast scripts and more — both under his own byline and as a ghostwriter. While Glover’s editorial emphasis has been in text, he also has experience editing photos, audio and video.

Editor | Writer | Social Media Strategist | Drone Pilot | Entrepreneur

Daniel Glover is a writer-editor for the Federal Aviation Administration, which published a version of this article in September 2018. CAMA thanks him and the FAA Office of Communications for permission to reprint this very interesting presentation. We hope to have regular contributions from Mr. Glover in future editions of “The Flight Physician.”

The Tragic Tale of Thomas Selfridge

Originally published on the FAA’s internal website and at Medium



Thomas Selfridge (left) with Alexander Graham Bell, who recruited the military aviator for his Aerial Experiment Association that was competing with the Wright Brothers to be the first in flight (Photo: Air National Guard)

Most pioneer aviators are known for their famous flights, but one of them is best remembered for a fatal flight. Thomas Selfridge became the first person to die in a motorized aircraft accident 109 years ago this September. He was 26 years old.

The tragedy occurred at a key point in aviation history, as the U.S. Army considered a contract to buy airplanes from the Wright brothers. Orville Wright was at the controls of the Wright Flyer that day, nearly five years after he and his brother, Wilbur, made history with flights at Kitty Hawk, N.C. Selfridge, an Army lieutenant with an aviation background, was his passenger—a concession that

Orville Wright made reluctantly to try to win the contract.

The two were in the air above Fort Myer, Va., for just a few minutes when a propeller malfunction triggered a chain of events that sent the aircraft plummeting to the ground. Wright survived the accident with severe injuries, but Selfridge never recovered from a fractured skull.

A storied history of Selfridge success

The Selfridge surname was well established in military circles before Thomas Etholen Selfridge was born in 1882. His grandfather and uncle, who shared the name Thomas O., had distinguished Navy careers. Both rose to the rank of rear admiral, and the uncle led an expedition related to the Panama Canal.

Thomas E. Selfridge’s brother, Edward, also was part of an important event in U.S. history. He was part of an infantry regiment that supported future President Theodore Roosevelt’s Rough Riders at San Juan Hill in the Spanish-American War. “They were a pretty prominent family,” said Dan Heaton, who wrote a book about Thomas E. Selfridge while serving at the Air National Guard base in Michigan that bears the family name.

Like his grandfather and uncle, Thomas E. Selfridge excelled in the military, and he did it at a young age. He was chosen as an alternate to the U.S. Naval Academy while he was still underage, and a year later, he won an appointment to the U.S. Military Academy at West Point, N.Y. He graduated in 1903, the year of the Wright brothers’ first motorized flights.

(Continued on Page 15)

A native of San Francisco, Selfridge headed back home for his first assignment. He was at the Presidio during the 7.8 — magnitude earthquake that devastated the City by the Bay in 1906, a tragedy that prompted a declaration of martial law. As a



Selfridge (Photo: Air National Guard)

young lieutenant, he did such a remarkable job during search - and-rescue and cleanup operations that the Army gave him the choice of his next assignment. He opted to teach at West Point for a year and think about it.

While Selfridge was at the academy, Heaton said he wrote a letter to ask

the Wright brothers if he could help in their workshop. But they didn't want someone from the federal government watching them work on an innovative machine the government might want to buy.

Rebuffed by the Wright Brothers, Selfridge instead went to work for Alexander Graham Bell, who turned his attention to aviation and other interests after inventing the telephone. At Bell's request, President Roosevelt assigned Selfridge to the Aeronautical Division of the U.S. Signal Corps in 1907. The corps assigned him to the Bell-funded Aerial Experiment Association for a year of research into an aircraft meant to compete with the Wright brothers' work. Selfridge eventually piloted—and crashed into the water—an unpowered, tetrahedral kite called Cygnet.

As part of his work for the association, Selfridge also designed a powered aircraft called Red Wing, and a few months after it crashed on its second flight, he piloted two other aircraft called White Wing and June Bug, making him the first U.S. military officer to fly a modern aircraft. He made several flights through the spring and summer of 1908.

'I don't trust him an inch'

That August, the Signal Corps recalled Selfridge so he could learn to fly its first powered aircraft, a dirigible based at Fort Myer. The Army relocated the dirigible to Fort Omaha in Nebraska and planned to exhibit it at the Missouri State Fair. But first it had another assignment for Selfridge, who by then had flown a kite and a dirigible, and designed



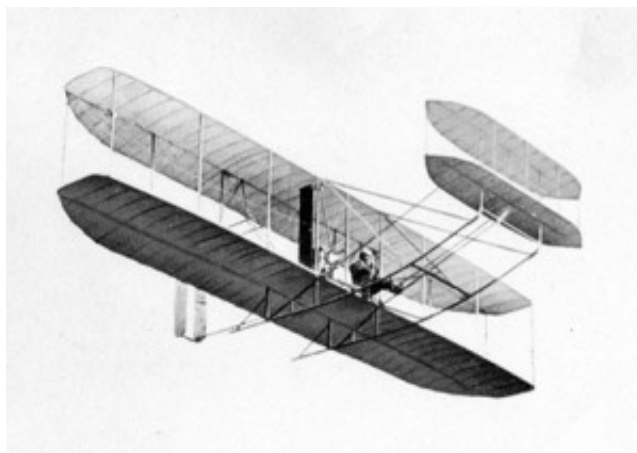
As part of his work with the Aerial Experiment Association, Selfridge designed the Red Wing, which is pictured here on Lake Keuka, N.Y., in 1908 (Photo: wright-brothers.org)

an aircraft. He was tasked with observing the tests of the Wright Flyer.

"He was by far the most experienced airman in the history of the military—in the history of the world perhaps to that point," Heaton said. "He was obviously the man to make this determination on whether the airplane is worthy of government purchase."

Orville Wright didn't see it quite that way. He voiced his displeasure in a letter to Wilbur, who was demonstrating their aircraft to the French government. Noting Selfridge's pending departure for Missouri, Orville wrote:

I will be glad to have Selfridge out of the way. I don't trust him an inch. He is intensely interested in the subject and plans to meet me often at dinners, etc., where he can pump me. He has a good education and a clear mind. I understand that he does a good deal of knocking behind my back.



Orville Wright in flight at Fort Myer (Photo: FAA)

(Continued on Page 16)

In separate letters to his father and sister, Orville accused Selfridge of making “a pretense of great friendliness” while “doing what he can behind our backs to injure us.” Earlier that year, the Wrights had helped Selfridge in his work for Bell’s group by sharing their patent and other information with him. But Orville’s impressions of Selfridge clearly had changed in the interim.

Despite that behind-the-scenes drama, Orville managed to wow the crowds at Fort Myer with the Wright Flyer. Historian David McCullough noted in his book “The Wright Brothers” that Orville set seven world aviation records before the infamous flight with Selfridge.

Rumors swirled that the president, who in 1905 plunged underwater in a submarine, might want to take flight. Although Orville didn’t think the idea was wise, he said he couldn’t refuse if asked. He was equally unenthusiastic about Selfridge flying with him but felt just as compelled to go along when the Army picked Selfridge instead of Lt. Benjamin Foulois.

A fateful flight

Selfridge ended up on the flight that took his life in part because of his scheduled departure to Missouri on September 19 and high winds prevented flights September 16–17. Another passenger reportedly was supposed to be on board September 18, but with the winds down and the plane ready to fly at about 5 p.m., Orville gave the spot to Selfridge.

According to McCullough’s account of the flight and crash, observers said the aircraft lifted more slowly than earlier flights in Fort Myer. Orville steered it safely around the field three times at about 40 miles per hour, but he decided to land after something behind him started tapping in the turn toward a fourth lap.

By then it was too late. Orville heard two loud thumps, and the flyer began shaking violently. He turned off the engine to try to glide to the ground from 125 feet, but as Orville recalled later, “Quick as a flash, the machine turned down in front and started straight for the ground.”

Army officials, journalists and Charles Taylor, who built the engine for the Wright brothers’ first successful flight, rushed to the scene of the crash. Both pilot and passenger were pinned under the mangled aircraft. Orville broke a leg and four ribs; Selfridge fractured his skull and never regained consciousness.



An Italian weekly newspaper’s inaccurate 1908 dramatization of the Wright Flyer (Photo: La Domenica Del Corriere)

The deadly crash awakened everyone to the risks of flying higher and faster, but it didn’t deter aviation pioneers like the Wrights from continuing their innovative journeys. Both Orville and Wilbur Wright returned to Fort Myer less than a year later, with Orville flying a new plane well enough to satisfy all of the government’s conditions for buying it.

In death, Selfridge also secured his place in aviation history. He is buried at Arlington National Cemetery, near the Fort Myer crash site, and the cemetery’s Selfridge Gate is named for him. He was inducted into the National Aviation Hall of Fame in 1965.



Fiftieth Anniversary Patch recently found among David Millett’s Souvenirs—now in the CAMA Archives at Wright State University

Home Office Activities and Information



Sherry Sandoval
CAMA Executive Vice President

CAMA Winter Board Meeting

On Saturday, February 23, 2019, the CAMA Executive Board and Trustees held the annual winter meeting for the purposes of charting the course of CAMA activities throughout this year. The 2019 Annual Scientific Meeting program is nearing completion, and the CAMA Sunday and CAMA Luncheon programs were discussed. Planning and execution for a “members only” section to the CAMA web site is underway, along with enrichment to the content on the web site. A new award in honor of our past Executive Vice President, the David P. Millett Oratory Award, was proposed for presentation to outstanding speakers at CAMA programs. The format and criteria of the award are being developed, and the first award should be presented later this year. David would have been thrilled to have an award named after him, and there was nothing he enjoyed more than speaking before an audience of friends and colleagues!

A number of individuals have volunteered to participate in the recently outlined CAMA Initiatives (see the November edition of “The Flight Physician”) being chaired by Dr. Gerald Saboe, CAMA President-Elect, to expand and support the goals and objectives of CAMA activities, to promote member participation and sharing of information, and to preserve significant CAMA historical materials.

The CAMA Sunday program, 8:30 AM to Noon on Sunday, May 5, 2019, will take place in room Miranda 5/7. The title of this year’s program is “International Aeromedical Case Presentations” by a panel of international aviation medical experts.

The CAMA Luncheon will be held from Noon to 2 PM on Monday, May 6, 2019, in room Tropical C/D/G/H. The keynote speaker will be Dr. David O’Brien, Manager, Aerospace Medicine Certification Division, discussing plans for the processing of cases in medical certification currently and in the future.

CAMA will host a table at the Aerospace Medical Association (AsMA) annual meeting in Las Vegas May 5—10, 2019. Please stop by information and registration forms regarding our 2019 annual meeting, for information regarding the CAMA mission and goals, to become a member of CAMA or to renew your membership, or to volunteer for CAMA activities.

2019 Annual Scientific Meeting in Cleveland, Ohio

Our 2019 annual scientific meeting will take place September 26-28th at the Metropolitan at the 9, part of the Marriott Autograph Hotel series, an unusual and excellent place in which to hold our annual meeting! The hotel is located in the middle of shops, restaurants, and other activities in downtown Cleveland, a short cab or Uber ride from the airport. There is also an FBO/small plane airport near the downtown area for those who wish to fly their own aircraft.



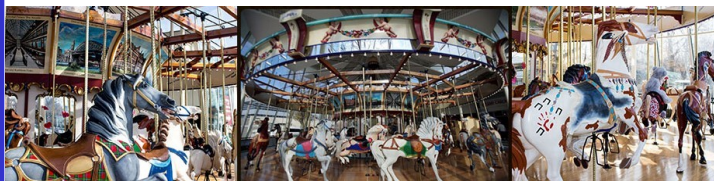
CAMA Vice President of Education, Dr. Ronan Murphy, reports that the educational portion of the program is nearing completion and should be ready for distribution to interested parties by the AsMA annual meeting in Las Vegas in May. Upon completion, the program will be submitted to the American Academy of Family Physicians (AAFP) for a Continuing Medical Education (CME) rating, and to the American Board of Preventive Medicine (ABPM) for a Maintenance of Credit (MOC) rating. Certificates for CME and MOC are given to each participant at the annual meeting for those individuals to claim credit for attendance.

Our field trip in Cleveland is to the Crawford Auto-Aviation Museum of the Western Reserve Historical Society on Thursday, September 26th. The Museum depicts the automobile at various stages of development, both on a national and regional level. Its automobiles and artifacts are



the centerpieces of two major exhibits at the Cleveland History Center in University Circle: [Setting the World in Motion](#) and [REvolution: The Automobile in America](#). The Crawford Auto-Aviation Collection brings the history of transportation alive through the over 170 antique automobiles, 21 non-car transportation artifacts (motorcycles, bicycles, and boats), 12 aircraft, and 3 carriages and sleighs.

There is also a gorgeous restored carousel at the museum which will be open for rides during our field trip. The colorful, hand-carved wooden horses,



once at Euclid Beach Park on Cleveland's lakefront, welcome riders in the Carousel Pavilion.

In 2014, nearly 45 years after the parks closing, the crown jewel of Euclid Beach Park - the Grand Carousel - returned, restored by Carousel Works in Mansfield Ohio. We can enjoy a ride on many of the original horses and see hand-painted scenes depicting Cleveland icons and Euclid Beach Park.

Registration for the 2019 Annual Scientific Meeting in Cleveland will open on or about May 1st, and forms and hotel reservation information will be emailed out to CAMA members and other interested parties at that time. The program and registration materials will also be available at the CAMA desk during the AsMA annual meeting. In the meantime, please save September 26-28, 2019 on your calendar to participate in the CAMA Annual Scientific Meeting. As in the past, this meeting is approved by the FAA for recertification training for Aviation Medical Examiners and will be rated for CME and MOC credits.

2020 Annual Scientific Meeting in Albuquerque, New Mexico



The Hotel Albuquerque Old Town has been selected as the site of the 2020 Annual Scientific Meeting! The hotel is situated right in the middle of the Albuquerque, New Mexico, Old Town shopping and restaurant area, with various museums

and points of interest within a short walking distance of the hotel. The hotel rooms are being updated as of January 2019, so will be ready and comfortable for our meeting!

During the Albuquerque site visit, my daughter Lisa and I took a hot air balloon ride to view the city and surrounding desert and mountains from the air. The view was absolutely spectacular! Our pilot was Troy Bradley, the record-setting premier

international balloon pilot, who has done multiple trans-oceanic balloon crossings and has more than 7255 piloting hours in the air. Mr. Bradley has consented to give a presentation during our annual scientific meeting and his company, Rainbow Ryders, will provide discounts to CAMA attendees who wish to check a balloon flight off their bucket lists while in Albuquerque! Stay tuned for additional information in future editions of "The Flight Physician."



The Albuquerque CAMA annual scientific meeting will be held from Thursday 09/24/20 through Saturday 09/26/20. This is the weekend prior to the 2020 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!

There are also many hiking, pueblo, and other sightseeing venues in and around Albuquerque, and Santa Fe is about an hour up the road, so be thinking about perhaps spending a few days before or after the annual meeting to see the area, purchase pottery and other crafts, or to try out the delightful



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.

New Mexico food!

2020 CAMA Annual Dues Increase

The CAMA Board of Directors and Trustees has voted to increase the CAMA annual dues for 2020 to \$150.00 for an Individual Member, \$300.00 for a Sustaining Member, \$1500.00 for a Life Member, and \$350 for a Corporate Member. Although CAMA expenses are kept to a bare minimum, the cost of office and meeting supplies, web site programming and maintenance, audio-visual equipment rental, and CME certification for CAMA programs have

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



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Things to do in CLEVELAND

Cleveland



We're not worthy! We're not worthy! Pay homage to rock icons and see video, artifacts and memorabilia at the legendary Rock & Roll Hall of Fame. Recently updated with \$15.1 million in bold renovations, the Rock Hall now has even more to gawk at.



The adrenaline comes complimentary at Cedar Point Amusement Park, home to a pretty amazing collection of scream machines, including the recently opened Valruhn and the new Cedar Point Shores water park.



With dining hotspots from Cleveland's own "Iron" Chef Michael Symon and other James Beard Foundation Award winners, a melting pot of ethnic restaurants, numerous microbreweries and the lone food-only public market in the nation, the culinary scene in Cleveland is simply delicious.



The glitz and glam of theater come to life in Playhouse Square, the largest performing arts district outside NYC. You can catch your favorite comedies, tragedies and Broadway hits in one of ten venues.



Major League Baseball is exciting at Progressive Field, home of the Cleveland Indians, giving visitors plenty of options to be entertained in a food-rich and family friendly atmosphere.



One of the nation's oldest and most storied football franchises plays its home games on the shore of Lake Erie, within a 10-minute walk of downtown hotels, restaurants and bars.



Excitement happens at Quicken Loans Arena when the NBA's Cleveland Cavaliers take the court.

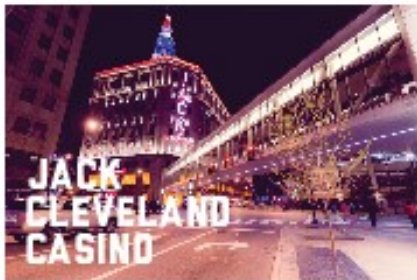
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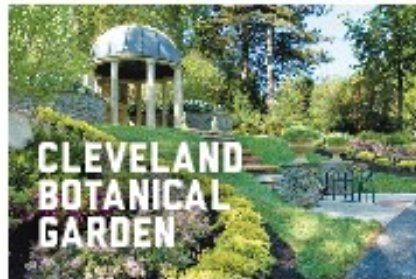
Play name-the-constellation. Wave to Lucy, the earliest known hominid. Compare smiles with a T-Rex. You can do that and more at the Cleveland Museum of Natural History.



Feeling rather high roller-ish? The high-energy JACK Cleveland Casino features non-stop gaming action with slot machines, table games and the ROCK Bar and Lounge.



With more than 3,000 animals located throughout 163 rolling wooded acres and the two-story RainForest full of exotic creatures and striking plant life from across the globe, Cleveland Metroparks Zoo and RainForest is not your typical zoo.



Whether you're a green thumb or green thumb, the Cleveland Botanical Garden offers a beautiful escape with its indoor exhibits housed in a magnificent glasshouse and 10 acres of outdoor gardens.



The Cleveland History Center showcases just about everything there is to know about Cleveland's history – complete with sports artifacts, antique, vintage and classic automobiles, ornate costumes, and the famous Euclid Beach carousel.



Hear, hear! The Cleveland Orchestra stands today among the world's most revered.



The museum itself, which opened in 2012, is a work of dramatic geometric art. MOCA provides a diverse array of innovative and flexible exhibitions, programs and art of our time.



Why? Why? Why? These questions and more are answered at the Great Lakes Science Center, featuring hands-on exhibits, a digital dome theater, the Steamship William G. Mather and the NASA Glenn Visitors Center.



A weekend getaway is all about getting outside life's familiar four walls. In Cleveland, you'll find plenty of recreational opportunities on the great Lake Erie, throughout the Cuyahoga Valley National Park and within thousands of acres of green space in the Cleveland Metroparks.

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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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.

Stephen D. Leonard, MD
3704 E. Alta Ridge Court
Boise, ID 83716
New Life Member
Senior AME, Pilot, HIMS
Specialty: General/Vascular/
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