With a sigh of relief, the 2020 national election is over (although there’s still no final decision as of this writing), there is a COVID-19 vaccine on the horizon, the 2021 AsMA and CAMA Annual Scientific Meetings are on schedule, and, as Queen Elizabeth II so aptly described her year in 1992, our 2020 “annus horribilis” is almost in the rear view mirror!

Federal Air Surgeon, Michael A. Berry, MD, MS, retired October 1, 2020, and we wish him a very happy retirement! Deputy Federal Air Surgeon Brett Wyrick, DO, MPH, will be acting FAS until the new Federal Air Surgeon is designated. Warren Silberman, DO, MPH, also retired from the FAA at the end of September and looks forward to spending some time relaxing until the next interesting project arises.

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

Please take a moment to pay your 2021 dues in advance. If you are interested in CAMA Fellowship, one of the primary requirements is five continuous/consecutive years of paid membership. We will gladly accept payment of 2020 dues at the same time you pay your 2021 dues, so you will not lose your eligibility for Fellowship. Remember also that the registration fees for the Annual Scientific Meeting are considerably less for CAMA members. If you are not sure regarding your dues status for 2020, send an email to civilavmed@aol.com or give Sherry Sandoval a call, and we will check that for you.

See Page 2 for details regarding the FAA relief measures 60 day extension for medical certificates that expire between October 1, 2020, and January 31, 2021.

Dr. Saboe has provided an interesting history of Initial Powered Flight Landmarks & Aeromedical History in the USA (1907-1918) both in his President’s article beginning on page 3 and in an outline starting on Page 6.
Date: 10/29/2020
Date Sent: 10/29/0120
Subject: IMPORTANT: Second extension of Limited Relief for Certain Persons and Operations During COVID SFAR 118-2

Important - if you are an AME staff member viewing this message, please advise your AME(s) of the information shown below.

Please be advised that the new SFAR, printed earlier this month in the Federal Register, adjusts and extends current FAA relief measures for pilots, to include airman medical applications.

Specifically, the SFAR extends the duration of medical certificates that expire between October 1st and January 31st. The extension is for 60 days, with the exception of pilots living or operating in Alaska, in which case the extension is for 90 days. For First Class airman, required ECGs are also extended an additional 60 days (or 90 days for those living or operating in Alaska). If an ECG is due, it should be accomplished in conjunction with the next AME exam done as part of the Airman Medical application.

Upon request, AMCD will also provide a single 60-day extension to any request for required information that is due between October 1st and January 31st. The airman may write a letter to AMCD requesting the extension or call the AMCD Call Center and state their request.

Aerospace Medical Certification Division, AAM-300
Federal Aviation Administration
Civil Aerospace Medical Institute
P.O. Box 25082
Oklahoma City, OK 73125
(405) 954-4821

Please reference the published chart below for further details on medical certificate extensions. Additionally, a link is provided for the full text of SFAR 118-2.

62962   Federal Register/Vol. 85, No 194/Tuesday, October 6, 2020/Rules and Regulations

<table>
<thead>
<tr>
<th>Base month</th>
<th>61.23 SFAR Relief (all pilots)</th>
<th>61.23 SFAR Relief (Alaska pilots)</th>
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<td>June 2020</td>
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https://medexpress.faa.gov/loginnet/Home.aspx
Greetings CAMA members! Follow me on a historic aviation journey. But first, let me reflect on a few things. During the 1950’s we learned to “Duck & Cover” in case of a nuclear attack and now in 2020 we learned to “face mask & social distance” to contain the spread of COVID-19. In school during the 1950’s and 60’s, I was taught about rules, laws and why police were present in communities to help preserve order when rules and laws appeared to have been broken. Seemed simple. Later in life I finally had my chance at entering the Magic Kingdom at Disney World and noted at every aggressive-in-nature amusement ride a sign reading, “Must be taller than bar to ride.” Seemed simple. I joined the military and learned further distinctions between goals and requirements for allocation of time and resources. Seemed simple. When the need arises, proposed standards limits are researched according to desired specification requirements by a customer, proposed standards are determined, considerations are then accepted from the customer for amending requirements for balancing the standards limits, and standards are established. Pretty straight forward stuff, and in the aviation world standards are established to facilitate safety for the pilot, crew, passengers, air traffic, maintainers, and community.

Our aviation predecessors in 1911 were embracing the emergence of powered flight over the preceding eight years. Proprietary specifications were not being shared between the Wright brothers’ development of the Wright Flyer and Curtiss’ development of Curtiss D pusher aircraft, however, the gutsy few who stepped up to fly these loud, exposed machines seemed to believe they were personally agile and quick enough, with good senses, to survive a flight and fly again. But then on 17 Sep 1908, Orville Wright was flying their new 1908 Wright Military Flyer version of the 1905 Flyer, that accommodated a pilot and a passenger. Army Lieutenant Thomas Selfridge was his passenger that day circling Fort Meyer, Virginia, when on the fifth circuit the right-hand propeller broke, causing the rear vertical rudder bracing wire to tear loose, sending the Flyer into a 50 foot nose-dive into the ground. Orville Wright survived with broken ribs, left femur and hip, however, Lt Selfridge struck one of the wooden uprights of the framework at impact and suffered a skull fracture. Neurosurgery was completed but he died three hours following the mishap without gaining consciousness. Selfridge was not wearing any headgear and Wright was only wearing a cap. Due to speculation that Selfridge would have survived had he worn headgear, Army

Gerald W. Saboe, DO, MPH
CAMA President, 2019-2021

Gerald “Gary” Saboe, DO, MPH, is from West Union, IA, and now resides in Texas. He serves as a U.S. Air Force Civil Service Flight Surgeon (GP-15) examiner and certification authority for the 559th Aerospace Medicine Squadron at Reid Clinic, Joint Base San Antonio-Lackland, Texas. He is an FAA Senior Aviation Medical Examiner and a single-engine land, instrument rated, commercial pilot.

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

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

CAMA President’s Message

Greetings CAMA members! Follow me on a historic aviation journey. But first, let me reflect on a few things. During the 1950’s we learned to “Duck & Cover” in case of a nuclear attack and now in 2020 we learned to “face mask & social distance” to contain the spread of COVID-19. In school during the 1950’s and 60’s, I was taught about rules, laws and why police were present in communities to help preserve order when rules and laws appeared to have been broken. Seemed simple. Later in life I finally had my chance at entering the Magic Kingdom at Disney World and noted at every aggressive-in-nature amusement ride a sign reading, “Must be taller than bar to ride.” Seemed simple. I joined the military and learned further distinctions between goals and requirements for allocation of time and resources. Seemed simple. When the need arises, proposed standards limits are researched according to desired specification requirements by a customer, proposed standards are determined, considerations are then accepted from the customer for amending requirements for balancing the standards limits, and standards are established. Pretty straight forward stuff, and in the aviation world standards are established to facilitate safety for the pilot, crew, passengers, air traffic, maintainers, and community.
pilots were first instructed following the mishap in 1908, then mandated in 1914, to wear helmets and leather coats while flying overland.

The first Army Signal Corps airfield was established at College Park, Maryland on 25 Aug 1909, where the first military airplane, a Wright Military Flyer Model A biplane – dubbed “Miss Columbia” was delivered. Wanting to avoid the wintry conditions, flight training operations were moved on 15 Feb 1910 from College Park, Maryland, to Fort Sam Houston, San Antonio, Texas. On 2 Mar 1910, Lieutenant Benjamin Foulois was the first military pilot to fly west of the Mississippi River, flying a leased Wright Model B as he flew over Fort Sam Houston, Texas. Two more planes were purchased and delivered 27 Apr 1911 at Fort Sam Houston, Texas, a Curtiss IV Model D and a Wright Flyer Model B. On 10 May 1911, Lieutenant George E. M. Kelly was flying the Curtiss D pusher solo on his pilot qualification flight. After five minutes in the air he approached for a landing too fast, failed to flare in time, with his front wheel striking the ground and breaking the fork of his steering wheel. He managed to pull up and turn to his left before going out of control and crashing, pitching Kelly 100 feet out of the aircraft. He died from a skull fracture an hour after the mishap. That ended further training flights at Fort Sam Houston, Texas. The repaired Curtiss D pusher and Wright Flyer Model B were shipped to College Park, Maryland in Jun/Jul 1911, where Army flight training resumed. It was here at College Park, Maryland, on 7 Jun 1911, that Lieutenant John P. Kelly had been assigned and he became the first medical officer assigned to the Signal Corps Aviation Field. The Army’s first physical examination requirements for pilots were published on 17 Feb 1912.

As more advancements occurred, more lives were lost, and in 1917 World War I was looming in Europe. Air Service Medical, Signal Corps, US Army was organized with General (Dr.) Theodore C. Lyster, Medical Corps, US Army, appointed to the newly created position of Chief Surgeon, Aviation Section, Signal Corps on September 6, 1917. One of the first observations made by General Lyster was the alarming mortality rate from aircraft accidents among flying cadets at training centers in the U.S. and with the Allies in France. In the first year of flying in World War I the English and French found that 2% of aircraft accidents were due to combat, 8% were caused by mechanical problems, and 90% were due to human failure.

Interest in reversing this trend led to the establishment of an Aviation Medical Research Board consisting of four Army Medical Corps officers to:

- Investigate all conditions that would affect the efficiency of pilots;
- Develop and conduct experiments to determine the ability to fly at high altitudes;
- Develop and conduct experiments on methods for delivering oxygen to pilots at high altitudes; and
- Act as a standing medical board for all matters relating to pilot fitness.

The first action of the Aviation Medical Research Board was to direct construction of the Air Service Medical Research Laboratory at Hazelhurst Field on Long Island. On 19 Jan 2018, the Air Service Medical Research Laboratory, at Hazelhurst Field in Mineola, Long Island, New York, opened under the aegis of Col. (Dr.) William H. Wilmer. His job was to instruct medical personnel on how to treat aviators and he helped construct the first pressure chamber to simulate high-altitude flying.

Despite limited post-World War I technical developments, early aviation remained a dangerous business. Flying conditions proved difficult since the only navigation devices available to most pilots were magnetic compasses. Pilots flew 200 to 500 feet above ground so they could navigate by roads and railways. Low visibility and night landings were made using bonfires on the field as lighting. Fatal accidents were routine.

Aviation industry leaders believed the airplane could not reach its full commercial potential without federal action to improve and maintain safety standards. At their urging, the Air Commerce Act of 1926 was signed into law by President Calvin Coolidge on 20 May 1926, becoming effective on 31 Dec 1926. These regulations resulted from many conferences between the Aeronautics Branch and pilots, operators, manufacturers, the Army, the Navy, and the Post Office Department. The regulations required all aircraft engaged in interstate or foreign commerce to be licensed and marked with an assigned identification number. Pilots of licensed aircraft were required to hold private or commercial licenses. Commercial pilots were classed as either transport or industrial. Mechanics repairing aircraft engaged in air commerce were required to secure either engine or airplane mechanic licenses, or both.

William P. MacCracken, Jr., took office on 11 Aug 1926 as the first Assistant Secretary of Commerce for Aeronautics. He thus became the first head of the Aeronautics Branch, created in the Department of Commerce by Secretary Herbert Hoover to carry out the Secretary’s responsibilities under the Air Commerce Act of 1926. MacCracken, who had
assisted in drafting that act, brought to the position experience as a World War I Army pilot, as chairman of the American Bar Association’s committee on aviation law, and as general counsel of National Air Transport, a contract mail carrier he helped organize in 1925.

Dr. Louis Hopewell Bauer became the first Medical Director of the Aeronautics Branch on 16 Nov 1926. A Major in the Medical Corps at the time of his appointment, Dr. Bauer had spent more than half of his 13-year Army career in the Air Service.

On 28 Feb 1927, Domestic Air News (the Aeronautics Branch official publication), published a list of 57 physicians qualified to give medical examinations for pilot licenses. Scattered over the United States, these physicians (soon to be known as aviation medical examiners) had been selected and qualified by Aeronautics Branch Medical Director Louis H. Bauer. By Oct 1, 1927, the number of qualified physicians had grown to 188, and additional appointees were added from time to time. Besides these civilian medical examiners, all Army and Navy flight surgeons were qualified ex officio to give airman medical examinations.

William P. MacCracken, Jr., Assistant Secretary of Commerce for Aeronautics, received Pilot License No. 1, a private pilot license, from the Aeronautics Branch. MacCracken thus became the first person to obtain a pilot license from a civilian agency of the U.S. Government. (During World War I, the Joint Army and Navy Board on Aeronautic Cognizance had issued flying licenses to civilian individuals and companies. The Board acted under the authority of a Presidential proclamation, issued on Feb 28, 1918, which described the program as a wartime security measure; however, the proclamation remained in effect until Jul 31, 1919, more than eight months after the Armistice.) Before accepting License No. 1, MacCracken had offered this honor to Orville Wright, promising to waive the fee and examination. Wright declined because he no longer flew and did not think he needed a Federal license to show that he had been the first man to fly. Like Secretary Hoover, Wright believed MacCracken should receive License No. 1.

We have since realized that there are no accidents. All mishaps have a time-line daisy chain history of events that led to the outcome, with potential opportunities for intervention along the chain to mitigate future recurrences. As Aviation Medical Examiners (AMEs), we know our role in matching the cognitive, physiological, and biomechanical functioning status of aircrew with the regulating 14 CFR Part 67 – Medical Standards and Certification requirements.

Attached in the Flight Physician is an excerpt of the Pilots’ physical qualifications from the Air Commerce Act of 1926 and a chronological history of initial powered flight and aeromedical history in the USA, spanning 1907 to 1918.

With this overview background history of the human entry into powered flight, I reflect on my first paragraph above. The medical standards established by Federal Aviation Administration Office of Aerospace Medicine have been compiled from and are based on information received, studied, and adjusted for safety since 1908. The basic science behind gas laws and human physiology providing additional background knowledge, predating 1908. To date more than 29 medical conditions can be evaluated for possible Special Issuance Authorizations by the FAA and an additional 19 medical conditions can be evaluated locally by AMEs for consideration to issue medical certification. Most of these medical conditions were unknown or untreatable in 1908. We recognize all AMEs for their diligence and extra effort taken with airman to verify their medical safety for powered flight flying as pilot in command.

We are working on final preparations for our CAMA Scientific Meeting, 23-25 September 2021, in San Antonio, Texas, as well as CAMA Sunday presentations, 23 May 2021, and our CAMA Luncheon speaker, 24 May 2021, during the Aerospace Medical Association meeting in Reno, Nevada. Please renew your CAMA membership, as I know many renew at the time of our annual meeting – which did not happen. Also, as a reminder to those on the road towards becoming designated a CAMA Fellow, five years paid consecutive membership is required, so don’t let this year block your eligibility status.

I congratulate Dr. Michael Berry on his retirement as the Federal Air Surgeon, 30 Sep 2020, as well as congratulate Dr. Warren Silberman on his retirement from the FAA, 30 Sep 2020. Thank you to you both for your dedicated hard work, you both are going to be missed!
1907

DECEMBER 23
Brigadier General James Allen, the Army’s chief signal officer, issues Specification No. 486, which outlines requirements for acquiring a military airplane. The new machine must be capable of carrying two passengers aloft for one hour at 40 miles per hour in any direction, and land safely.

1908

FEBRUARY 8
Wilbur and Orville Wright win the nation’s first contract to build a military aircraft for the Army, at a cost of $25,000. The finished craft will be delivered no later than August 1909 and carry two people at 40 miles per hour over a distance of 125 miles.

MAY 6–14
In Dayton, Ohio, the Wright brothers modify their 1905 Flyer to accommodate a pilot and a passenger, pursuant to U.S. Army requirements. A successful flight is then performed at Kill Devil Hill, Kitty Hawk, North Carolina.

SEPTEMBER 9
Over Fort Myer, Virginia, Lieutenant Frank P. Lahm becomes the first military airplane passenger when he accompanies Orville Wright on a record flight of 57 minutes and 25 seconds in the Military Flyer. Lahm becomes one of the first 24 army aviators appointed by the Army.

SEPTEMBER 17
At Fort Myer, Virginia, the perils of airplane technology are underscored when Orville Wright crashes his machine, killing Army Lieutenant Thomas E. Selfridge. Wright sustains a broken hip and spends the next six months recuperating. The War Department suspends further flight-testing until 1909.

1909

JUNE 29
At Fort Myer, Virginia, Wilbur Wright resumes his Military Flyer practice flights, which were cancelled following the serious mishap of the previous September.

JULY 27
The Wright brothers’ aircraft, flying before a crowd of 10,000 onlookers including President William H. Taft, passes all U.S. Army Signal Corps requirements, and even exceeds the one-hour duration specified by the contract. Orville Wright is accompanied by Army Lieutenant Frank P. Lahm.

JULY 30
Orville Wright performs a cross-country speed test in his Military Flyer with Lieutenant Benjamin D. Foulois as a passenger. He averages 42 miles an hour—two miles an hour faster than specified in the contract—and wins an additional $5,000 bonus.

1910

FEBRUARY 15
In an attempt to avoid wintry conditions, the U.S. Army Signal Corps transfers flight training operations from College Park, Maryland, to Fort Sam Houston, San Antonio, Texas, further south. Gusty winds encountered there, however, severely limit flying time.

MARCH 2
Over Fort Sam Houston, Texas, Lieutenant Benjamin D. Foulois is the first military aviator to fly west of the Mississippi River when he performs his solo flight. Foulois remains the only pilot assigned to the Aeronautical Division, Army Signal Corps.
AUGUST 18
At Fort Sam Houston, Texas, civilian mechanics add wheels to Signal Corps Airplane No. 1, therefore eliminating the need for rails and catapults while launching.

1911

JANUARY 15
Flying in a Wright biplane at 1,500 feet, Lieutenant Myron S. Crissy drops a live 36-pound bomb on a target. The aircraft in question is flown by Philip O. Parmalee.

FEBRUARY 27
Near Fort McIntosh, Laredo, Texas, a Wright B Flyer piloted by Lieutenant Benjamin D. Foulois and Philip O. Parmalee demonstrates the potential of aircraft to cooperate with ground forces.

FEBRUARY 17
The U.S. Army publishes its first physical examination requirements for pilots.

MARCH 3
In Washington, D.C., the Secretary of War authorizes the Army’s first aviation appropriation of $125,000 to fund 51 members of its Aviation Section.

FEBRUARY 23
In Washington, D.C., as the Army becomes more firmly wedded to airplanes, it issues War Department Bulletin No. 32 to establish new ratings for “military aviator,” which also stipulate that prospective candidates must reach and hold an altitude of 2,500 feet in a 15 mile per hour wind, and also make a dead-stick landing within 150 feet of designated areas.

FEBRUARY 27
Over Texas, a biplane flown by civilian pilot Philip Parmalee and Lieutenant Benjamin D. Foulois travels between Laredo and Eagle Rock to demonstrate the utility of such technology for relaying military communications.

APRIL 27
At Fort Sam Houston, Texas, a Curtiss IV Model D and a Wright Type B become the second and third Signal Corps small aircraft.

MAY 4
At Fort Sam Houston, Texas, the first provisional aero company is organized by the U.S. Army.

MAY 27
In Washington, D.C., the War Department issues General Order No. 39, requiring all qualified pilots to receive a Military Aviator’s Certificate, along with a badge. Presently, there are only 24 qualified army pilots.

1912

JUNE 7
At College Park, Maryland, Lieutenant John P. Kelly becomes the first medical officer assigned to the Signal Corps Aviation Field.

JUNE 1
Over College Park, Maryland, Captain Charles DeForest Chandler performs the first official night flight. Concurrently, Lieutenant Henry H. Arnold also takes his Burgess-Wright biplane to a record-breaking 6,540 feet.

JUNE 11
A Wright C pusher aircraft crashes, killing Lieutenant Leighton W. Hazelhurst and civilian Arthur L. Welsh. This is the earliest-known accident attributed to stalling.

JULY 5

MARCH 2
The Army establishes flight pay at 35 percent over base pay for prescribed aviation duties, given the inherent risks of flying. Presently, only 30 officers qualify for such emoluments. The Army also mandate that not more than 30 officers could be involved in flying at any given time, and rank no higher than major.

MAY 10
At Fort Sam Houston, Texas, a Curtiss D pusher aircraft piloted by Lieutenant George E. M. Kelly crashes, killing him. His becomes the first fatality in Army aviation history, and Kelly Field, San Antonio, is named in his honor in 1917.

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A Wright C pusher aircraft crashes, killing Lieutenant Leighton W. Hazelhurst and civilian Arthur L. Welsh. This is the earliest-known accident attributed to stalling.

DECEMBER 18
Lieutenant Henry B. Post, flying Signal Corps airplane No. 23, establishes a new Army solo...
altitude record of 10,600 feet.

1914

JANUARY 15
In Washington, D.C., the War Department issues new safety regulations for pilots governing dress. Henceforth, all pilots are to be clad in helmets and leather coats while flying overland, and waterproof coats for overwater flying.

FEBRUARY 9
Tragedy strikes after Lieutenant Henry B. Post exceeds his old altitude record by reaching 12,140 feet, then his aircraft falls apart during its descent, killing him.

JULY 18
In Washington, D.C., Congress creates the new Aviation Section to replace the former Aeronautical Division within the Army Signal Corps; it has an assigned strength of 6 aircraft, 67 officers, and 260 enlisted personnel under Lieutenant Colonel Samuel Reber. Moreover, all pilot candidates are to be unmarried lieutenants under 30 years of age.

1915

JULY 12
Aviation mechanic examination requirements are adopted by the Signal Corps.

1917

APRIL 28
Air Service Medical, Signal Corps, US Army was organized with General Theodore C. Lyster, Medical Corps, US Army, appointed to the newly created position of Chief Surgeon, Aviation Section, Signal Corps on September 6, 1917. One of the first observations made by General Lyster was the alarming mortality rate from aircraft accidents among flying cadets at training centers in the U.S. and with the Allies in France. In the first year of flying in World War I the English and French found that 2% of aircraft accidents were due to combat, 8% were caused by mechanical problems, and 90% were due to human failure.

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1918

JANUARY 19
At Hazelhurst Field in Mineola, Long Island, New York, the Air Service Medical Research Laboratory opens under the aegis of Col. (Dr.) William H. Wilmer. His job is to instruct medical personnel how to treat aviators and he helps construct the first pressure chamber to simulate high-altitude flying.
United States of America  
Department of Commerce  
Aeronautics Branch

AIR COMMERCE REGULATIONS  
Effective December 31, 1926, Star (*) amended March 22, 1927  
Chapter 4  
Licensing of Pilots and Mechanics

* Sec. 66. Pilots' physical qualifications:  
The physical qualifications for pilots are as follows:

(A) Private pilots. - Absence of organic disease or defect which would interfere with safe handling of an airplane under the conditions of private flying; visual acuity of at least 20 / 40 in each eye; less than 20 / 40 may be accepted if the pilot wears a correction in his goggles and has normal judgment of distance without correction; good judgment of distance; no diplopia in any position; normal visual fields and color vision; no organic disease of eye or internal ear.

(B) Industrial pilots. - Absence of any organic disease or defect which would interfere with the safe handling of an airplane; visual acuity of not less than 20 / 30 in each eye, although in certain instances less than 20 / 30 may be accepted if the applicant wears a correction to 20 / 20 in his goggles and has good judgment of distance without correction; good judgment of distance; no diplopia in any field; normal visual fields and color vision; absence of organic disease of the eye, ear, nose, or throat.

(C) Limited commercial pilots. - The same physical qualifications prescribed for transport pilots.

(D) Transport pilots. - Good past history; sound pulmonary, cardiovascular, gastrointestinal, central nervous and genito-urinary systems freedom from material structural defects or limitations; freedom from disease of the ductless glands; normal central, peripheral, and color vision, normal judgment of distance; only slight defects of ocular muscle balance; freedom from ocular disease; absence of obstructive or diseased conditions of the ear, nose, and throat; interfere with flying.

(E) Waivers. - In the case of trained, experienced flyers, the Secretary of Commerce may grant waivers for physical defects designated as disqualifying by these regulations when in his opinion the experience of the pilot will compensate for the defect. A waiver once granted will hold indefinitely so long as the defect for which it was granted has not increased or unless canceled by the Secretary of Commerce.

* Sec. 67. Exemption from prescribed physical examination.

An applicant for a pilot's license (or its renewal) will be exempt from the physical examination prescribed in these regulations upon filing with the Secretary of Commerce a certified copy of the examination for flying in the United States Army, Navy, or Marine Corps made within six months of the date of filing his application for his pilot's license or its renewal, provided his physical qualifications as shown by such copy of the examination are not less than those required by these regulations for the class of license for which he applies.
The FAA’s HIMS program provides a pathway for pilots who have had alcohol or drug problems to regain medical certification and to get back to flying. Although originally intended for professional pilots, it has trickled down to private pilots as well. In this article I will describe the origins of the program, how it has changed over the years, recent very significant changes, and the possible implications of the current pandemic on the program.

Prior to 1974, pilots who had a diagnosis of alcoholism or illicit drug abuse were permanently denied medical certification. The pilot’s union (ALPA), FAA, and the National Institute for Alcohol Abuse and Alcoholism (NIAAA) collaborated on a project entitled Human Intervention Motivation Study. Thus HIMS, funded by NIAAA, was born. “Intervention” was a key element of the program once an individual had been “identified” and diagnosed with a substance use disorder. The “motivation” for treatment was the overwhelming desire of most pilots to get back into the cockpit.

The broad outline of the program works as follows. A pilot is “identified” as a result of a DUI (DWI), company intervention, self-referral, or less commonly a positive DOT, TSA pick up, etc. Once identified, the next step is diagnosis, in which case the pilot is sent either to a HIMS psychiatrist or treatment center. If the diagnosis is positive for a substance use disorder, this is followed by in-patient rehabilitation, and detoxification if needed. If in-patient rehabilitation is not indicated, the airman can participate in an intensive out-patient program (IOP) for 6 weeks of therapy. The rehabilitation program should be one with extensive pilot-related experience for the best results. In “stubborn” cases, an IOP program may be indicated after in-patient treatment.

Towards the end of the initial treatment program, a HIMS AME is selected for follow up with the airman after discharge. Immediately after discharge the airman must begin AA or NA meetings on an almost daily basis. This is called the “90/90”: ninety meetings within a 90 day period. In addition, the airman joins an “aftercare group,” which by the FAA’s definition, is a weekly meeting of like-minded pilots in recovery. Aftercare is a way of working out the lingering problems often faced by these airmen. If the pilot also has a concurrent psychiatric diagnosis (e.g., depression, anxiety) he/she will need to be in therapy to specifically deal with that issue as well, but in my own experience this is the exception rather than the rule.

In the broader sense, “aftercare” is much more than a weekly group meeting. It encompasses the entirety of all that is required of the airman to maintain their sobriety. To borrow a phrase from...
However, in the past 2 years that has increased to there were 1162 individual pilots involved with 1367 April 2011, through October 2019 (1st class only), been tabulating data using a new on

How successful is the HIMS program? The FAA has been tabulating data using a new on-line tool. From April 2011, through October 2019 (1st class only), there were 1162 individual pilots involved with 1367 “incidents” necessitating HIMS program entry. However, in the past 2 years that has increased to 200-250 new cases per year. The program success rate appears to be about 85% with sustained abstinence. The single relapse rate was 12.7 %, with 3% for 2 or more relapses. Although, in my own experience, a relapse is not that uncommon, further relapses are much rarer. I call this a “therapeutic relapse.” The pilot learns that a substance use disorder is a life-long illness: that is why it is called “alcohol-ism” and not “alcohol-wasm.”

Once the pilot has completed their 90/90, is solidly participating in aftercare, and has multiple negative drug tests, it may be time to proceed with the “P&P.” This is the referral to a HIMS psychiatrist and a HIMS neuropsychologist for evaluation on the depth of the pilot’s recovery, and their level of cognitive functioning. Chronic use of alcohol or other mind-altering drugs leads to a deterioration of cognitive processing. It is best to wait 3-6 months after the pilot’s sobriety date, to perform these evaluations. It is not uncommon to receive an opinion suggesting that the pilot is not ready to return to the cockpit, and should return in 3-6 months for repeat evaluations.

However, once we get a “clearance” from the P&P, the AME can perform the physical exam and forward the entire file to the Federal Air Surgeon (FAS) in Washington, D.C. In the meantime, if the pilot has an airline job to return to, now is the time to identify a peer pilot and chief pilot who will be keeping an “eye” on the subject. These individuals will be required to provide a monthly report to the AME on the pilot’s condition and performance. The “name of the game” in HIMS work is to immediately spot if a pilot relapses and to get them out of the cockpit. Everyone involved with a pilot’s HIMS program is obligated to immediately notify the AME/FAA of any positive drug or alcohol test, or any deterioration in the pilot’s condition.

The duration of Authorizations in the HIMS program have increased substantially over the years. However, the FAA’s requirements remained unchanged throughout the duration. Many AME’s believed that some easing of requirements should be allowable for airmen who have demonstrated successful long-term recoveries. At our last “Advanced HIMS Seminar” in Atlanta in March 2020, just as Covid-19 was bearing down hard on the country at large, and the airline industry in particular, the FAS announced that “lifetime” Special Issuances (SI’s) were in the works.

Accordingly, the FAA had been under pressure from the NTSB for some time to “require that all airman clinically diagnosed with substance dependence… who are medical certified by the FAA subsequent to such diagnosis, are followed under the guidelines for SI… for the period that they hold such certificates.” To the FAA’s credit, the FAS’s office came up with a “Step Down Plan” of requirements to remain medically certified. Nevertheless, permanent abstinence from mind and mood altering substances is expected for the duration of the pilot’s flying career. However, there is now a 4-phase approach to progressive SI’s. The “Initial Phase” is the same as described above and is implemented the first year. The “Early Phase” (years 2-4) drops the requirement for annual HIMS psychiatric evaluations and continuing aftercare. The “Advanced Phase” (years 5-7) reduces the frequency of random testing, and the “Maintenance Phase” (Year 7 and on) only requires that the airman get his/her medical done with any HIMS AME.

One other area of concern that the FAA ruled on, is the effect of an airline furlough or extended leave on a HIMS pilot. With the effect of Covid-19 and furloughs comes added stress which increases the risk of relapse, financially limits recovery activities, and degrades the fellowship experience by driving it into the virtual realm. The FAA offers these pilots

(Continued on Page 12)
two options: 1) cessation of requiring monthly peer pilot and chief pilot reports, and 2) if a pilot chooses to allow their medical to expire, they should continue to participate in AA or the equivalent, visit their HIMS AME annually, and when appropriate, they may re-enter the HIMS program under their same Authorization. The AME is authorized to assess the pilot’s recovery and issue a new medical certificate if that recovery remains satisfactory.

Of the approx. 2500 AME’s only 204 HIMS AMEs have been certified as of the end of 2019. According to the FAA, only 48 AMEs do the vast majority of HIMS work (6 or more cases). Needless to say, working HIMS cases is much more involved and time consuming than simply performing FAA medical exams. It takes a great deal of attention to detail to successfully work a HIMS case back to certification. However, the satisfaction of assisting an airman through this process, and regaining their medical certificate, is enormous. I have assisted pilots who believed that the FAA would never again grant them a medical certificate. The key to success is simply this: the airman must remain abstinent and work their recovery, not just for the FAA, but for their own well being and their loved ones. Once the airman reaches this level of insight, their medical certificate will follow.

Need help with FAA paperwork?
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Erwin Samuelson Senior AME

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CAMA COVID-19 Update

Hopefully, this contribution finds everyone well during this COVID-19 epidemic that we have been enduring for the past year.

In the last CAMA publication, aspects about COVID-19 testing algorithms were detailed, as well as the need for defining with the highest of granularity in “block 60” of an individual's 8500 airman application for medical certification to document how the individual may have presented with COVID-19 and how the infection was resolved.

Fortunately, as the database matures, we see that greater than 90% of individuals who have developed acute COVID-19 infections have not required supplemental oxygen, any need for hospitalization, nor any need for investigational medications which could all negatively impact their medical certification eligibility.

More importantly, as we approach the influenza and the “cold and flu” season in 2020 and early 2021, the aeromedical physician needs to play an important role regarding the differentiation of these significantly different viral entities.

The detailed chart on the next page may assist medical professionals in providing some degree of differentiation between COVID-19 acute infection versus influenza versus the seasonal cold symptomatology or something as simple as seasonal allergies.

Unfortunately, there is significant overlap between all of these entities when an individual may present to a physician or a health care provider with acute concerns in this extremely challenging time of COVID-19.

What has been found and is supported by literature is that the thrust vector or specifically the upward trajectory regarding acceleration from the earliest symptoms to the most profound manifestations is that acute influenza accelerates very quickly.

COVID-19 in many individuals presents originally as a slow burn, specifically there will be minimal symptoms, such as a sore throat, fatigue, early myalgias, and then at day three or even day five, it may accelerate to a more profound presentation that may require ER visits and unfortunately, hospitalization of about 10% of those acutely infected with COVID-19.

As we enter the 2020-2021 influenza season, again be aware that influenza accelerates very quickly from minimal symptomatology to the point that someone needs to be in bed with high fever, almost always a cough, but rarely hypoxemia manifesting as shortness of breath.

The common cold and seasonal allergies rarely have significant lower respiratory symptoms and almost never shortness of breath or hypoxemia. These are easily be monitored via simple finger pulse oximeter.

With that in mind, one thing that you should recommend regularly for individuals who are high risk, such as airmen who are regularly flying to COVID-19 high metric areas, is to have already available a finger pulse oximeter as an objective monitor of their oxygen saturation should they develop a febrile syndrome. Again, rarely do influenza, the common cold, or seasonal allergies ever have hypoxia or dyspnea on exertion.

When it comes to testing, the gold standard will remain at this point in time a PCR assay. However, the PCR assays sometimes have a prolonged turnaround time.

If an individual is at very high risk based on their exposure, or their symptom presentation equates to having a high likelihood of COVID-19 infection, we can then utilize an antigen rapid COVID-19 test to assist in a quick turnaround result to assess an individual's COVID-19 status.

Understand that the limits of a rapid antigen test in individuals who are low risk of infection, such as individuals being screened for travel purposes or reentry purposes, is that the COVID-19 rapid antigen assay does err on the side of false negativity.

Most countries are now requiring a PCR assay rather than a rapid antigen assay for entry criteria. Fortunately, the turnaround times for most PCR
Swab assays are less than 48 hours, since availability and upscale of these testing algorithms are available across most of the US.

With that said, the availability of rapid antigen assays still cannot be downplayed, since their turnaround times are less than a few hours for most facilities offering these options. If one is going to use an acute rapid antigen test for COVID-19 antigen screening, the positive predictive value of this test is best applied to individuals who are either symptomatic or individuals who have high risk of being exposed.

For individuals who are likely to be an exceptionally low risk of having acute infection or who are being required to be screened for international travel, one would then depend upon the PCR assay.

Let me stress again that the use of a blood assay, such as a finger stick lateral flow assay kit, has no role in determining one’s acute infection for COVID-19 nor in evaluating the contagiousness of the disease.

The COVID-19 database will continue to evolve until the epidemic is behind us. Fortunately, there are very significant developments in regard to promising safe, scalable, and effective vaccines that hopefully will be available in early 2021 to provide us with immunity.

In the meantime, please stay vigilant regarding COVID-19 hygiene practices, as well as mitigation strategies for yourself, your family, and everyone involved in your aviation medical offices.

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Roth Aviation Medical Services
Senior Aviation Medical Examiner
Board Certified Infectious Disease/Internal Medicine
Fellow Civil Aviation Medical Association
FAA/NTSB Infectious Disease Consultant
AOPA Board Member of Medical Advisors

Max Roth reminds you to wear your COVID-19 protective gear.
NEVER AGAIN: FINDING FOD

REPRINTED WITH PERMISSION FROM
AOPA ONLINE PILOT PUBLICATION
Dated March 5, 2009

I was scheduled to fly an aerobatic demonstration at a local airport the next day. I fly a rainbow-colored Extra 300L. This highly capable, two-seat monoplane is flown by the pilot in command from the rear seat, as is the case in many other tailwheel airplanes.

The Extra has a big, clear, fighter-like canopy that affords great visibility and has sensational optic quality. It also has an emergency quick-release mechanism that enables the front-seat passenger or rear-seat pilot to jettison the canopy instantly in case of an emergency bail-out. The ability to jettison the canopy quickly and easily is an important safety feature—but it has one big drawback. Several pilots have experienced canopies that were inadvertently released in flight by a passenger who accidentally grabbed the mechanism. When canopy release occurs, it gets noisy and expensive all at once. There’s an immediate hurricane-force wind from the passing slipstream, and replacement costs for a new canopy and frame from Germany can exceed $15,000.

Because of this, an associate of mine developed a small device with concave ends that the pilot could place between the moving parts of the canopy release levers to prevent the front-seat passenger from inadvertently opening and releasing the finely cut piece of glass.

On this particular day, my cousin was in town, and I took him for a flight. He is a big guy, and he required some care getting in and out of the tight-fitting Extra cockpit. During this process, working from the back seat to assist him, I must have bumped the canopy lock and dislodged it, and it apparently tumbled into the deep well of the shaded cockpit and remained out of view. I didn’t notice the lock’s absence until I began my preflight inspection of the airplane the next day prior to a short cross-country flight to the aerobatic demonstration.

(Continued on Page 16)
I now had to contend with the stark, well-known danger that a loose object could be floating around inside the aircraft—and that it could jam the controls while I was flying a high-speed, low-altitude aerobatic flight. I knew enough to dread the chance of foreign object debris (FOD) in the airplane. I knew well that even innocuous objects such as fuel strainers, pens, and loose tools had caused fatal aircraft accidents before.

I searched the airplane from top to bottom. But in spite of a concentrated effort and what I thought was a thorough inspection, I could not locate the canopy lock—and that bothered me. But I also knew there was a possibility that it had somehow fallen outside the airplane. I decided to fly the short trip to the destination airport, but on the way I performed several aerobatic maneuvers designed to dislodge such an object and cause it to travel back to the tail of the airplane. There, a transparent inspection port would allow me to search again in the most likely place for FOD to collect. That was the main purpose of the clear inspection cover.

Despite this sortie before the show followed by additional search after landing, I could not locate the missing object. As the time of my scheduled performance approached, I debated the merits of proceeding with the demonstration or canceling it. Not wanting to disappoint friends and family who had gathered to see me fly, I chose to proceed.

The aerobatic flight was going as planned. Then, toward the end of my demonstration, I performed a tumbling run that began from an inverted 45-degree up line. After several revolutions as the airplane’s energy bled off, I entered the appropriate controls to recover from the maneuver. I exited the series of gyroscopic maneuvers at an approximately 45-degree, nose-down attitude with the control stick seemingly locked in a forward position. I pulled but was unable to use the elevator to return the airplane to level flight.

I had read extensively on a variety of aviation subjects and remembered a description of pilots using trim and power to land in the event of elevator failure. That is precisely what I did. With the stick held firmly pulled backward in its jammed position, I controlled the attitude with pitch trim and altitude with power. I radioed the air boss to inform him of my situation and was able to manage a firm but safe landing.

Upon exiting the Extra, I discovered the missing, fractured lock lodged in the elevator controls. Once found, it was quite easy to remove.

The lessons to be learned from this near-accident for me were plainly evident. First, my situation was not new or unprecedented. The disastrous results from FOD in the cockpit are well known and understood, as they have been for many years. It’s best to learn vicariously from others’ mistakes and follow their teachings. Aviation benefits from the sharing of accident and incident reports for just this reason.

FOD is FOD. If it is known to be present, or the potential for its presence is known, the issue must be resolved before the next flight. There can be no compromise. It would have been very difficult for me to cancel my demonstration—especially with friends and family who had come to see me fly. But there were many other aerobatic performers on the schedule that day, and the audience would not have felt cheated if I had stayed on the ground to address a safety issue. A different design for the canopy lock, or a better preflight passenger briefing, also might have helped me avoid this situation.

I’m glad I had read about other pilots using a combination of trim and power to contend with an elevator failure. The mantra to “fly the airplane” in an emergency was vital here as well. I’m also aware of similar situations in which pilots with jammed elevators intentionally rolled their aircraft inverted and pushed on the stick to release whatever was blocking the controls. Had I had pushed forward on the stick briefly, while in flight, I may have been able to dislodge the stuck artifact. It’s impossible to know with certainty.

Finally, establish routines and checklists that include accounting for objects that may be potentially dislodged. Don’t deviate from those patterns or get distracted, as I did. Scuba divers are taught—“Plan your dive and dive your plan.” Similarly, plan your flight and fly your plan, including pre- and post-flight inspections.
The well-respected Mayo Clinic has a rich heritage in aviation that dates back to the 1930s. Today, the Mayo Clinic’s Aerospace Medicine program puts a sharp focus on routine FAA medical certification, but perhaps to a much higher level than you’d find in the office of your local AME.

The Mayo Clinic’s comprehensive set of medical services for both professional and recreational pilots focuses more on preventive medicine—or keeping pilots healthy for continued long-term certification—while also working closely with the FAA so pilots with medical certification issues don’t get snagged in FAA special issuance bureaucracy. Here’s an overview of two programs focused on doing just that.

Many Firsts

The Mayo Clinic has roots deeply planted in aviation dating back to World War II, through its Department of Physiology. This includes extensive research in aerospace medicine, and it can be credited for inventions to include the aviator’s oxygen mask, the G-suit, the oxygen bail-out bottle and the M1 maneuver. Fighter pilots used this maneuver to maintain consciousness when subjected to G-forces.

The original lab and its founders developed the pulse oximeter, plus the Mayo Clinic housed the first hyperbaric high-altitude chamber. More recently, the clinic was used by Boeing for testing the oxygen mask system in the 787 airliner.

The clinic has campuses in Minnesota, Florida and Arizona, but much of the Aerospace Medicine program is at the Minnesota campus.

As for its history with pilot medical certification, the Mayo Clinic has been home to the nation’s first flight examiner, designated by the Civil Aeronautics Board in the 1930s. It says its staff of flight physicians are experts in working with the FAA on behalf of the patient.

Dr. Clayton Cowl, Chair of the Preventive, Occupational and Aerospace Medicine division, told us the department sees roughly 1800 patients per year, some with the most complex medical certification cases that you can imagine. According to Cowl, in all but a dozen or so cases spread out over 20 years, the clinic was able to return those pilots to the flight line. As for the patients that the clinic couldn’t get certified, they simply shouldn’t be flying anyway, Cowl told us.

Dr. Cowl also reiterated that the Mayo Clinic has been extremely focused on changing the old paradigm of “what the certifying agency doesn’t know won’t hurt them.” Of course, this mentality can seriously jeopardize a pilot’s flying career. “This situation has really come into focus now that we’re in an environment that already has a significant pilot shortage,” he said.

Cowl makes a good point that’s worth remembering, whether you go to the Mayo Clinic or your own AME for certification. As pilots, we almost always focus on the “what ifs” of losing a medical certificate to health problems, but to the clinic, it’s more about the pilot getting the proper, regular screening in the first place. Think in terms of these folks being your health provider, equipped to facilitate modern screening procedures.

Is screening beyond what the FAA requires necessary? We think so, and so does the Mayo Clinic. It’s a common-sense mentality that we all have the opportunity to diagnose colon cancer early, rather than later. The same can be said for prostate cancer and a potential heart attack before it happens and a long list of other stuff that’s part of aging.

“Why are pilots willing to spend thousands of dollars on training and cockpit gadgets, but the
most important part of the aircraft—the pilot—often gets short-changed from a medical upkeep standpoint?” Cowl said. His other point is that taking a preventive approach to certification can make the process so much easier, with better, correct documentation that could mean less risk of losing a medical in the first place. If you’ve dealt with it, you know where the problem solving begins—which is often navigating the system on your own.

ProPilot

That’s what the Mayo Clinic calls the preventive medicine path it has in place for maintaining a medical, and it really caters to professional pilots, although any pilot might benefit, particularly one who doesn’t need to renew the medical yet, but has been diagnosed with a potentially disqualifying condition. The clinic’s ProPilot program was designed for two things. First, as a means for professional pilots to get regular medical certification with the least amount of trouble, although that’s not without some effort and additional expense because you’ll have to visit a Mayo Clinic campus to get it done. More on that in a minute.

The second thing, and perhaps most important, is if you do show up with a medical certification problem, the clinic says it has an inside working relationship and a direct, open line of communication with the FAA to solve the issue quickly. Worth mentioning is that there is obviously a trust factor that needs to be established between the pilot and Mayo Clinic. As a result, the division performs what it refers to as confidential evaluations, where medical conditions are addressed in a confidential and safe environment, whether a pilot has specific health concerns or even wants a potentially career-ending condition evaluated without getting the FAA involved yet.

Regardless the level of medical certification a pilot intends to achieve, the Mayo Clinic looks at the bigger picture for every applicant who walks in the door. “We want them to have a long and healthy retirement. If they’re flying for pay, we want pilots to retire on their terms. We do everything we can to prevent problems before they occur,” Cowl said. He attests that inflight medical emergencies (for flight crews) are extremely rare, no matter what kind of aircraft you fly. However, the consequences for a professional flight department or even a recreational owner-pilot who has a lot of money invested in an aircraft can be huge. Moreover, Cowl said the trend has been for blue-chip companies with large flight departments to send pilots to the clinic simply for its preventive approach to certification.

More Than A Certificate

It’s clear that airman medical certification at the Mayo Clinic goes beyond the FAA’s requirements and you might expect additional screening you’d likely never get during a routine visit to your local AME. For private pilots (or those not flying for a professional flight department) the process for certification is pretty much the same as it is for the pros, although there is no one size that fits all. Dr. Cowl reinforced, as you’d expect, that the majority of younger pilots under the age of 40 simply don’t require the same clinical focus as those over 50 or 60. But it’s never too early to begin the preventive approach.

When a pilot shows up for a baseline visit, the clinic documents an extensive family health history and the pilot’s medical history, but not, according to Cowl, from a standpoint of finding something that might ground the pilot. Instead it’s used as a basis for directing the preventive tests that are the most applicable to that individual.

As an example, if you are under age 40 and sign up for the ProPilot program, there is going to be a set of baseline tests that the Mayo Clinic runs. This includes a chest X-ray, which generally won’t be required every time you show up. The way the clinic looks at it, if say three years down the road you’re on a flying trip and find yourself in an emergency room with a case of pneumonia, it can transmit the on-file report of the baseline chest X-ray for comparing it to the current one.

As another example, if a pilot has a strong family history of coronary disease, the clinic will tailor an appropriate surveillance approach, which might include cardiovascular studies including a stress test on a treadmill, before it becomes a disqualifying issue. It might also include preventive things like taking an aspirin each day, doing a
cholesterol profile and treating it if the results raise any flags.

Even if you don’t have a family history of colorectal disease, it’s widely prescribed to get a baseline colonoscopy at 50 years of age. Dr. Cowl reports that the clinic sees a large number of pilots slightly over age 50 with colorectal polyps. They often aren’t cancerous-yet, but they certainly could be full-blown cancerous lesions ten years down the road, for example. Of course, more than one AME told us what we already know and that is you should be getting this routine screening anyway, especially if you are under the care of a competent primary care doc.

On the other hand, we asked Dr. Cowl if, in general, he believes pilots are avoiding routine medical screening in fear of jeopardizing their medical certificate. The answer was yes. “I think there are a lot of pilots who put their head in the sand for fear of the great unknown, as opposed to developing a trusted relationship with an AME willing to take the extra time that’s required to expedite the certification process should it become a deferral or special issuance,” he told us.

An Inside Track

We’ve dealt with deferred certification and while the outcome ended well, can attest that the process can drag along while the pilot does the majority of the work. And that is where the Mayo Clinic says it has the advantage, taking the role of a pilot advocate who has the inside track to the right people at the FAA, while understanding the correct language that’s required when corresponding with the FAA. Dr. Cowl said many (not all) AMEs simply don’t want to spend the extra time that they may or may not be reimbursed for to simply pick up the phone and help expedite a pilot’s certificate for even the most minor deferrable condition.

The ProPilot program is currently administered at the Mayo Clinic’s Rochester, Minnesota, campus, which has six full-time AMEs and a variety of other sub-specialists who are also pilots. We think this under-one-umbrella team approach has advantages because as one unit, all of the testing data and other specifics can be sent to the FAA as one package, rather than the chore of doing it with multiple correspondents.

There are also examiners at the Mayo Clinic’s Jacksonville, Florida, and Scottsdale, Arizona, campuses, but they aren’t part of ProPilot. Of course traveling to Minnesota for the ProPilot program won’t be without sizable effort and expense. For the busy flight department that’s counting on keeping its pilots on the flight line, it’s an expense that may be worth it. For the typical recreational pilot who doesn’t have a medical condition (that they are aware of), perhaps not so much. The costs for ProPilot vary widely depending on testing and how many company pilots are enrolled in the program. Some of the care might be billable through some insurance programs.

Clear Approach

As we go to press, the Mayo Clinic is rolling out the Clear Approach program. The idea behind Clear Approach is to make some of the things the clinic does with ProPilot accessible to recreational pilots faced with potentially disqualifying conditions. For starters, it’s a means of telling your medical story online (electronically) in a confidential manner, and the clinic won’t share this so-called confessional-booth discussion with the FAA. In either real time or within a 24-hour period of describing the problem, you’ll get a response from the Mayo Clinic with an overview of how the FAA is going to deal with the condition, the testing you’ll likely need and should you decide to work with the Mayo Clinic in proceeding with certification, help with setting up an appointment to begin.

“Should the pilot elect to press the big green button, all they need to do is get themselves to the Mayo Clinic and we’ll take care of the flight physical, the testing, the sub-specialty referrals and other things on the back end,” Dr. Cowl said. That initial electronic consultation carries a nominal fee of around $50. Until the volume of pilots in the Clear Approach program becomes adequate enough for the clinic to justify expanding visits to its Florida and Arizona locations, pilots will need to visit the Minnesota campus.

Understanding that Clear Approach is a way for the clinic to channel pilots toward its practice, at the least the clinical portal is a good first step in figuring out a reliable path to certification. We’ll follow up on Clear Approach as it matures, but in the interim you can link to the Mayo Clinic’s programs at www.mayoclinic.org.

Dr. Clayton T. Cowl, MD, MS, Chair, Preventive, Occupational and Aerospace Medicine, Mayo Clinic, was contacted by CAMA for an update on the information provided in the Aviation Consumer article. Dr. Cowl stated:

“Prevention remains a focus of our programs for pilots, much as preventive maintenance is to the airframe. The Mayo Clinic Clear Approach™ virtual consulting platform has expanded rapidly since its inception last year (see: clearapproach.mayoclinic.org), and the new Mayo Clinic Clear Approach podcast is drawing listeners from across the nation. We hope to remain an academic leader in clinical care, research and education within Aerospace Medicine in the years ahead.”
Portable O2 Top Picks: Aerox, Mountain High

Science and experience have shown that pilots need supplementary oxygen at surprisingly low altitudes. Affordable portable systems fill the need.

by Rick Durden

We pilots must be nuts. We willingly strap ourselves into flammable vehicles with cabins smaller than occupied by a heinous criminal in solitary confinement and then climb to altitudes where our brains are deprived of oxygen to the extent performance of the tasks essential to a safe return to the planet is put at risk. And then we do it again. And again.

One completely unsupported hypothesis behind such seemingly foolish repetition is that because a symptom of hypoxia—we’ll talk about that ugly, dangerous condition in a moment—is euphoria, pilots fly because they want to experience aviation’s version of rapture of the deep.

While science has not determined the reasons that certain humans feel the ongoing need to rise above the ground in aeronautical vehicles, the science is clear that using supplemental oxygen increases their chances of doing it safely.

LUNG LIMITS

When air molecules get progressively farther apart, our lungs are increasingly less capable of mixing oxygen from the air with hemoglobin to oxygenate the bloodstream. As our blood’s oxygen saturation level drops very bad things happen to our bodies: Vision deteriorates, mental and physical functioning goes down the slot and our ability to recognize that our performance has radically degraded is also radically degraded. Stress and fatigue exacerbate hypoxia plus, we become subject to it at lower altitudes as we age.

The solution to the problem is supplemental oxygen. We’re going to go into depth on supplemental oxygen systems, what’s in a system, what’s on the market and look at prices.

THE GAS

We’ll start with the supplemental gas we need—where does the oxygen come from? All oxygen produced in the U.S. is made through a process called liquefaction. It’s a process that, simplified, involves compressing and cooling air (yes, when you compress a gas it heats up, so cooling it isn’t simple) to such an extreme state that it becomes a liquid. The component gases are then boiled off, leaving only nearly pure liquid oxygen.

Oxygen is oxygen—it’s an element, number eight on the periodic table. Ever since liquefaction became the only process for producing it there has been no difference between industrial, medical and aviation oxygen. None. That means that the least expensive place to buy oxygen is usually your local welding shop. Interestingly, some states require that you have a prescription to buy oxygen from a medical supply facility.

Oxygen used for aviation is not some super-duper drier form of the gas. Nevertheless, apparently due to the age of the FARs, oxygen used in Part 135 operations must be “aviator’s breathing oxygen” and meet a supply chain testing requirement. There is no such requirement for Part 91 operations.

HAULING IT AROUND

While some general aviation airplanes contain oxygen systems installed at the factory, most of us will need a portable system to sup-

You’ve been at 9000 feet for over three hours, the workload is increasing as you get ready to descend for the instrument approach and ATC is barking the orders faster than you can keep up with. A portable O2 system can ramp up your performance. Aithre’s app-based monitoring, left, is a worthwhile backstop.

(Continued on Page 21)
OXYGEN USE: FARs, REALITY AND MISCONCEPTIONS

In the last decade as inexpensive, accurate pulse oximeters came on the market and pilots put them into widespread use, they provided firsthand evidence to confirm what medical professionals had been saying for more than 50 years: The Federal Aviation Regulation concerning supplementary oxygen use in flight—91.211—is hopelessly inadequate to protect pilots and passengers from the dangers of hypoxia. A pilot who is in full compliance with 91.211 is often oxygen-deprived to the extent that safe operation of the aircraft is in question even if the pilot has to deal with nothing more than routine flight operations.

Our aircraft accident research and conversations with aeromedical professionals have combined to convince us that many accidents in which competent, current, well-trained pilots lost control of their aircraft or flew into terrain during what should have been routine VFR or IFR descents, approaches or landings were because the pilots were partially incapacitated by the effects of hypoxia.

FAR 91.211 came into effect in 1963. It has never been updated to reflect what is now known about oxygen deprivation and its effects on the body. It is our opinion that reliance on FAR 91.211 by pilots—who fully complied with its requirements—has cost lives.

From what we can tell in interviews with doctors in the aeromedical field, FAR 91.211 was a compromise reached between the FAA and aviation industry alphabet groups so that a pilot could fly all the way across the country without using supplemental oxygen. The steel tanks were heavy (lighter weight tanks were not yet in common use), and pilots—well-known tightwads—didn’t want to spend the money for oxygen systems and fills, even when they knew it was an issue of safety.

The regulation allows pilots to fly as high as 14,000 feet for 30 minutes without supplemental oxygen. That might be safe for a young, female pilot who exercises aggressively and lives in a high-altitude location such as Denver (the ability to fly high without supplemental oxygen goes down with age and women generally can go higher without supplemental oxygen than men). For others, especially as they age, live at low altitudes, don’t exercise and do smoke, the risk goes up almost exponentially.

When it comes to the ability of the pilot to handle the demands of flight, the numbers on the altimeter are not nearly as important as the numbers on the pulse oximeter—showing the pilot’s blood oxygenation level. The demand for pulse oximeters spiked with the onset of COVID-19; however, it has come down to nearly pre-COVID levels. Our recent survey of the market found a large selection for under $30. The photo shows five pulse oximeters we reviewed some years ago—even the least expensive was accurate.

We think every pilot who flies at night and/or above 6000 feet should own and use a pulse oximeter and use it to make informed decisions regarding supplemental oxygen.

Our recommendations regarding blood oxygenation level and the use of supplemental oxygen come from interviews with doctors practicing in the aeromedical field, some of whom are Aviation Medical Examiners.

To start with, use a pulse oximeter to measure your resting blood oxygenation level when you are sitting, relaxed, at home. For most people it will be between 96 and 99 percent.

When you fly, check your blood oxygenation level regularly. When it has dropped five points, supplemental oxygen is recommended. When it has dropped 10 points, supplemental oxygen is required, in our opinion.

We’ll never forget our first introduction to the benefits of supplemental oxygen: We were in a pressurized airplane, at night, with a cabin altitude of 8000 feet. We took two breaths of oxygen and were amazed at how much brighter the lights got and how much more clearly we could see things. The explanation? The retina is one of the body’s most sensitive organs to blood oxygen saturation.

We’ll wrap up with a gentle plug for oxygen masks. However, we’ll start out by pointing out that despite a lot of articles and even some FAA publications that say it—the FARs do not require the use of an oxygen mask instead of a nose cannula above 18,000 feet. There’s nothing in Part 91 to that effect. FAR 23.1447 is often quoted for the mask requirement—but it only applies to aircraft certification, not operational use.

Nevertheless, while the most important thing is to assure adequate blood oxygenation and a cannula may do so at some altitudes above 18,000 feet, you increasingy run the risk of hypoxia using a cannula should you breathe through your mouth while having a long conversation with ATC or with someone in the airplane.
AITHRE ALTUS MESO: WIRELESS TANK MONITORING

How much oxygen is left? That’s what you might find yourself asking on a cross-country trip if you don’t have easy access to the tank. It’s why I like the idea of equipping the tank with a wireless Bluetooth-enabled flow transducer so you can easily view the stats on a smartphone app, which is just what Ketchum, Idaho-based Airthre Aviation has done with its $195 Altus Meso.

This innovative approach combines medical-grade tank hardware with an easy-to-use app that’s part of the company’s smart ecosystem of wearable oximeters and CO detectors. The Altus Meso (powered by a USB power bank) attaches directly to a portable oxygen tank, measuring the oxygen pressure in the tank as well as the flow rate, which calculates the time remaining in the tank. Airthre and Airthre Aviation recently announced an exclusive partnership, where Airthre tanks can be purchased with Meso pre-installed, a $46 savings over buying it separately. The Meso device attaches to the tank and fits into the Aerosx case, which includes a pocket for storing the power vault. I’ve been flying with it in my Rockwell Commander and found the setup to be simple to install. It requires a wrench, supplied oxygen-grade thread tape and Simple Green cleaner (no bubbles, no troubles).

The Connect app automatically connects to the Meso when you launch it. The homepage provides a summary of the data from the connected devices right at the top (CO PPM, O2 PSI, SpO2 %). The app is well laid out and you can purchase (in-app) additional features, like the airport weather assistant. The onscreen O2 tank tab has an image of the Aerosx gauge, as well as digital readings for the tank’s PSI, PSI per-minute flow, hours left, pressure altitude and a review of the FAA rules (based on your pressure altitude). The bottom of the screen has a graph showing the PSI time lapse. The app is pretty intuitive to use. However, I suggest launching the app before you plug the Altus Meso into the USB power vault to ensure that pairing occurs. Flying with the app was easier than having to reach around the seats to get a look at the gauge on the tank, and we think it’s worth the investment.

Airthre is working on an Android version of the Connect app, but there’s no firm release date. We’ll keep tabs on it.

—Phil Lightstone

The most common material used for general aviation oxygen bottles is aluminum (steel is long gone). Aluminum bottles have no published life limit; however, they must be hydrostatically tested every five years.

Our local shop sends their bottles to C & L Aero (www.c-l-aero.com) in Redding, California, for testing. It’s truly a mom and pop organization that has been in business for 20 years. We talked with both principals, Linda and Jeff Connolly, who told us that a hydrostatic test runs about $100. It involves de-valving the bottle, doing the pressure test for leaks, draining and re-valving it. Turnaround time is two to three days. The tanks are shipped empty—if they contain oxygen under pressure they are hazmat.

The other materials used for bottles are carbon fiber and Kevlar. Both are lighter than aluminum; however, for the relatively small bottles used for portable systems the weight difference is not great while the price difference is substantial. Worse, they have a 15-year life limit and also must be hydrostatically tested every three years. Jeff Connolly told us that he rarely sees anything other than aluminum tanks come in for testing from portable systems.

REGULATORS, FLOW

Our market survey showed that regulators vary by number of outlets and ability to adjust oxygen flow for the number of users on the system. Oxygen flow is either continuous or adjustable. A continuous flow regulator sets a constant flow of oxygen that is good up to about FL 250, and more than enough at lower altitudes, essentially wasting oxygen.

An altitude adjustable system has a control on the regulator or flow meter for the user to set the flow that is appropriate for the altitude. They are usually clear plastic or acrylic (better) tubes with unmetered oxygen from the regulator entering at one end and a metered flow to the cannula or mask coming out of the other. The flow is adjust-
Mountain High's two-place portable oxygen system with a conserving cannula and flow meters, above. The Airex Aithre Altus Meso monitor attaches to the oxygen bottle and transmits pressure, flow rate and time remaining to an iOS device, below.

ed using a thumbscrew needle valve that suspends a ball in the plastic column of the flow meter corresponding to a scale calibrated in altitude on the side of the column.

Another form of adjustable flow system is pulse-demand—the system provides a puff of oxygen when the user inhales. It substantially reduces the amount of oxygen wasted in continuous flow or altitude adjustable systems.

We recommend that no matter what flow method is used, there should be an indicator in each user's line to show if oxygen is flowing to the user. Most of the indicators we've observed use green to show flow and red to show no flow.

Based on experience, we strongly suggest that each user check the flow meter periodically as we have had oxygen lines get pinched or kinked—stopping the flow—as people move about in the cabin.

We also recommend that each user have access to a pulse oximeter and use it at least every half-hour. No matter how the flow is set up, what matters is whether the user is getting adequate blood oxygenation.

**CANNULA AND MASKS**

We've found that most pilots and passengers prefer to use an oxygen cannula rather than a mask. Cannula are inexpensive—less than $2 each on Amazon. They are worn with the splinter under your chin, the two tubes behind your ears and the cannula tucked into your nose, with the tab on the side opposite the nasal tubes pointing down. The slider is moved upward toward your chin to tighten everything, but not so much that it is uncomfortable.

Some pilots insert the nasal tubes and run the tubes on either side of their head and tighten the splinter behind their head. We wonder about the potential for choking if something goes wrong.

A conserving (Oxymizer) cannula rebreathes a portion of the oxygen it receives via a bladder. For about $40 each, they cut oxygen use by at least half.

Street prices for oxygen masks start at $10. For an oxygen mask with a microphone, plan on spending close to $500.

**SYSTEMS**

As we've been tracking portable oxygen systems we've noted that the business has remained highly competitive. We've seen prices stay nearly the same or even drop slightly over the last five years. One longtime supplier has dropped out of the business, but we didn't see prices go up as a result. We've also noted that system options offered vary widely and that components from one supplier may not be compatible with those from another.

We strongly recommend that if you intend to buy a system, that you call and talk with the provider to make sure you understand what is offered and what it will and won't do. We have consistently found that the providers are willing to patiently talk oxygen for as long as you are
and will help ensure that you find and tailor a system that fits the type of flying you do.

**MOUNTAIN HIGH**

Long considered to provide some of the most sophisticated systems on the market—as well as offering the most options—Mountain High’s website (www.mhoxxygen.com) goes into what we consider to be an excellent, step-by-step tutorial in aircraft oxygen systems.

The regulator offered has four ports with snap-in connectors that all face the same direction rather than radially in all directions—a plus, we think, in a cramped cabin.

Mountain High offers a pulse demand oxygen system—referred to as Electronic Delivery System (EDS)—that says will plug into almost all portable oxygen systems. It replaces the flow meter and reduces wasted oxygen by sending a measured pulse of oxygen when the user inhales—a reported 30 percent over a minimizing cannula. Refer to the website to determine what cannula can be used with EDS.

Mountain High offers two different regulators: the MH-3 for use with a cannula up to 18,000 feet and the MH-4, which has two scales so it can be used with an Oxymizer cannula up to 18,000 feet or a standard cannula or a mask up to 25,000 feet. Each is priced at $65 and Mountain High says they can be used on any portable oxygen system.

The company also offers a cannula that attaches to a headset. Some years ago, we tested its $99 E-Z Breathe II Boom Cannula and found it more comfortable than a standard cannula and slightly easier to use. We recommend it for someone who uses oxygen frequently.

**AEROX**

Aerox (www.aerox.com) includes individual flow meters in all of its systems, including its most basic two-place unit (not all companies do so). It offers a large variety of oxygen bottle sizes. The regulators are equipped with push-pull connectors that simplify plugging in or removing users and straightening out tangled oxygen tubes.

Aerox recently began offering the sophisticated Aithre Altus Meso monitor that attaches to the oxygen bottle. It transmits pressure, flow rate and time remaining to an iOS device—something we consider valuable when the bottle has to be stashed where it can’t easily be seen. The monitor will also connect to a $99 Illyrian Smart Oximeter worn by the user and transmit the user’s blood oxygenation level to the iOS device as well.

In the past we have recommended that Aerox make its website more user-friendly and provide more details on its system, and the new management has been working on it.

**DELTA AIR-KING, SKYOX**

Delta Air-King (www.deltaoxygenystems.com) offered the lowest priced basic two-place system. It has no flow meters but it includes both cannulas and masks. Upgrading the basic systems isn’t horribly expensive and there are a lot of options, including an oxygen headset—although it is just that, a headset that supports a cannula or mask, not earphones or a mic.

Delta Air-King’s website is relatively easy to navigate, although we found at least one inconsistency in pricing and we note that orders must be made by phone. Delta Air-King offers a low price guarantee and lifetime warranties. SkyOx (www.skyox.com) keeps the cost of its systems low by not providing individual flow meters for each user; a single flow valve adjusts the flow of oxygen so that it is the same for each user. Each system comes with Oxymizer cannulas and one mask.

**PRECISE FLIGHT**

Precise Flight (www.preciseflight.com) developed a mechanical (no batteries needed) pulse demand oxygen unit, the X3 Demand Conserver. For $1095 for two users, Precise Flight claims it will increase oxygen duration by at least 300 percent. Precise Flight’s oxygen equipment carries a lifetime warranty.

Precise Flight is the only company that we found that provides the same number of masks as it does cannulas with its portable systems.

**CONCLUSION**

The science on a pilot’s need for oxygen even below 10,000 feet is clear—the numbers on the altimeter matter less than the numbers on the pulse oximeter. That makes a portable oxygen system a wise investment, in our opinion.

From a pilot’s point of view, our survey of the market had two positive results: There is no shortage of portable oxygen systems available to be tailored to specific needs and the market is so competitive that prices haven’t been following aviation’s pattern of rapid increases.

If we had to pick, Aerox and Mountain High would be top choices. We like the Aerox paired with Aithre’s Altus Meso smart gauge, especially if the tank is stored out of reach. Paired with Aithre’s full-time pulse oximeter it’s the best biometrical backstop we’ve seen to date.
**Membership Renewal Fees in 2020**

Reminder: In 2020, the CAMA Executive Board 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, meeting facilities, audio-visual equipment rental, and CME certification for CAMA programs have risen in the past several years since the last dues increase. Now would be a good time to become a Life Member and not have to worry about renewals in the future!

**2020 Annual Scientific Meeting Canceled**

As discussed in the last newsletter, the CAMA Annual Scientific Meeting for 2020 was canceled due to extenuating circumstances brought on by the Covid19 pandemic. Fortunately, the host hotel and the venue for the Thursday field trip and catered dinner both allowed us to reschedule the activities for 2022 without penalty. Therefore, the Albuquerque meeting will now take place on September 22-24, 2022. As we move forward to meetings in 2021 and 2022, the health and safety of CAMA members and meeting participants are of primary concern to the organization. As the planning for future meetings plays out, there may be some adjustments that we will all have to make to keep each other safe. Any changes will be presented prior to opening the meeting registration in the Spring of 2021.

**The Aerospace Medical Association (AsMA) Annual Scientific Meeting 2020—Cancelled**

The AsMA Annual Scientific Meeting was postponed from May, 2020, to October, 2020, then cancelled altogether.

In lieu of an annual meeting or an equivalent during the AsMA annual meeting, the CAMA Executive Board honored the 2020 CAMA Award winners and 2020 Fellows in the September edition of the newsletter, and they will also be recognized during the 2021 Annual Scientific Meeting next year in San Antonio.

**2021 Annual Scientific Meeting in San Antonio, Texas**

The 2021 Annual Meeting will take place September 23-25, in San Antonio, Texas, at the new Embassy Suites at the old Brooks Air Force Base. **Brooks Air Force Base** was a US Air Force facility, located in San Antonio, Texas. President John F. Kennedy dedicated the **School of Aerospace Medicine** on November 21, 1963, the day before he was assassinated in Dallas, Texas. This was Kennedy’s last official act as president.

The USAF at Brooks City-Base in San Antonio, TX, operates a human centrifuge. The centrifuge at Brooks is operated by the aerospace physiology department for the purpose of training and evaluating fighter pilots and Weapon Systems Officers for high-G flight in Air Force fighter aircraft. Today the Brooks complex houses the AFRL Department of Hyperbaric Medicine and the Davis Hyperbaric Laboratory. As part of our field trip during the Annual Meeting, we hope to be able to tour the centrifuge and pressure chamber areas.

The Alamo is the centerpiece of Texas history and the gem of San Antonio. We have been fortunate to be able to arrange for a tour and catered dinner to take place at the Alamo after our tour of Brooks City-Base facilities! There will be tour guides in attendance, and the Alamo will be open only for our group that evening. Dinner will take place in the Alamo pavilion area after the tour. Please save the dates of September 22-24, 2021, so that you may participate in the exciting and educational CAMA Annual Scientific Meeting of 2021!!

The host hotel for the 2021 meeting is the Embassy Suites San Antonio Brooks. It is a new facility with a spa, a lobby bar, a coffee facility, an outdoor pool, a fitness center, and a salt cave. Restaurants and shopping are located nearby, and it is a short trip to downtown San Antonio and the Riverwalk. The modern design of the hotel is different from older Embassy Suites layouts, and will be an excellent place for our meeting.
EDUCATIONAL OPPORTUNITIES

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

With the travel and meeting restrictions imposed by COVID19 and the resulting cancellation of both the Aerospace Medical Association (AsMA) and Civil Aviation Medical Association (CAMA) Annual Scientific Meetings, opportunities for AME training and CME became somewhat limited in 2020.

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 by the end of this year. Please see the information and links listed below.

Available resources from FAA 400 Education Division:

1. FAA AME refresher courses have moved to a Zoom format. Clink the link below to access the course schedules for the remainder of 2020 and 2021:
   
   https://www.faa.gov/other_visit/aviation_industry/designees_delegations/designee_types/ame/seminar_schedule/
   
   • The next FAA AME Refresher course online is Nov 20, 2020
   • Attendance at the November course requires approval in advance. Contact your Regional Flight Surgeon for approval, and the RFS staff will check availability for the course.
   • Participants must be 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/amertraining/
   
   • Clinical Aerospace Physiology Review for Aviation Medical Examiners (CAPAME) – 6 hours American Association of Family Practitioners (AAFP) CME credit available
   • Multimedia Aviation Medical Examiner Refresher Course (MAMERC) 3.0 - 6 hours AAFP CME credit available

3. FAA AME Refresher Training at the Aerospace Medical Association (AsMA) annual meeting May 24-27, 2021, in Reno, Nevada. You must sign up for this course through the AsMA web site.

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

NOTE: The FAA Headquarters has determined that all FAA AME seminars (Basic and Refresher) will be via Zoom through August, 2021. The /go/ame web site has been updated. See Page 13 of this publication for a list of all 2021 courses and dates.
<table>
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<tr>
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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.
AME MINUTE 2020 ISSUE GUIDE

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

February 2020  https://www.faa.gov/tv/?mediaId=2168  – Syncope – Why is unexplained syncope aeromedically significant?

March 2020  https://www.faa.gov/tv/?mediaId=2196  Subpoenas – Records – Why do AME’s need to worry about subpoenas?


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

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

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

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

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

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

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

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

Civil Aviation Medical Association (CAMA)
Contact Information:

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Web Site:  www.civilavmed.org
eMail:  civilavmed@aol.com
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.airdocs.net](http://www.airdocs.net)

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

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

- **Doppeldecker Corp.**
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  - Port Washington, NY 11050
  - [www.doppeldeckerdesign.com](http://www.doppeldeckerdesign.com)

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  - [www.harveyyatt.com](http://www.harveyyatt.com)

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  - Phoenix, AZ 85016
  - [www.medaire.com](http://www.medaire.com)

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

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  - Ponte Vedra Beach, FL 32082
  - [www.singulsarsleep.com](http://www.singulsarsleep.com)

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

**New Members**

Singular Sleep, LLC  
830 A1A N, Suite 13-308  
Ponte Vedra Beach, FL 32082

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(*Required Information)

*MEMBER NAME & TITLE: 

*MEMBER STREET ADDRESS: 

*MEMBER STREET ADDRESS: 

*MEMBER CITY/STATE/ZIP/COUNTRY: 

AME NUMBER: SENIOR AME? YES NO 

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

Please complete and return with your payment.

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

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

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

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CREDIT CARD NUMBER: 

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PRINT NAME: 

Signature or authorization statement for charge: ________________________________

SPouse/SIGNIFICANT OTHER NAME: 

Check if you are a member of:

| *PILOT | YES | NO |
| *AME | YES | NO |
| *AMA | YES | NO |
| *HIMS | YES | NO |
| *AOA | YES | NO |
| *EAA | YES | NO |
| *AAFP | YES | NO |
| *AsMA | YES | NO |

*SPECIALTY: 

*PHONE NUMBER: 

CELL NUMBER: 

*FAX NUMBER: 

*EMAIL ADDRESS: 

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

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

Corporation/Business Name and Address:

__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
Please complete and return with your payment.

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

Payment Options:

Check Enclosed # _______ MasterCard _____ VISA _______ AMEX _______

Credit Card Number: ________________________________

CVV/CVC Security Code: ________________________________

Zip Code of Billing Address: ________________________________

Expiration Date: ___________ Authorized Amount $ ___________

Print Name on Card: ________________________________

Signature: ________________________________

__________________________________________________________________________

PLEASE PRINT (* required information)

*Contact Person(s) Name: ________________________________________________

*Specialty/Type of Business: ________________________________________________

*Phone: # ( ) ___________________________________________________________________

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

Fax: # ( ) ___________________________________________________________________

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

________________________________________

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