

The Civil Aerospace Medical Institute is located at the Mike Monroney Aeronautical Center in Oklahoma City, Oklahoma

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Federal Aviation Administration

The Civil Aerospace **Medical Institute**



Welcome to

The FAA Civil **Aerospace Medical** Institute...

CAMI is the medical certification, research, education, and occupational health wing of the FAA's Office of Aerospace Medicine. The goal of our activities is to enhance aviation safety.

After America's first successful flight in 1903, the first aviation fatality could not be far off. Amazingly, five years would pass before the first fatal accident. Since then, safety has been an important concern. In 1926, the Civil Aeronautics Act marshaled the talents of the medical profession to certify that all aviators are physically fit to fly.

Thus, our principal concern at CAMI is the human element in flight-pilots, flight attendants, passengers, air traffic controllers-and the entire human support system that embraces civil aviation. We study the factors that influence human performance in the aerospace environment, find ways to understand them, and communicate that understanding to the aviation community.

The Institute's people—researchers, physicians and other medical specialists, engineers, educators, pilots, technicians, and communicators—all merged as a team in 1961 at our centralized Oklahoma City facility. Since then, the CAMI team's synergistic products serve people everywhere as they safely and routinely achieve one of the oldest of human dreams: Flight!



The Civil Aerospace Medical Institute has more than a dozen complex labs and large-scale, computerized health system and performance databases. Our most important resource is our staff. These professionals are dedicated to their work at the Institute—serving an aviation community and public that rely upon safe, dependable air transportation.

Aerospace Medical Certification

rince 1926, the Federal Aviation Administration has developed and utilized health standards to assure the safety of all who fly. By federal law, all aviators must be medically certified.

The Aerospace Medical Certification Division's three branches administer the national medical certification program including a repository of airmen medical records and a system for processing about a half million medical applications annually.

Medical Review and Appeals

• Determines the disposition of special issuances and appeal cases, manages medical elements of the DUI/DWI program, and develops national program guidance.

Medical Officer

• Determines medical qualifications for complex medical conditions referred by legal instrument examiners for further review: supports specialty panels at the request of the Federal Air Surgeon and assists the Medical Education Division with seminar presentations.

Medical Systems

• Manages automated systems for the collection and dissemination of medical and statistical data, including pilot records and EKG repository.



Medical examinations from Aviation Medical Examiners are transmitted and reviewed by a legal instruments examiner or physician.

Bottom line: *Greatly enhanced service* to the aviation community.

Aerospace Medical Education

The FAA is mandated by law to promote the safest and most efficient aerospace system in the world. One way the Civil Aerospace Medical Institute promotes aviation safety is through Aerospace Medical Education programs that

• Train and evaluate the performance of Aviation Medical Examiners, a global workforce of specialized physicians

appointed under the FAA Designee Management Program to perform pilot medical examinations.

• Train civil aviation pilots and FAA aircrews in aviation physiology,

post-crash survival skills, and human factors. Educate agency

employees and the public using specialized educational interventions.

• Disseminate aeromedical information to the civil aviation community through publications, lectures, and

practical demonstrations. Provide specialized Civil Aerospace Medical Institute Library services.



Accredited CME refresher training is *delivered through distance learning* as well as face-to-face seminars.



CAMI's General Aviation Pilot Trainers teach pilots to recognize and manage the hazards of spatial disorientation.



Hypoxia recognition training for General Aviation and Commercial pilots using the Portable Reduced Oxygen Training Enclosure (PROTE).

Bottom line: *Education and training solutions* that directly enhance aviation safety.

Aerospace Human Factors Research

T uman Factors are the characteristics of human beings that are applicable to the design of systems and devices of all kinds. These include selecting the right person for the job or determining the skills, tasks, training, and equipment that influence performance. This is especially important for safety-critical jobs like those of aircrew members and air traffic controllers.

Human Factors scientists perform these functions within two research laboratories:

Flight Deck

• Determines the effects of stressors on human performance, identifies human factors involved in accidents and incidents, quantifies the effects of advanced FAA NextGen displays, procedures, and task design on pilot performance.

National Airspace System (NAS) Safety

• Examines person-job fit through training and changes to technology and the relationship of factors affecting individuals, teams, and organizations in the work environment.

ATCARRS -Air Traffic Control Advanced Radar Research Simulator.





Bottom line: Improving performance, efficiency, and overall aviation safety.

Aerospace Medical Research

erospace medical issues including safety risks are A studied by scientists, physicians, and engineers working in research teams.

Bioaeronautical Sciences Research

• The Forensic Toxicology and Biochemistry teams develop laboratory methods, conduct research on accident fatalities, and serve as the primary national site for toxicology testing for federal agencies, including the National Transportation Safety Board.

• The Functional Genomics team is the pioneer in fatigue and hypoxia biomarker research pertinent to aviation safety. • The Autopsy team collects,

manages, and maintains all autopsy records proceeding from the investigation of U.S. fatal aircraft accidents.

• The Knowledge Management team studies bioaeronautical information technology.

Protection and Survival Research

• The Cabin Safety, Biodynamics, and Environmental Physiology teams are key contributors to the development of aviation safety equipment standards and survival procedures.



CAMI engineers conduct impact studies in a sled.

FlexSim "Flexible Aircraft Cabin Simulator realistically simulates evacuation scenarios during fires and various in-flight emergencies."



Bottom line: *Discovery of methods that enhance* human safety, security, health, and performance in aerospace operations.



CAMI scientists support aircraft accident investigation.

 The Medical team maintains unique information systems that facilitate the aeromedical review of aircraft accidents. • The Numerical Sciences team is the national source of expertise for cosmic radiation events of aeromedical concern.

Occupational Health

AMI's occupational health professionals provide clinical and medical services for agency employees at the Mike Monroney Aeronautical Center. With a clinical mission to facilitate quick return to duty or to class at the FAA Academy, the medical and clinical staff also provide occupational health services for programs mandated by the Occupational Safety and Health Act and Executive Order 12196, Occupational Safety and Health Programs for Federal Employees. Aviation Medical Examiner flight surgeons perform flight physicals on FAA pilots, as well as lead the Institutional Review Board (IRB).

Occupational health programs help to *improve the health* and safety of FAA employees who work in *potentially hazardous* locations across the country and around the world.





Bottom line: Improving occupational health by minimizing sick leave use and lost productivity.