The National FAA Safety Team Presents



Federal Aviation Administration

Topic of the Month—October 2023

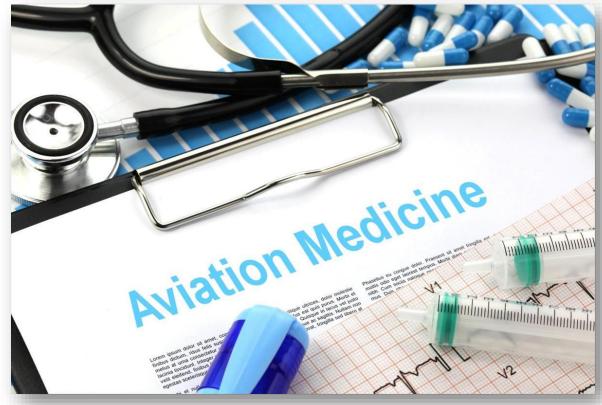
Gaming the System

Presented to: Safety Minded Aviators, Everywhere...

By: Stephen Bateman, CFI. AOPA Flying Clubs

Date: 17th October 2023

Produced by: The National FAA Safety Team (FAASTeam)



Welcome

 Steve Bateman, CFI, AOPA Flying Clubs, FAASTeam Lead Rep Portland FSDO

Your monthly 33-minute dose of aviation safety



WINGS Credit: Yes…!

Probably no time for questions, but please send me email:

steve.bateman@aopa.org

Tel: 301 695 2356

So...

No recording...but even better...

- You can download the presentation!
 - This and earlier ToM presentations are available...
 - Sign-up now!
 - October edition 10/15/2023





> Flying Clubs > Club Connector Newsletter

FLYING CLUB CONNECTOR NEWSLETTER

Your source for the latest news on flying clubs all over the country. AOPA's research has shown us that flying club leaders are hungry to learn more about the practical experiences of other clubs. So, we have created this monthly e-newsletter.



ARTICLES BY TOPIC



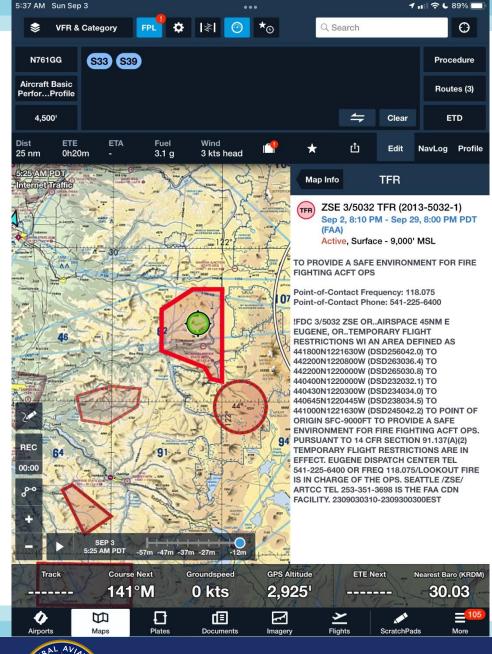
NARROW RESULTS V



Do YOU check NOTAMS before you fly?



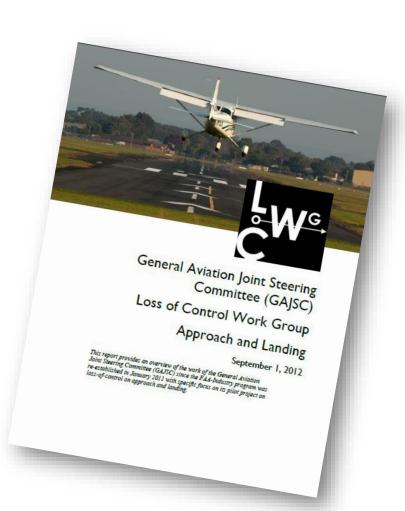






Overview

- General Aviation Joint Safety Committee (GAJSC) & FAA Accident Study Findings
- Medical certification and BasicMed
- Flying and medications
- Drug/medication combinations
 - Drug Drug
 - Drug Food. Example: Grapefruit juice...
- Why "gaming the system" will end in tears





Medical Certification - Pilots

- 14CFR 61.23
 - Establishes pilot medical certification requirements
- FAA Office of Aerospace Medicine
 - Federal Air Surgeon
- Aerospace Medical Certification Division
 - Processes Pilot & employee (air traffic controller) medical certifications
 - https://www.faa.gov/pilots/medical_certification







FAA Office of Aerospace Medicine

- Headquarters Washington DC
 - Federal Air Surgeon Dr. Susan Northrup
- Aerospace Medical Certification Division
 - Pilot & employee medical certification
- Civil Aerospace Medical Institute (CAMI)
 - Medical and human factors research and education
- Drug Abatement Division
 - Aviation industry drug & alcohol testing
- Regional Medical Divisions
 - Bit.ly/RFScontacts

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More about CAMI

- Aerospace Medical & Human Factors Research
- Aerospace Medical Education Training Programs
 - Aviation Medicine
 - Aviation Medical Examiners (AMEs)
 - Airman Education Programs
- Aeromedical Safety Brochures
- Aeromedical Safety Library

https://bit.ly/3HV28BW







More about CAMI

Office of Aerospace Medicine

Civil Aerospace Medical Institute (CAMI)

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. But 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!

- CAMI A World Class Facility (PDF)
- CAMI Brochure (PDF)
- Aeromedical Safety Brochures
- Aerospace Medical and Human Factors Research
- Aerospace Medical Education Programs
 - Aviation Medical Examiner Education
 - Airman Education Programs
- Aerospace Medicine Technical Reports
- Information for Aviation Medical Examiner (AME)
- Civil Aerospace Medical Institute Library
- Federal Air Surgeon's Medical Bulletin
- Medical Certification

https://bit.ly/3HV28BW





Space:

Definition of space
Gravity and microgravity
Galactic (solar and cosmic) radiation
Temperature
Environmental characteristics of the Moon
Environmental characteristics of Mars

SECTION I, 1.2 - SPACE

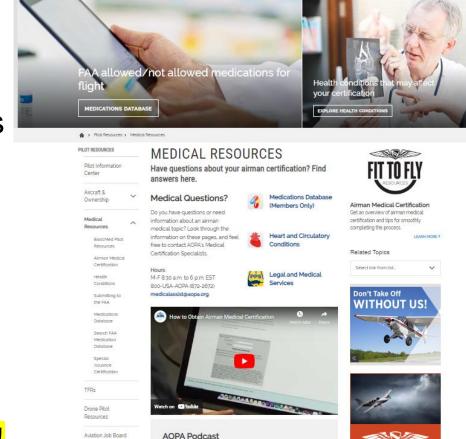
DEFINITION

Space, beyond being the final frontier, is different things to different people. For pilots, space is beyond the atmosphere where they no longer have aerodynamic control and vehicles must be controlled in their position and altitude by thrusters. For a



More About Medical Certification

- Call AOPA medical group first!!!
 - Use your member benefits
 - https://www.aopa.org/go-fly/medical-resources
- Medical Certificates
- Pilot Information Center
- Aviation Medical Examiner Locator
- Q&A
- MedXpress
- BasicMed: READ THE INSTRUCTIONS!



Tips for filling out the FAA Airman Medical Application



Pilot Maintenance

- Annual/100-hour inspections
 - Periodic (but regular) medical examinations
- Detect and correct small problems
 - Before they become big ones
- Pre-flight and post-flight inspections
 - IMSAFE checklist
 - SLAP checklist
- Fit to fly?
- Hazardous Attitudes Assessment
 - Admit it...
 - You broke the speed limit today...and you knew that you did...
 - Anti-authority? No...that rule is for other people...not me...







The Five Hazardous Attitudes

Think hard about how these affect you and how you face them down (Hint: They introduce biases into our thinking and behaviors):

	Attitude	Symptom	Antidote
I	Invulnerable	It won't happen to me	It can happen to me
M	Macho	I can do this	Taking chances is foolish
Α	Anti-Authority	Don't tell me what to do	Follow the rules - they are there for a reason
I	Impulsive	Got to do somethinganything	Slow down - follow your training
R	Resignation	I'm helpless - can't change the outcome	I can make a difference



The Five Six Hazardous Attitudes

Think hard about how these affect you and how you face them down (Hint: They introduce biases into our thinking and behavior):

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R	Resignation	I'm helpless - can't change the outcome	I can make a difference

E	Entitlement	I have the right to do this	Flying is an equal privilege, get in line
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I'm Safe Checklist

- I Illness
- **M** Medication
- S Stress (and hyperness)
- A Alcohol
- F Fatigue
- **E Eating & Emotion**

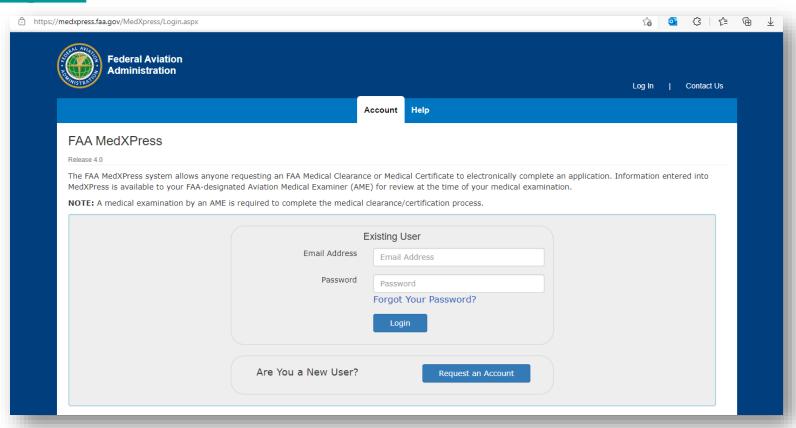




Getting started with medical certification

https://medxpress.faa.gov







Reality Check 1

- We know how we want to appear
 - ...and we are very good at rationalization
- Share all relevant information
 - Medical History
 - Medications & dosages
 - Concerns
- Gaming the system
 - Some computer bot will find out
 - It will end in tears





Know all there is to know...

Medical Certificate

FAA MedXPress (online FAA Form 8500-8 application)

FAA MedXPress is a web application pilots must use to submit their certification applicant information (Items 1 through 20) of the FAA Form 8500-8. Pilots need only a valid email address to create a MedXPress account to use FAA MedXPress. MedXPress is designed to expedite the processing of a pilot's request for certification and shorten the pilot's office visit with the AME.

- How to obtain a Medical Certificate
- Request a Copy of Your Medical Certificate
- Locate an AME
- Locate a HIMS (Human Intervention Motivation Study) AME: MS Word, PDF

HIMS AMEs are trained in evaluating airmen for substance- or alcohol-related conditions or other mental conditions. HIMS AMEs can provide sponsorship and monitoring for such conditions when required by the FAA for medical certification purposes.

Pilot Information

- Pilot Minute Micro-learning Series
- Questions and Answers
 - Deaf Pilot
 - Sport Pilot
 - BasicMed
- Over-the-Counter Medications
- Pilot Mental Fitness
- Aeromedical Safety Brochures
- · Requesting Medical Records

https://bit.ly/3Mxmjtj





BasicMed Requirements

- Cannot "just go" on BasicMed
- FAA medical certificate that was valid for at least <u>one day</u> <u>after July 16, 2006 that was not subsequently denied,</u> <u>suspended, revoked or withdrawn</u>
- If not, must obtain a 3rd class medical...then can do BM
- Current and valid U.S. driver's license
- Comprehensive Medical Exam Checklist (CMEC)
- Physical exam by a state-licensed physician
- Online course
 - AOPA or Mayo Clinic



Reality Check 2

- Don't try to game the system by applying for BasicMed while your traditional medical certificate is under review or a special issuance is in progress
 - Any suspension, revocation, or withdrawal of a traditional medical certificate will void Basic Med.





Top Questions About BasicMed

- What needs to get done (CMEC and course/quiz)
- Renewal times (24-calendar months for the course, 4-years to the day with the doctor)
- Can't log into the system for the course (password resets)
- Can't find a doctor within 100 miles in the doctor finder
- ...and there are those who still don't know BM exists and what it is...
- Watch the video...https://youtu.be/COE5-UjVgEE



BasicMed Limitations

Aircraft

- Max takeoff weight not more than 6,000 pounds
- Seats for no more than six occupants

Operations

- No more than five passengers
- No higher than 18,000 MSL or above 250 KIAS
- No flights outside the United States (unless authorized)
- No operations for compensation or hire
 - CFIs may receive compensation for instruction given
- May act as safety pilot

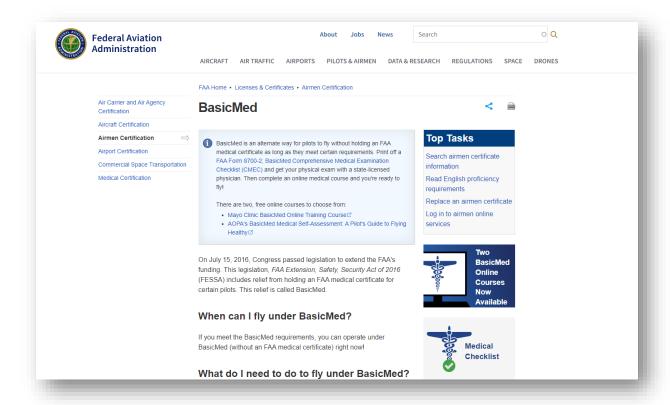




Getting started with BasicMed

http://faa.gov/go/basicmed

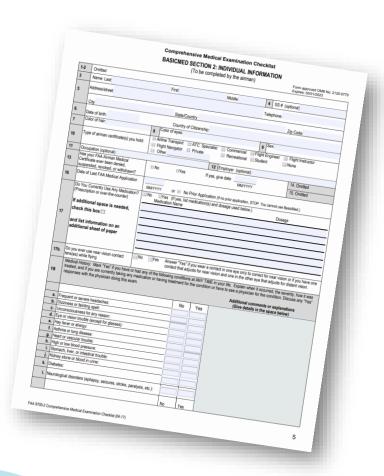






Comprehensive Medical Exam Checklist

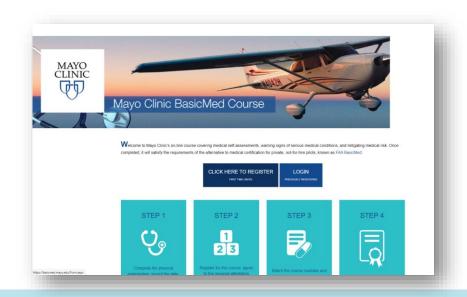
- Section 1 Airman
 - Completes top section before physical exam
- Section 2 State-licensed Physician
 - Completes the rest and signs the form

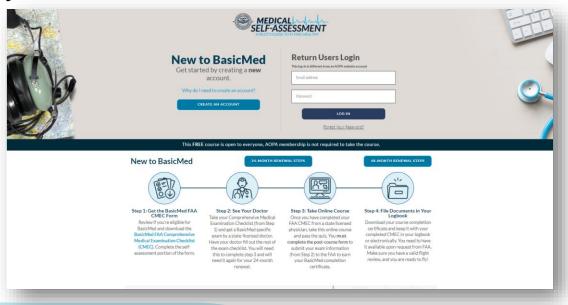




Online Course

- Physical exam: 48 months...to the day
- Course refresher: 24 months...to the month
 - AOPA: https://www.aopa.org/advocacy/pilots/medical/basicmed
 - Mayo Clinic: https://basicmed.mayo.edu/







CAMI Toxicology Study

- January/February 2022 Issue
 - 570 out of 1,353 pilots tested positive for medications/drugs
 - 511 of the 570 were flying under
 CFR Part 91
- Extent of Impairment if any is Undetermined
 - But "cause for concern"











What's the Problem

- Not easy to determine extent of impairment
 - Different medication effects for different people
 - Post-mortem redistribution and sample type
- Don't know about pilot's condition
 - Pre-existing medical condition requiring medication
- AME consulted?
 - Would YOU consult your AME…?
 - Family doctor…?
- Drug interactions...later...



What's the Problem?

- 65% of MD visits result in a prescription
 - We live in an over-medicated society
- 40% of the US population has 4 or more prescriptions
- Possibly combined with OTC medications
- Possibly combined with illegal drugs and/or booze
- Adverse reactions increase dramatically with 4 or more medication cocktails
- What's a pilot to do?



What's the Solution?

- Disclose and discuss <u>all</u> medicine you're taking with your Aviation Medical Examiner
- Understand dosage and effects of <u>each</u> medication including dietary supplements
- Understand effects of <u>interactions</u>
 - Prescription AND OTC medications
- "Oh, it's all right, it a natural product"
 - Yeah, so is opium and cannabis...
- Scary...right?
 - You might not be able to fly...
 - But you'll live to sneeze another day!





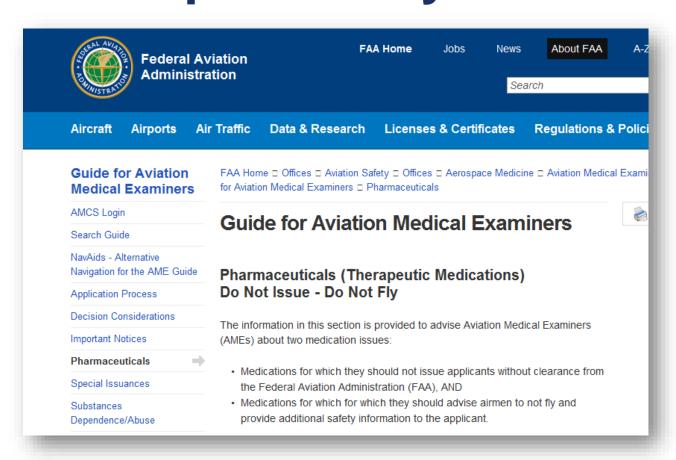


Do not issue Do not fly

= AME Responsibility= Our Responsibility



https://tinyurl.com/143gpcu



Do not issue medications (...and conditions)

- Angina meds dilation of arteries
- Anticholinergics block involuntary muscle movements
- Cancer treatments chemotherapy, radiation therapy
- Controlled substances altered mental state
- Some diabetic meds blood sugar, dizziness
- Dopamine agonists affect mood and movement
- Centrally acting hypertensives lower blood pressure
- Selected psychiatric or psychotropic meds altered mental state
- Malaria and seizure meds
- High-dose steroids
- Smoking and weight loss meds



Sleep Aids & Cough Medications

Both likely to contain antihistamines which may cause

drowsiness or sedation

- "Hang Over" effect
- Side effects may last several days
- Short term use only





How Long Must I Wait?

- FAA recommends waiting five times the dosage interval.
 - Particularly true for any medication causing drowsiness.
- Four times per day = 6-hour intervals
 - $-5 \times 6 = 30 \text{ hours}$





Read The Instructions!

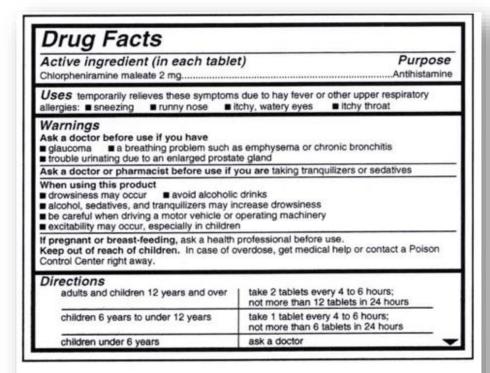
- OTC Medication Labeling
- Labeling Standards
 - Directed to medication users
 - In non-technical language
- Read before you take it and before you fly!
- Don't let a post-mortem determine that you shouldn't have been flying



OTC Medication Labeling

Read the label

- Active Ingredient(s)
- Purpose
- Uses
- Warnings
- Directions



Drug Facts (continued)

Other information ■ store at 20-25°C (68-77°F) ■ protect from excessive moisture

Inactive ingredients D&C yellow no. 10, lactose, magnesium stearate, microcrystalline cellulose, pregelatinized starch



Prescription Medications

- May recommend not operating "machines"...so...
 - Includes cars, airplanes, boats, etc.
- May be prescribed individually
 - Perhaps by different healthcare providers
 - Interactions may not be addressed or unknown
- Prescription drug labeling
 - Directed to healthcare provider





Prescription Drug Labeling

- Known by several names including: "prescribing information" or "package insert"
- Intended for healthcare providers, but available to anyone
 - May be several pages long in very small print
 - Very technical language

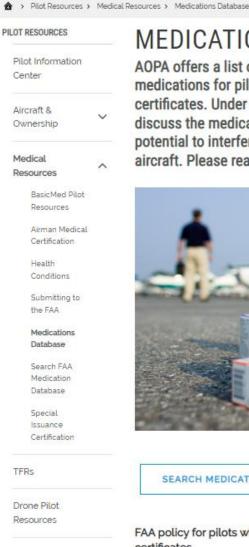




Medications Database

- Know before you pop that pill...
- Use this at the doctor's office...
 - Tell doctor you are a pilot
 - Might be an allowed alternative

•https://www.aopa.org/go-fly/medical-resources/medications-database



Aviation Job Board

MEDICATIONS DATABASE

AOPA offers a list of FAA allowed/disallowed medications for pilots who hold FAA-issued medical certificates. Under BasicMed, your physician will discuss the medications you are taking and their potential to interfere with the safe operation of an aircraft. Please read more below.



SEARCH MEDICATION DATABASE

FAA policy for pilots who hold first, second, and third class medical certificates



Drug Interactions with...

- What else we are taking
- What we eat and drink



Consult your AME.

https://www.fda.gov/media/76562/download



Interactions

- Drug-drug interactions occur when two or more drugs react with each other.
- Drug-food/beverage interactions result from drugs reacting with foods or beverages. For example, mixing alcohol with some drugs may cause you to feel tired or slow your reactions
- Drug-condition interactions may occur when an existing medical condition makes certain drugs potentially harmful

Drug-Drug Interactions

- Antihistamines with hypertension drugs
- Drugs, food, or beverages that contain caffeine
- Pain relievers
 - Acetaminophen (Tylenol, Paracetamol), aspirin, ibuprofen, etc.
 - Aleve, Advil, Motrin...

Antacids

- Tum, Tum, Tum, Tum-Tum
- Alka-Seltzer





Combining Medications

Prescriptions with prescriptions

- Does the prescribing provider know you fly?
- Does your AME know about <u>all</u> the medications you take and conditions you have?

Prescriptions with OTC

- Consult your AME and/or Regional Flight Surgeon
- ...and/or consult your Pharmacist



Drug-food interactions

- Empty or full stomach
- Alcohol impacts
- Certain foods
 - Grapefruit and grapefruit juice
 - Can interact with some cholesterol and hypertension drugs
 - https://www.fda.gov/consumers/consumer-updates/grapefruit-juice-and-some-drugs-dont-mix
 - Mushrooms
- Pain relievers
 - Acetaminophen (Tylenol, Paracetamol), aspirin, ibuprofen, etc.
- Antacids



Just Don't...

- Smoke
- Vape
- Sniff
- Chew



For more information

NTSB Safety Alert SA_037





Pilots: Understand Impairment Risk



Over-the-Counter and Prescription Drugs Can Cause Impairment

The problem

- Toxicology tests of pilots involved in fatal aviation accidents increasingly show evidence that a wide variety of over-the-counter (OTC) and prescription drugs have been used, including drugs that are potentially impairing.
- Pilots may be using OTC or prescription drugs without realizing that they can cause impairment.
- Pilot impairment reduces the safety of flight and increases accident risk.
- Pilot impairment due to the effects of drugs is preventable.

Related accidents

- On May 5, 2012, a Cessna 177B impacted terrain after experiencing an aerodynamic stall about 300 feet above the ground during a go-around. The investigation found no preaccident anomalies with the aircraft. Postaccident toxicology testing of the fatally injured pilot showed that the pilot had taken diphenhydramine, an OTC sedating antihistamine commonly marketed under the names Benadryl and Unisom. The drug's effects and pilot impairment were contributing factors in the accident. (ERA12FA319)
- On March 30, 2011, a Cessna 310R impacted terrain while conducting a nonprecision approach to a mountain top airport that was obscured by clouds and fog. The investigation found no preaccident anomalies with the aircraft. Toxicological testing of the fatally injured pilot found significant amounts of doxylamine, a sedating antihistamine, in combination with other drugs that suggested use of an OTC cold medicine such as a Nyquil or an Aldex product. The drug's effects and pilot impairment were contributing factors in the accident. (ERA11FA218)
- On July 7, 2010, a Eurocopter AS-360-B2 helicopter flying during the day in good visibility impacted trees and terrain. The investigation found no preaccident anomalies with the aircraft. Toxicological testing of the fatally injured pilot showed



Resources

- FAA Safety Briefing Magazine
 - January/February 2022 Issue
- https://www.faa.gov/sites/faa.gov/fil es/2022-01/JanFeb2022.pdf







Proficiency and Peace of Mind

- Fly regularly with your CFI
- "Revert to training"...only works if...?
 - a) You've seen it before
 - b) You've done it recently
- Practice, practice...
 - Get in your head
 - ...and keep it there...
- Document in WINGS







Have you earned your WINGS?

- Proficient pilots are:
 - Confident
 - Capable
 - Safe
- WINGS will keep you on top of your game
- Cheaper insurance, stay alive to enjoy it!







WIN – Wings Industry Network

- Making it easier to navigate faasafety.gov
- More info here: https://www.wingsindustry.com/ez-wings
- From any browser:
 - http://www.ezwings.net/

Get/give credits for every instructional flight







Your Choice, Your Consequences

- At the end of the day, you, the PIC, must make all No-Go/Go decisions, including medical
- Gaming the system will, inevitably, end in tears
- You will live, or not, with the consequences



Summary

- Let the prescribing doctor know that you are a pilot
- Consult your AME before flying while using prescription and/or OTC Drugs
- Make sure your AME knows about <u>all</u> the drugs you take and the medical conditions requiring their use
- Ask about adverse effects associated with drug combinations
- In between doctor visits you are self assessing condition before each flight
- If doing BasicMed... READ THE INSTRUCTIONS!
- If you are confused, call the AOPA Pilot Information Center
- Ground yourself when you're not fit to fly





Homework-1: Pilot Body Maintenance

Check/make appointments for:

- Annual physical
- Next dentist visit
- Regular eye exam
- Age-specific preventative care:

Colon

Prostate

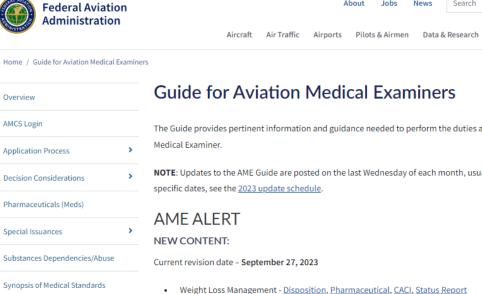
Smears

Mammograms

. . .



Homework-2: Know before you go



https://www.faa.gov/ame_guide

Guide for Aviation Medical Examiners

The Guide provides pertinent information and guidance needed to perform the duties and responsibilities of an Aviation

Q

Regulations Space

NOTE: Updates to the AME Guide are posted on the last Wednesday of each month, usually before 9:00 a.m. CT. For

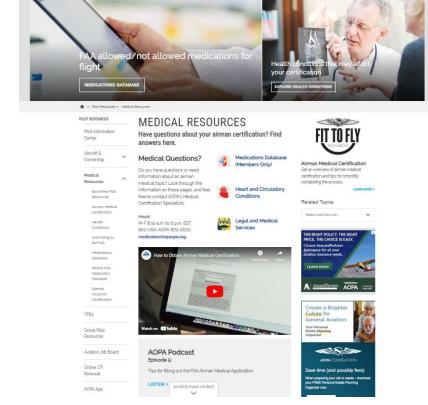
- Weight Loss Management Disposition, Pharmaceutical, CACI, Status Report
- Polycystic Ovarian Syndrome (PCOS) Disposition, CACI
- Prediabetes Disposition, AASI, Status Report
- Diabetes Mellitus and Diabetes Insipidus (expanded disposition)

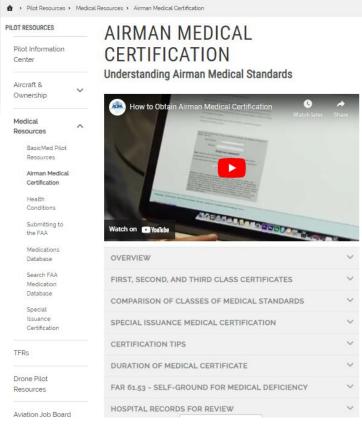
REVISED CONTENT:

- Prediabetes CACI
- Non-Valvular AFib/Aflutter Recertification Status Report
- COVID-19 Medication FDA Emergency Use Authorization changes
- ADHD Pathway Chart, Standard Track General information and Standard Track Report Requirements evaluations can only be done by FAA HIMS-trained Neuropsychologists.
- Color Vision Pilots and ATCS Waggoner Computerized Color Vision Test (identifies what is tested in each section)



Homework-3: Know your AOPA member benefits





♠ > Training & Safety > Students > presolo > special > Pilot's Guide to Medical Certification

PILOT'S GUIDE TO MEDICAL CERTIFICATION

When pilots complete an application for a new medical certificate, many find themselves on the receiving end of a letter from the FAA that arrives months after the medical examination. The content of the letter may be confusing and just a little intimidating, and it's then that we might begin to wonder just how the FAA medical certification process really works.

https://www.aopa.org/training-and-safety/students/presolo/special/pilots-guide-to-medical-certification

https://www.aopa.org/go-fly/medical-resources/airman-medical-certification

https://www.aopa.org/go-fly/medical-resources



Homework-4: BasicMed

- Watch the video
- Read the instructions!!!!!

BasicMed

AOPA worked hard for years on behalf of its members to bring about third class medical reform that the FAA refers to as BasicMed. AOPA has developed a suite of online resources for pilots and physicians to help you make the most of the reforms and enjoy your freedom to fly.

Nearly 80,000 pilots have qualified to fly safely under BasicMed since its inception in 2017. The following countries authorize BasicMed privileges: United States, Mexico, The Bahamas, The Dominican Republic, Puerto Rico, the U.S. Virgin Islands, American Samoa, Commonwealth of the Northern Mariana Islands, Federated States of Micronesia, Guam, Republic of the Marshall Islands, and the Republic of Palau.

Here's how you can join them.



CHECK YOUR BASICMED ELIGIBILITY AND GET THE NEXT STEPS—WHETHER NEW OR RENEWING

I am new to Basic Med

I need to renew BasicMed

Getting Started With BasicMed Process





Homework-5-: SLAP

After every flight, SLAP yourself and create actions for the next flight:

S: How were my Skills today?

L: What did I Learn today?

A: How was my ADM today?

P: How was my Planning today?



Homework-6: Resources

- Spend some quality time with these resources:
- https://www.aopa.org/training-and-safety/air-safety-institute
- Safety to Go
- faasafety.gov
- Pilot Minute
- 57 Seconds To Safer Flying
- FAA Safety Briefing Magazine
- From the Flight Deck

Subscribe to Aviation Safety

https://www.aviationsafetymagazine.com



Homework-7 Bonus for Extra Points...

Get to know CAMI

- CAMI A World Class Facility (PDF)
- CAMI Brochure (PDF)
- Aeromedical Safety Brochures
- Aerospace Medical and Human Factors Research
- Aerospace Medical Education Programs
 - Aviation Medical Examiner Education
 - Airman Education Programs
- Aerospace Medicine Technical Reports
- Information for Aviation Medical Examiner (AME)
- <u>Civil Aerospace Medical Institute Library</u>
- Federal Air Surgeon's Medical Bulletin
- Medical Certification



https://bit.ly/3HV28BW





So...

No recording...but even better...

- You can download the presentation!
 - This and earlier ToM presentations are available...
 - Sign-up now!
 - October edition 10/15/2023





> Flying Clubs > Club Connector Newsletter

FLYING CLUB CONNECTOR NEWSLETTER

Your source for the latest news on flying clubs all over the country. AOPA's research has shown us that flying club leaders are hungry to learn more about the practical experiences of other clubs. So, we have created this monthly e-newsletter.



ARTICLES BY TOPIC



NARROW RESULTS V



Next Month...

The National FAA Safety Team Presents



Federal Aviation Administration

Topic of the Month – November 2023 Normalization of Deviation

Presented to: Safety Minded Aviators, Everywhere...

By: Stephen Bateman, CFI, AOPA Flying Clubs

Date: 21st November 2023

Produced by: The National FAA Safety Team (FAASTeam)





Thank you for attending!

You are vital members of our GA safety community!



